INNOVATION IN RETAIL

IT'S HOW
WE CONNECT

CONTENTS

EXECUTIVE SUMMARY 4

INNOVATION CONVERSATION WITH DR SAM BUCOLO 6

SAMPLE AND METHODOLOGY 8

INTRODUCTION 9

WHAT IS RETAIL INNOVATION? 10

Definitions 10

Case Study – Reimagining In-Store Experiences: The Myer Hub 12

Transformative Innovation 14

Inspirational Innovation 16

Inspirational Retailers 16

The Pace of Change 18

THE RETAIL INNOVATION INDEX 19

THE NEED TO INNOVATE 20

Digital Transformation 20

Customers 20

Omnichannel 22

Case Study – Telstra Stores Transformed! 23

Competition 24

External Environment (Other Factors) 25

Changing Role of the Retail Industry 26

Burning Platforms 26

EXECUTION 27

Business Structure 27

Business Processes 28

Ideas 28

Case Study – The Path to Digital: muru-D Start-up Accelerator 29

Prioritisation 30

Organisational alignment 31

Agile delivery 31

Case Study – Stamp of Success: The Future of Australia Post 32

Case Study – When Agility is Pivotal 33

CONTENTS (CONT.)

Business Culture 34

Ambiguity 34

Empowerment 35

Acceptance of failure 35

Leadership 35

Resourcing 36

Case Study – The Great Idea Interchange: The Gurrowa Innovation Lab 37

Retail Industry Factors 38

Case Study – Let the Fun Begin: In-store Wi-Fi and Beyond 39

BLOCKERS 40

Business Structure 40

Business Process 41

Ideas 41

Prioritisation 41

Organisational alignment 42

Delivery 42

Business Culture 43

Resourcing 43

Retail Industry Factors 43

TECHNOLOGY AND THE FUTURE OF RETAIL 45

Mobility 45

Mobility – the technology, Warren Jennings, Strategic Technology Expert Verticals 46

Internet of Things (IoT) 48

Internet of Things – the technology, Warren Jennings, Strategic Technology Expert Verticals 48

BIG DATA 50

Big Data and Analytics-driven Business – the technology, Warren Jennings, Strategic Technology Expert Verticals 50

CONCLUSION 53

TEN GOOD READS 54

ACKNOWLEDGEMENTS 55

EXECUTIVE SUMMARY

“...retailers recognise the need to innovate.”

EXECUTIVE SUMMARY (CONT.)

The retail industry is undergoing a period of rapid change. When rapid change occurs in any industry, innovation becomes a necessity. Our research, based on conversations with twenty-one retail leaders from around the world, shows that retailers recognise the need to innovate. They believe the need to innovate is driven primarily by digital technologies that are simultaneously empowering customers, creating new types of competition and new weapons for existing competition, as well as bringing into question the relevance of traditional retailer/customer relationships. In some cases, these factors have combined to create a "burning platform" where the ongoing existence of long-established retail brands is in doubt unless rapid innovation takes place.

The retailers we interviewed felt that while the need to innovate may be clear, an organisation also needs the ability to execute if a programme of innovation is to be successful. Factors that characterise a successful executer of innovation include: a horizontal structure with a connected innovation team to drive activity; processes that are agile and collaborative; innovation measures built into strategic and individual performance plans; planned resourcing of innovation; and a culture that embraces change and accepts the possibility of failure in some projects. Successful innovators will also leverage the retail industry's fast pace and close proximity to the customer as enablers of change.

On the other side of the equation, retailers also recognise that the blocking forces of innovation can be strong and that these thrive on tradition. Traditional vertical business structures, traditional approval processes, traditional resourcing models and a traditional business culture that values both consensus and the status quo can stop innovation in its tracks. The negative effects of tradition multiply with an organisation's size so that the ability to innovate can be blocked simply by the scale of legacy investments in real estate, people and processes.

In this report, we propose a "Retail Innovation Index" where the need to innovate plus the ability to execute are moderated by the blocking forces discussed above. We believe this will become a useful tool for retailers wishing to identify how important their need to innovate is and how "innovation-ready" their organisations are.

And it's not over. The retailers we interviewed felt that digital technology has been the underlying driver of most of the significant innovations in retail over the last twenty years (the internet, e-commerce, electronic payments, supply chain management, omnichannel, etc.). They also felt that digital technology will continue to drive the need to innovate in the future. Retailers see three overlapping technologies – namely, Mobility, the Internet of Things (IoT) and Big Data – as the most important drivers of ongoing transformation in the retail industry. These technologies will facilitate an even closer relationship with the digital shopper, create the opportunity for new services and provide information so that retailers can manage their operations more efficiently. It seems clear that as well as understanding the urgency of the need to innovate and how "innovation-ready" their businesses are, retailers will also need to carefully choose technology partners who can help them navigate the emerging digital landscape.

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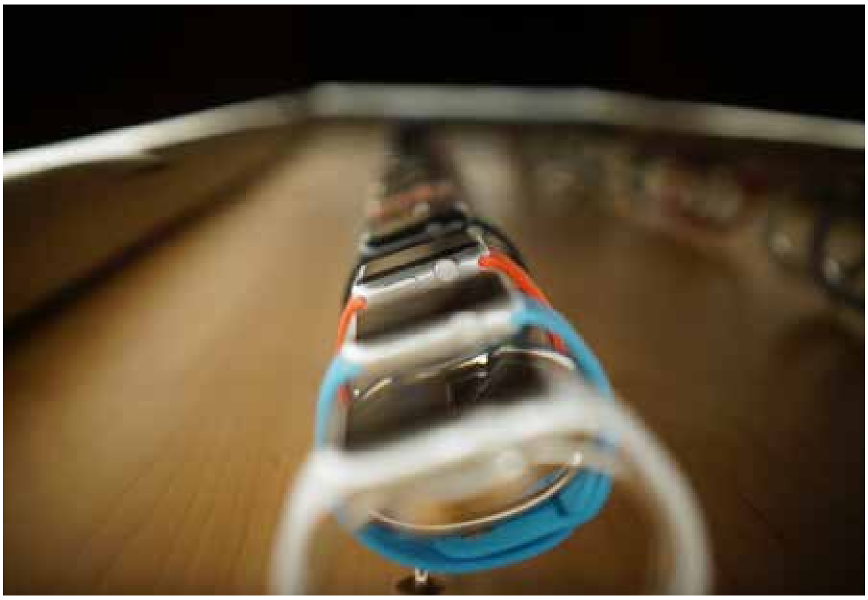
"...digital technology has been the underlying driver of most of the significant innovations..."

INNOVATION CONVERSATION WITH DR SAM BUCOLO

Professor Design Innovation; Director, UTS:DI



Why is innovation so important for retailers today?

Technologies are already disrupting the retail business model and we will see this growing exponentially over the next few years. The questions for any retailer: What are you doing about it? How are you addressing this? What practical steps are you taking to remain relevant to your customers or win new ones?

Innovation is all about differentiation and meeting the needs of your customer. For years, many organisations considered that innovation was all about investing in the latest piece of technology. This is now changing. Technology alone can no longer provide differentiation – in fact, investing in technology for technology's sake can actually be a barrier to innovation. But technology that is used to add real value to your customer is another thing.

Another underlying reason for the need to innovate today is the shift in the balance of power between the retailer and the consumer. Consumers are now much better informed, and have greater access and empowerment – they are challenging the traditional role of the retailer.

Organisations need to innovate to be able to differentiate themselves, and to offer better value to customers. That starts with understanding what your organisation's purpose is, what value you currently provide, and what potential there may be to provide more. You need to look at the macro picture and ask yourself: "How relevant is my offering to my customer? What else could I do be doing?"

What makes an organisation a successful innovator?

Successful innovators are agile, they're responsive to the needs of their customers and they lead others. They keep their finger on the customer's pulse and react swiftly to any change. I've carried out many innovation audits and when I ask the CEO to tell me about their customer, often the CEO says: "Talk to our communications or marketing department." An innovative CEO should be able to speak with authority and confidence about who their customer is and what value their company is providing.

Innovation is also part of a successful organisation's DNA – and this has to be led from the top. As the old adage: Innovation is not a department, it is a mindset. And when a business makes this shift in mindset, the focus moves from product or service differentiation to a sharper appreciation of the customer and the meaningful value that the customer receives.

Our research shows that retailers have varying levels of need to innovate, but success depends on both the ability to execute and resist any blocking forces. How can Design Thinking and a Design-Led Innovation approach help?

Design Thinking is a methodology for creative problem solving. If you think about architects or designers and how they solve complex problems with no apparent single solution, they generally take a very structured approach. They look at all the different options, and only then create and test a prototype. They start investigating the problem by asking: "What if...?" "What if we did this? What if we did that?" Through a number of iterations, they then arrive at a set of possible solutions. Whichever solution they eventually choose is not a compromise or a trade-off, but the best of all the possible options, if you will.

Design thinking can be used to design a product – my own background – but also to diagnose a medical problem, solve a logistics challenge or just about any other issue. This way of thinking has become a key area of focus over the past five or so years.

Design-Led Innovation (DLI) essentially extends the principles of Design Thinking across an entire organisation. It's about designing the business to be innovative rather than designing a solution to one particular challenge. The focus is on delivering both business and customer value. Remember, design is always contextual – an elegant solution can deliver great personal value but a solution without a customer application is meaningless in terms of business value.

INNOVATION CONVERSATION WITH DR SAM BUCOLO (CONT.)

Professor Design Innovation; Director, UTS:DI

So how does Design-Led Innovation work in practice?

Over ten years, I've worked across a broad range of industries – from telecommunications to retail, infrastructure, engineering, medicine… While each case differs, the process generally follows a similar pattern. We start off with the CEO and senior leadership team and ask them to respond to a few simple questions: Who is your customer? What value do you offer your customer? And which bits of your business deliver this?

In the vast majority of cases, the senior leadership teams have the same response. They don't know what their core value proposition is, which parts of the business are responsible for this, and which parts of the business they are – or should be – willing to give up.

To use a metaphor, if you think of any artefact – a beautifully designed car or building, for example – all of its elements work seamlessly together in pursuit of a common purpose. Each component is absolutely essential to the overall effect. In contrast, many businesses are poorly designed; the different parts don't share a common purpose or contribute to the end goal.

The next step is to get the team to think about the customer value proposition and what this means: - not only in terms of what products or services to deliver, but also every touch point along the way – their business model, supply chain, their HR policies, their technology investments and how these align to deliver value to the customer.

Getting those customer insights is not that hard, but often businesses don't like to hear the answers. They start to realise that perhaps one part of business is really not offering value and may need to be consolidated or exited or transformed.

We then see the organisation shift and design itself in line with the common purpose. And this process has to happen from top down. The senior leadership team provides the scaffolding so others can take on the responsibility and authority to start exploring options for change.

How can innovation become part of an organisation's DNA?

In Australia, we tend to think of failure as a bad thing. To minimise risk, we think we need to have a pretty good idea of the solution before we execute. If you wait too long for the perfect solution, you will already be obsolete before you go to market.

Good design is about experimentation – and about asking questions. This is the mindset shift that I believe has to happen in retail. By breaking a challenge down into small steps, you may not get it right first time, but you will be learning at every point. Prototyping along the way reduces the risk before changes are made.

Go to market and test before you take each little step. Retailers that encourage the process of experimentation – through soft product launches, social media or whatever – are more successful. Again, experimentation and the freedom to fail have to be encouraged from the top down.

Do you see any particular technologies being important to retail innovation in the future?

Rather than naming a possible game changer, I think retailers need to start putting the consumer need together with the different technologies and exploring what might be possible. People already understand the power and potential of Mobility, and we're yet to scratch the surface of the Internet of Things. Big Data has been around for a while, but I'm not sure that we yet understand its true value proposition. The same applies for fields like Augmented Reality.

In general, we tend to wait until a technology is "cooked" before seeking possible applications, and I'm not sure this is the right approach. We need to think: "What does the customer value?" and only then "How can we deliver that?"

If you were a retail CEO, what would you be doing today?

I'd be auditing the common purpose of my organisation, and challenging myself to answer a few of the what-ifs. I'd be involving my whole leadership team and investing in projects just to "see what happens". You have to get your hands dirty – to prototype and work with customers – in order to get tangible results, understand what still needs to be done and what the impact will be. And I'd definitely be going out on a few customer interviews myself. It's one thing to read a report, but you can't understand the impact unless you experience it.

SAMPLE AND METHODOLOGY

The research consisted of 21 in-depth interviews with retail leaders from around the world. The interviews were conducted by phone and face-to-face between July and November 2015 by the author. The sample included a range of retailers, from large established retailers to small new start- ups, and companies with public, private, franchised and co-operative ownership structures. Quotations included in the report are from interview transcriptions. Permission was sought to attribute some of the quotations, but most remain anonymous.

Participating Companies			
API	John Lewis	My Chemist	Target
Australia Post	Jurlique	Myer	Telstra
Birdsnest	Lane Crawford	Neuhaus	Yum Foods
Coles	Levi's	Officeworks	
Co-op Bookshop	Luxottica	Rogers Communications	
David Jones	McDonald's	Shoe.com	

Roles of Respondents	
CEO/Director	9
CIO/CTO/CDO	4
Head of Retail Operations	4
Head of Development / Innovation	4
Total	21

Retail Category	
Department Store	4
Supermarket/DDS	2
Pharmacy/Optical/Health and Beauty	4
Telco/Postal	3
Fashion/Accessories	3
Food/Catering	3
Books/Stationery	2
Total	21

Ownership Structure	
Public	9
Private	5
Co-operative	2
Franchise	4
Government	1
Total	21

Based In	
Australia	11
Europe	3
North America	5
Asia	2
Total	21

Figure 1

INTRODUCTION

The world of retail is changing in a way perhaps never before seen in history. Mass adoption of smartphones has put the internet into the hands of consumers so that they can shop anywhere, at any time. Globalisation means that wherever you trade you are likely to be competing with the world's best, either in person or online. Rising costs, particularly for rents and labour, are squeezing margins. Retailers are also faced with a more demanding and informed consumer who expects to receive services traditionally associated with online shopping (like visibility of stock levels and direct- to-home delivery) in physical stores, while at the same time expecting services traditionally associated with "bricks and mortar" stores (like same-day delivery and personal service) when shopping online.

The need to innovate has never been more apparent, but retailers have generally been slow to respond to the challenges of the 21st century. Part of this may be due to the nature of retailing itself. Retailing relies on significant investment in stock, real estate, fit-outs and people. Retail investments are generally medium- to long-term bets that are not easy to change quickly. It also may have something to do with traditional retail culture where "retail is detail" and the most valued employee is likely to be the one who can execute best on a plan. This may not be the same employee who can step back and reflect on what's needed to be successful in the future. As a result, retail is an industry that has historically favoured incremental rather than transformative change.

With the pace of change showing no signs of slowing, it is timely to look at how retailers are addressing the innovation challenge. The following report is based on interviews with twenty-one retail leaders from around the world, representing the entire spectrum of retail business. What emerges is a fascinating view of the challenges faced by the industry and how they are being addressed through innovation in retail.

WHAT IS RETAIL INNOVATION?

DEFINITIONS

We first asked our respondents how they would define innovation. For some, innovation means any incremental change while for others it must be transformative.

"I think sometimes we get hung up on the big innovation, [something] glossy and out-there, as the only [real type of] innovation. But innovation does apply across the spectrum and I think if you do lots of little innovations well, you can have as many breakthroughs as if you do one big thing that makes a direct impact in its own right."

"To me, [innovation is something that] changes the way we behave – it changes the way we consume, it changes the way we live. Innovation is revolution, not evolution. It's game changing."

Whether incremental or transformative, most considered that innovation has to be useful or provide a better way of doing things.

"To me it's doing something in a new way – it's not necessarily a product or anything; it's just doing something in a different way than before... generally in a better way."

"My favourite definition of innovation is very simply, 'change that adds value'. We try to keep it simple...it's got to be something that is new, but it also has to add value. You have lots of things that are new, but if they don't add value to an organisation or a person, then I don't think that's really innovation."

Some see it as being defined by customers' needs...

"I think [innovation] is about doing what our customers want today – and listening to them – and anticipating what they want in the future. And it's not complex or difficult really, or revolutionary... for us, it's just around what the customer wants today."

"If you'd asked me a couple of years ago, I'd have said, 'Innovation is all about creative thinking, new ideas, and future-proofing your business.' But what I would say now is that innovation is all about reinventing what the customer wants. But – and this is a big but for me – with a commercial base."

"... I'd say innovation for me is anything that helps the customer live their life much better than they do today."

Another view was of innovation as something almost intangible, that can be defined by the processes and culture that create it. Define the process or culture, and innovation will flow naturally from this.

"Innovation to me is about creating the space for clever people to look at data and stories and a little bit of gut intuition [into] what is happening here and now to predict what we can be doing differently. And then having the space, backing and ability to go and do it."

"It's in the way we think...how does the organisation think, what's the culture of the organisation?"

Most emphasised that innovation can be anywhere and should not be characterised as only consisting of high-tech or high-cost projects.

"So innovation for us is everything from product – where we are seeking new delivery methods to improve the effectiveness of our range – all the way through to process."

"There's a tendency to think we're only being innovative or delivering big change if we spend an awful amount of money and I think we need to change that mindset. People have maybe thought over time that our way of changing, say, the way we pick things in our distribution centres is not innovation. It really is. [We need to try] to get over to people that innovation isn't just about apps!"

WHAT IS RETAIL INNOVATION? (CONT.)

Innovation can be groundbreaking, but it can equally mean using existing concepts, ideas or technologies in new ways for the business.

"Innovation to me is doing something you haven't done before. Whether it's new to you or new to the industry, it's still innovation. I think there are different levels of innovation and what our company's trying to do is hit two sides of innovation: one is 'this is new to us, but it's not new to the industry' and the other side is 'this is new to the industry and we want to set the gold standard.' For us, both levels of innovation have to have attention."

"With a lot of innovation, the component parts aren't even new; the innovation can be bringing these parts together in the one place. I rather like one of the Gary Hamel quotes: 'The future is already here, it's not evenly distributed." And really, nothing is invented for the first time. I mean there has to be someone somewhere that does invent stuff at first, but actually nothing is invented for the first time within the real world. What you have to do is be able to pick up the tremors of a good idea somewhere, and amplify it and harvest it and bring it to fruition."

Finally there was the thought that innovation in retail cannot be defined without including the concept of execution. In other words, an idea is of no use without the ability to bring it to life.

"I have a loose working definition that innovation is an idea plus execution. Without the execution piece, the idea is completely worthless.… Ninety per cent of innovation is hard graft, actually, [the working out] how to bring it to fruition, not the idea itself. And while I know there are a lot of idea generator tools out there – and I do think it's important to have the ability to be able to generate ideas – that is normally not where businesses fall down. Normally they fall down on execution. It's much easier to create a forum for ideas out of thin air than it is to create an ability to execute out of thin air. If you can plan for the execution, you can create the idea. It's that way around."

– Richard Umbers, CEO, Myer

WHAT IS RETAIL INNOVATION? (CONT.)

CASE STUDY

REIMAGINING IN-STORE EXPERIENCES: THE MYER HUB

As part of Myer's commitment to providing an omni-channel offer, they are focused on exploring new and innovative channels to connect with their customers and provide superior customer service.

With a focus centred on the customer and using technology to enhance the customer experience, Telstra worked with Myer to deliver The Myer Hub at Parramatta – a place where customers can find a raft of innovative services in the one convenient place. By bringing powerful Wi-Fi, clever mobile apps, interactive digital screens and mobile-enabled sales assistants, the Myer Digital Hub delivers an interactive experience, where customers can explore Myer's digital content across a range of platforms.

"As we undertake our company-wide transformation, innovation plays a key part in helping us to create success. The Myer Hub combines innovation and omni-channel by offering in-store and online services to create a new interactive experience for our customers."

– Richard Umbers, Chief Executive Officer and Managing Director, Myer

The emphasis is on delighting customers with services such as "Click and Try" where the customer fills out a style quiz and Myer personal shoppers then provide an edited selection of clothes for them to try on in-store. Customers can also access bespoke styling advice with one of the Myer Hub's personal shoppers, and even shop and order on the spot with one of the Myer Hub's in-store iPads. Then there is "Click & Collect", allowing customers to pick up online purchases at a time convenient to them, and also "Shop & Drop", a secure spot in The Myer Hub where customers can leave their recent purchases while they continue shopping. Customers can even recharge their smartphones while they relax and explore all that the Myer Hub can offer.

One of the smartest innovations is the newly rolled out Myer Wi-Fi and Instant App, which allow customers to opt in for convenient content and offers. As well as personalising the shopping experience for customers the platform provides Myer with easy-to-use marketing, profiling and content creation tools. Over time, Telstra's solution will yield valuable customer insights that Myer can use to shape future services and differentiate the customer experience still further.

The Myer Hub is about better results for the customer and increased efficiency for Myer through faster and improved service and a greater ability to tailor information and offers.

WHAT IS RETAIL INNOVATION? (CONT.)

WHAT IS RETAIL INNOVATION? (CONT.)

TRANSFORMATIVE INNOVATION

We asked our retailers what was the most transformative innovation they had seen in retail during their careers. The internet, payments, supply chain management, CRM, mobility and the increasing amount of information in the hands of customers were all nominated. These nominations show that technology has been the main driver of transformational change in retail over the last twenty-five years. This contrasts with retail innovations in previous eras, which were more likely to be driven by social change (urbanisation, increase in the number of working women, etc.). The interesting thing about these transformative innovations is that each has tended to create a chain reaction and many are connected. For example, the internet led to the creation of e-commerce, but also to a more informed customer. This raised service expectations, and amplified the importance of CRM, efficient payment options and supply chain management. Eventually, the internet – in combination with the mobile device – dissolved the idea of channels and the anywhere, anytime omnichannel shopper was born.

Internet

"The worldwide web is just incredible when you think of it – it's transformed the world."

"The biggest thing to hit our generation is the invention of the internet and that flows into everything you do in retail. That'll turn out in a hundred years' time to have had the biggest impact across retail."

"I've been in retail for 25 years or so. E-commerce, obviously, is the biggest innovation to hit retail, I think. And now being able to span across e-commerce and blur the lines between bricks and mortar and e-commerce and then get more into the social space and engagement – I think that is really important."

"I was at university in 1996, so that was just when the internet was becoming mainstream and everyone was getting their first email addresses. I remember the impact it had on me at that time – it just hit me that our world was going to change – from the way we educated ourselves to the way we shopped, dated and did business (this most profoundly because I was doing a commerce and information systems major). It also it really hit me that it was going to break down geographical boundaries, both globally and within Australia. For me, it opened up the concept that I could potentially live in a place I really wanted to, but also work in the fast lane."

– Jane Cay, CEO, Birdsnest

Payments

"[The biggest innovation has] probably been around payments, I would have thought. Whether you call it cashless or whatever, it's certainly impacted our business in a positive way, but you can see it everywhere."

"I was working with Mitre 10 for one of their multi-site owners, and I took their very first payment by EFTPOS. It really was game changing and I remember people commenting that the register drawer didn't open! They used to wheel me across to explain to people about EFTPOS because there were people who were too scared to use it. Now, in less than 25 years, everyone understands it, whether they are 20 or 60. [Going from] a wholly cash or cheque society to the range of options we now have has totally changed the way we shop and the behaviour of customers, [including] the flow-on effect of expectations about service."

– Lynn Gallucci, GM Network Development, API

WHAT IS RETAIL INNOVATION? (CONT.)

CRM

"When I started work 25 years ago in wholesale and retail, they were only one-dimensional. If you look at today's businesses, they are all omnichannel or multi channel at least. The most important innovation for me is being able to look across all those channels and understand the customer experience and customer journey. If you unlock the data, there's a tremendous benefit to sales."

"Getting data and personal data through loyalty cards, etc. is really helping innovation in retail because it allows us to go back to the days where the shopkeeper knew all his customers, knew his operation inside out, and because of that relationship would know if you weren't getting paid till Saturday, but came in on Thursday, you'd be good for credit."

Supply Chain Management

"Supply chain (management) is the thing that has probably revolutionised the retail model the most. The testament to that would be players like Walmart, who created a market-leading position out of a lower cost model born out of supply chain re-engineering. This was then reproduced by Woolworths, Aldi and many other players."

Mobile

"I think [the biggest transformation in retail] is the mobile device, and its implications haven't really been understood yet. It's a game-changer in its own right."

Information in the hands of customers

"Before, people used to walk into a store and you, as a retailer, had the power of holding all the information and you told the customer. But now the customer comes in, probably knowing almost as much as you do. The Internet has probably made the biggest difference to retail; specifically, online shopping has really changed the way things happen. But then, I think smartphones have possibly changed retail more than anything. [But whether it's the] smartphone or online shopping – it's really that easy access to information that puts the customer back in control."

– Anthea Muir, President, Luxottica

WHAT IS RETAIL INNOVATION? (CONT.)

INSPIRATIONAL INNOVATION

As well as transformative innovation, we also asked about the most inspirational examples of innovation our retailers have seen. Our retailers take inspiration from things that they don't know how they lived without, that make customers' lives easier, new ways of doing business and special retail experiences they have had.

How did I live without it?
"I think simple ideas – something that makes you wonder how you lived without it before – things like the iPad. At the time, I might have thought, 'What do I need this for?' then afterwards you're like 'How did I ever live without this?' It's really simple."

Making customers' lives easier
"I look at the self- service terminals in supermarkets and they're now easy, intuitive and simple to use. I look at mobile apps and stores that have an online and a physical presence. So innovation that inspires me is about convenience, it's about access, and it's actually about putting choice in my hands."

Two-sided marketplaces
"Uber and Airbnb have changed the landscape dramatically – not only from the way they've disrupted entire industries, but also by the ease with which they've done it. And what's really interesting [is that] governments want to legislate around customers using Uber, but they won't do it because of the risk of upsetting people. The only reason Uber and Airbnb are growing so much is because customers want to use them."

Onliners
"I get a lot of stimulation going to things like the e-commerce conferences where you have a lot of people who have enormous energy and new ideas and they're all experimenting at the leading edge. Typically, they are the sort of people who are prepared to go with the slightest thing and see if they can make anything of it – I find that quite inspirational as well."

Apple
"I would say Apple, absolutely, because it ticks all those boxes – it changed the way we communicate, how we experience the joys of life, how we work...It's all pervasive in my life. What they've done in terms of building beautiful products, with a lot of thought and craftsmanship and superb functionality, is totally and utterly game changing – it's the whole package. From a customer point of view, I don't use anything else."

The perennial innovators
"I sometimes get inspired by people or organisations that are constantly innovating...it almost gets to that continuous improvement process – organisations that are just able to, every single year, churn out something new, better and more efficient. I find that pretty impressive because, to some extent, people who lock themselves away and work on something for ten years and then pop up with an idea have a nice and good skill, but I'm not sure they are always as good as those organisations that just drive for better execution in their outcome."

Inspirational experiences
"I was at a basketball game in the US about six months ago, and the retail experience was all about food and drink and merchandise. At a personal level, it's exciting to be able to sit in a seat and order from a phone so that your experience of the game is actually enhanced by retail."

INSPIRATIONAL RETAILERS

Our retailers have also been inspired by other retailers. In each case, the retailer nominated changed the game at one point in time (and, in some cases, continues to do so). Examples given span both the globe and retail categories, and include Adidas, Amazon, Burberry, Converse, Eataly, Ikea, John Lewis, Net-a-Porter, Nordstrom, Nike, Target, Warby Parker, Yihaodian and Zara. For retailers seeking inspiration to innovate, this list would provide a good starting point. I might mention that although some of the retailers we interviewed for this report were nominated in the list, all of our retailers were too humble to nominate themselves!

*"Have you ever heard about a concept called Eataly? It's not a supermarket, it's not a department store, it's not a grocery store but it's a combination of all of that, including a dine-in place. They have done that quite successfully – in New York and even the original one in Turin in Italy. That's an example of linking different concepts or ideas together in a workable business model. Another one is Warby Parker, optical, who have been successfully creating a brand out of the internet and then converting that into retail stores that are out-performing traditional optical retail stores when you look at sales per square metre and so on. Others like Burberry continue to innovate not only in product but also in the digital aspects of their stores. One that's China-based is a complete online supermarket, which I don't think has ever been done, it's called Yihaodian (Store number 1 in Chinese) and has been bought by **WalMart** recently. They created it from scratch – a new supermarket online, throughout China. Another inspiration, which is more of a supply*

WHAT IS RETAIL INNOVATION? (CONT.)

*chain thing, is fast fashion. It started with **Zara** and now you see it coming across a number of players and it will come to other categories too – fast, convenience, everything."*

*"We had six-monthly seasons and some of those buying plans are formed eighteen months out. You compare that with a **Zara,** who owns the end-to-end manufacturing supply chain to the retail store. They can identify a product not selling on the shop floor and have it redesigned, whether that be a change to the colour or to the cut, and back on the shop floor, reportedly in eight weeks. Now that's nimble retailing – responding to customer demand – and explains their growth worldwide."*

*"A great example would be **Ikea**… I remember the company coming to the UK. It created a different shopping concept – the fact they forced you to walk a particular way round the store, and they created the visual rooms within rooms – that, to me, was unbelievably inventive. They ended up having the biggest share of home furnishings in the UK with only two stores. It was unbelievable. In the space of five minutes, literally, when they opened a store there'd be queues to get in."*

*"I have a fashion background, and I remember the first time **Target** brought out trouser length changes: short, medium, long. That was incredibly innovative and it just fell into the market and 18 months later it became the new normal. That made a very strong impression on me."*

"It would have to be Amazon and the way they've changed retail so significantly, and forever. And it hasn't stopped. They've (Amazon) changed the way we think about retail.… A few years ago it was found that they provided the best customer service. It was an American survey and they had Macy's and all the other names that you'd have up there and people chose Amazon. How does that work? As retailers, we had in our mind that service was how you handled someone when they walked through the door – the traditional service concept – but in the customer's mind it was about getting the product and getting it tomorrow, and at a good price. That really changes the way that you need to interact with your customers – your apps, your website, the way you deal with customers in-store – [it's about] trying to get that single view of the customer so you can deal with them more effectively. That's what Amazon has made us all do.…"

***– Peter Knock,
CEO, The Co-op***

*"**John Lewis**. I think their journey around how they brought e-commerce to fruition is a very interesting one. And it's all in the execution not just the idea."*

*"**Adidas** and the stuff they've done, to me, is such a great example of meaningful innovation. I think **Nike**, too, has done a good job. **Nordstrom** has done a respectable job. Those are the guys that stand out the most to me – that I consider have been most impressive."*

*"The store I was most impressed with when I was in New York was **Converse** – the way they've transformed their store into a really, really cool place with people just willing to come in and hang around. That's a big challenge for retailers generally – how do I make people come and sit there?"*

*"**Net-a-Porter**. As someone who works in the fashion retail sector, I think it's changed the way people shop and it's changed retailers – it's changed retail forever, it's disrupted retail. We're still feeling the aftershocks of a company that started ten years ago and continues to innovate because they are so customer centric. Also they don't have a legacy, so they've got an open field. In terms of taking down the borders of retail, they've done that. We all have to be global – they've redefined the relationship with brand retailers, they've redefined the customer relationship, they've exposed some pretty obvious challenges for all of us with global pricing. These are all things that as retailers we're struggling with now. They've changed the way we retail forever and I think there are a lot of imitators out there – we're all still trying to catch up."*

WHAT IS RETAIL INNOVATION? (CONT.)

THE PACE OF CHANGE

Some of our retailers feel that the pace and intensity of innovation is greater now than at any other time in their career. For others, innovation has always been important and always been intense – it's just the areas that innovation is touching are changing. What seems clear is that retailers need to have systems and processes that can allow them to respond quickly to a changing world.

It's never been faster

"I think the pace of that acceleration is growing exponentially."

"So yes, [the pace of change is] absolutely growing, and faster than I care to believe."

"I think it's because customers' expectations are just so high. I wouldn't be surprised if someone said in three months time: 'Oh, that old smart watch – why do I want one of them?' or 'I don't understand why I can't just make a phone call on my smart watch, without having to have my phone in my pocket.' We get this cutting-edge technology and become so blasé about it. We don't realise the significance of the quantum of the changes that they have on our lives – it just becomes so expected."

"The thing about now is that new doesn't stay new for very long. While you're trying to roll out the new, you actually need to be about to launch the next new – it's this constant flow of newness that [creates the] intensity and speed. It's where old-school retailers need to up the ante."

– Susan Sams, Chief Officer, Strategic Development and Communications, Lane Crawford

"The fact is that consumers can see what's happening in China or Mongolia or Siberia and be not that far away from [accessing] it, whereas twenty years ago, you sort of wiped it off your personal screen because that was something so foreign you wouldn't be interested. Now it's a smaller world and also quicker and more likely to happen – something pops up in the US and six months later it's in Australia, whereas twenty years ago, it would have taken five years to get to us."

Relative importance of innovation

"Innovation is just as important as ever; it just needs to happen faster."

"I actually think innovation is the same; it's just different types of innovations [we see today]. I started when people were debating the ROI of having a cash register instead of a cash apron and having inventory control systems and trying to understand why that would mean anything to them. Going forward a few years, it was about having assortment planning and a planning system instead of using books. So throughout the years I've seen major innovation happen every year. I don't know that I agree that this is the most innovation we've seen in retail; it's just happening in different avenues."

– Stacy Shulman, VP Technology CDO, Levi's

THE RETAIL INNOVATION INDEX

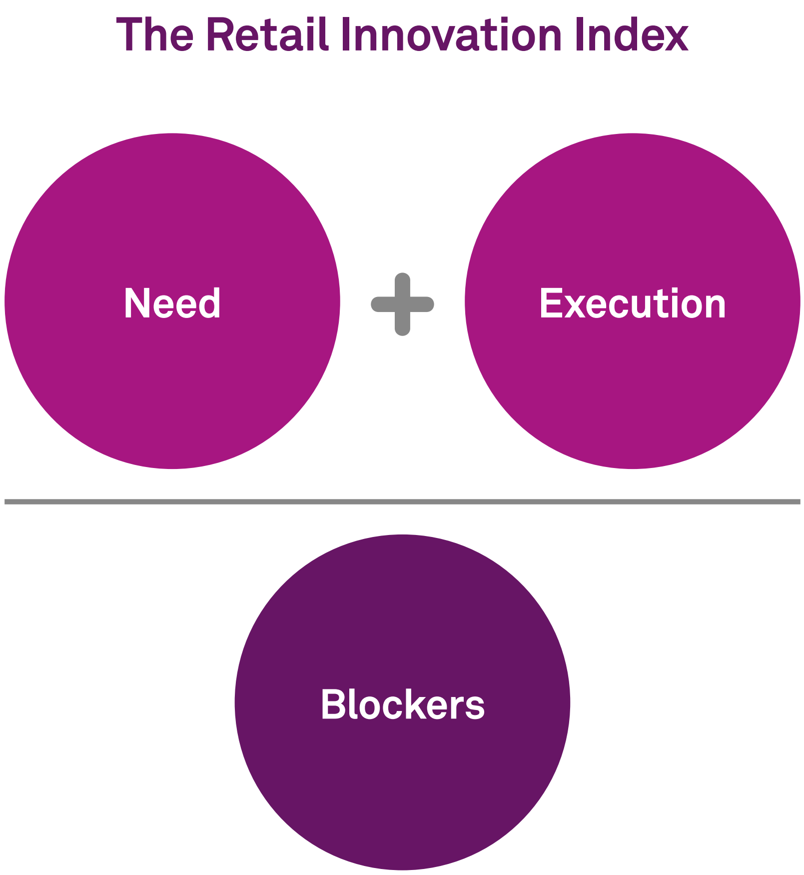


Figure 2

As a result of this research, we would like to propose a model for retail innovation called the Retail Innovation Index. The model hypothesises that retail innovation can be seen as a function of the need to innovate plus the ability to execute, all moderated by blocking forces.

We propose that **the need to innovate** is driven by a number of factors, such as changing consumer behaviour, competition, and the changing role of the retail industry itself – many of which are driven by digital disruption. Sometimes a combination of these factors puts the business itself at threat and creates a "burning platform" for change. If a retailer indexes highly on these factors, then they have a strong need to innovate.

Retailers may have a strong need to innovate, but they also must have **the ability to execute a programme of innovation**. We propose that this will be a function of business structure, processes, culture and resourcing, as well as some retail industry factors.

If a retailer indexes highly on both the need to innovate and its ability to execute, it will still need to consider the strength of any **blocking forces** before judging the likely success of an innovation programme. We propose that blocking forces come from the same place as the ability to execute, but are a mirror image. They include business structure, processes, culture and resourcing, as well as some retail industry factors.

In our model, the need to innovate plus the ability to execute is the numerator. Blocking forces are the denominator. The higher a business indexes on need plus the ability to execute and the lower they index on blocking forces, the more likely they are to be a successful retail innovator.

THE NEED TO INNOVATE

What creates the need to innovate?

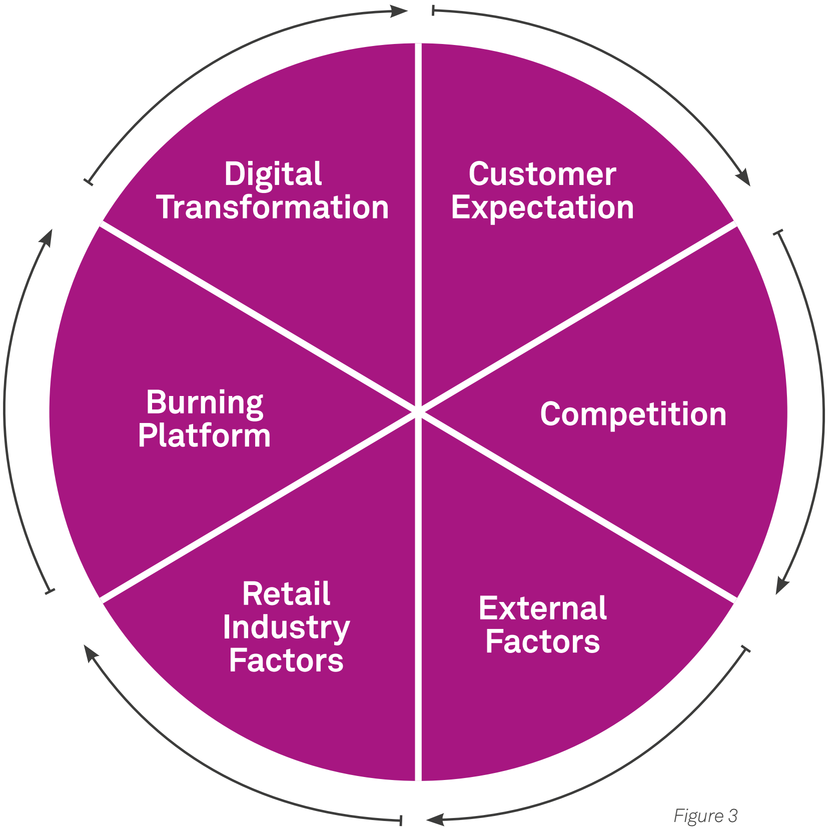


Figure 3

DIGITAL TRANSFORMATION

Digital transformation drives the need for retailers to innovate. It's changing the way customers behave and their expectations of retailers. It's changing the nature of competition by bringing in new types of competitors as well as helping existing competitors trade in new ways. It's influencing the broader external environment and changing the nature of retail itself. In our new digitally transformed world, anybody can be a retailer, a stylist or a content provider. In some categories, digital transformation has created a burning platform where the very survival of a retail format is at stake.

CUSTOMERS

Our research shows that retailers believe changing customer behaviour is the most important issue driving the need for them to innovate. They are facing a new consumer who is digitally empowered. Digitally empowered consumers come to a transaction infinitely better informed than they were only a few years ago. This not only changes the balance of power between consumer and retailer, but also has implications for the way retail teams are trained and equipped to deal with customers.

"We're just starting to wake up to [how] shoppers want to shop and you've got to find innovative ways, in a technology sense and also operationally, to address their needs. Their demand is changing completely."

"Major challenges are changing the shape of the customer buying behaviour – that's the fundamental thing. The consumer shops in a different way, thinks in a different way, assesses value, does everything in a different way..."

"I think customers are much more empowered now than they ever used to be, which is a great thing, but it means they're equipped with a lot of information and in some cases more information than our staff have. They're educated, they have access to local and global marketplaces, and when they come into the stores, they expect a superior level of service than they've ever had before and they expect our staff to add value in different ways. Giving basic good service and information is not enough; the bar has risen exponentially and that is just around access to information."

"The fact that anybody can go onto any hand-held device and instantaneously search for anything, whether it's to check on prices, research on brand, find out about people – I just think the access to that information so readily and so quickly and therefore so powerfully is certainly the biggest change."

Lifestyles are changing, with dual income, time-poor consumers working flexible hours in western countries and a new "wants-based" rather than "needs-based" middle-class consumer emerging in Asia.

THE NEED TO INNOVATE (CONT.)

What creates the need to innovate?

"Lifestyle for us as humans is dramatically changing. We've gone very much from 9 to 5, two days with the family, nothing's open after five o'clock style of life to a fifty-hour work week… The norm now is to hang around work a little longer, take it home with you, do it in a coffee shop or to do it after hours. Therefore the traditional retailing peaks will change and be much harder to predict, and the way people shop will also change because of that blend of the digital and the physical. For me, deciding what our role will be in a changing society like this is one of the big issues facing us."

– Andrew Smith, Director Retail Operations, Telstra

"Customers are increasingly time-poor so we want to give them a more efficient experience. I guess, convenience is the new service. We want them to be able to come in and do what they need to do and leave feeling that it was pleasant, convenient and didn't take longer than they expected."

"Customer behaviour in China is changing faster than anywhere else. What we've seen in the past few years is that they're becoming way more sophisticated in terms of the product itself, the brand and so on. But the biggest change will be that they shift from a 'gifting' culture to self-indulgence and sharing with friends and family on-site. You see that happening already in some categories – for example in desserts, pastries and so on…they will shift from pure gifting to buying something for themselves."

– Frederic Linkens, Development Manager Greater China, Neuhaus

Customers also have higher expectations of what a retail experience should be. They have infinite choice and information instantly available on the internet and expect that same knowledge and speed when they interact with a retailer. This presents operational challenges. Customers can't understand why they are digitally enabled and the retailer they are shopping with is not.

"The online challenge is probably [that] consumers' expectations of how they're able to deal with a business far exceeds the ability of nearly all businesses to deliver today, largely because the plumbing is pretty hard."

"The cycle of demand and satisfaction is just getting shorter and shorter so [to] satisfying consumers means being more and more agile and more and more nimble and finding better ways to satisfy the customer quicker. This relates to everything we do in our business, from drive-through service to how we operate in stores, how we give people access to new products, etc. You have to work harder to keep customers happier."

"The age group that's shopping with us – it's no big surprise they're digitally connected. Their expectation is that you have the same technology as they do. They're so advanced with the technology that they have at their fingertips, they can't understand why they can easily see what's available on Amazon, but they can't see what's available in our store or any other store."

Customers also expect their experience to be more personalised, which sets up a dichotomy for retailers. Customers now want to be served quickly and efficiently, but with personalised service as well.

"We talk a lot about ownership, personalisation and customisation – if you apply that to the business model we have where standardisation and consistency is still really highly valued, and familiarity with our product is still a massive benefit that our customers want – this whole move to the customer owning the experience, and owning the decision around their choice, is huge."

"Can you be quick when I want you to be quick? And can you be slow when I want to be slow? And by the way, you should be able to personalise every transaction for me because everyone tells me I'm special."

This raises the question for retailers of relevance. How does the retailer remain relevant to its customers when their shopping behaviour is changing so much? With the questions of relevance comes one of value…

"So I'll research online and my service level expectation when I come in will exceed that. Because I could do that myself and I'm paying you, as a third party, to do the same thing, so what can you do for me?"

"The major challenge is relevance, and I use that as a global word that every retailer is facing. You have to be relevant to be anything, so the challenge is: If you're not relevant, how do you become relevant? And if you are relevant, how do you stay relevant while everything is changing around you?"

"It goes back to the point that the world is moving faster and customer expectations are moving really quickly. If we don't change and maintain our relevance, it's a huge problem for us."

In this world of infinite choice, maintaining loyalty also becomes a challenge.

"Customer loyalty is a huge challenge – they have enormous choice and there are no borders now. They can shop any time, anywhere and from anybody. They're promiscuous – very promiscuous – so keeping those customers and creating a new loyalty is very challenging."

THE NEED TO INNOVATE (CONT.)

What creates the need to innovate?

OMNICHANNEL

Many of the changes in consumer behaviour manifest themselves in the so-called omnichannel mode of retailing. The omnichannel shopper is constantly connected to the internet via their smartphone and other devices. They want to shop anywhere, any time on their terms. Omnichannel shoppers may browse online then transact in a store; they may browse in a store then transact online; they may transact online then arrange to pick up from a retail store; they may transact in a store then arrange to pick up goods from a locker close to their home. Retailers see the need to provide that blended physical and digital shopping experience for the modern consumer while at the same time recognising the difficulty of providing it.

"The [customer] wants to engage with us in the store environment – research and then go and buy later or go in and see competitors with all the information they got from you either on their phone or their tablet whilst they're standing there. To me, that change in behaviour is something that has pretty much caught the entire industry out at this point."

"I think customers will engage with your brand and your business on their terms and their timetable. So we need to be able to service them 24/7, not just necessarily when they walk through the door, but the moment they engage with your brand however that might be, either online, through marketing or an app."

"If you nail being an omnichannel retailer and selling the products that people want to buy, you pretty much nail retail. Even the very best innovators in these areas are only, in my view, at the beginning of a journey of what the internet and related technologies can ultimately deliver to the retail model...we're in an experimental phase where it's all still clunky."

"Our challenge in the next three to five years is not just to build an online platform – which everybody will do. It's about how you connect the different channels together to make it all seamless."

THE NEED TO INNOVATE (CONT.)

What creates the need to innovate?

CASE STUDY

TELSTRA STORES TRANSFORMED!

The Telstra stores network consists of over 360 stores across Australia, selling a full range of Telstra products from pre-paid mobiles to pay TV services. Two years ago, management decided it was time something was done to bring the retail environment and customer experience into the digital era.

Driving the need for change was the realisation that customers increasingly expect personalised service and solutions, and they want it now. However, the traditional Telstra store was a white space with limited merchandising potential, and slow backend systems that caused lengthy wait times for shoppers, particularly during busy periods.

Andrew Smith, Telstra's Director of Retail Operations, says that the company went on a "rampant mission" to create a more exciting, immersive and efficient retail environment. There were just two rules: make it simple and make it fast.

Telstra's flagship Discovery store opened at 400 George Street in Sydney in October 2014, and while Smith acknowledges that the learning process continues, results here have been outstanding, with significant increases in sales volumes, the number of customers visiting the store and how customers rate their experience.

"The answer is in the till. The Sydney store is half the size it used to be, but is generating hugely more business. It's the retailer's dream: – Innovations that work."

– Andrew Smith, Director Retail Operations, Telstra

The store offers a mix of highly interactive features, digital content displays and an ever-changing range of the latest technology products and services. One of the key changes was the move away from desktop terminals to tablets, so advisors can access all the systems and operational tools needed to complete the end-to-end customer interaction – from exploring products and services to completing the activation, EFTPOS, capturing the signature and emailing the receipt and contract – all without leaving the customer's side. Advisors also have mobile phones so that customers can get back into touch with the exact person who served them – not just whoever happens to answer the store's fixed line.

Next to open was the Melbourne Discovery store in December 2015. Key features unique to Melbourne Discovery include a new tech accessories store, which carries the latest range of wireless speakers, headphones, drones, connected bags, and wearables curated by a team of stylists. Another feature of the store is how it reflects the Melbourne community, with an in-store barista providing free coffee to customers and a pop-up space available to local community organisations, such as the Asylum Seeker Resource Centre.

Some elements of the design, technology and service features of Telstra's Discovery stores are being implemented in selected stores across Australia, where they suit the local market. To date, Telstra network stores in Macquarie Centre, Macarthur Square and Chatswood in Sydney; Edward St in Brisbane CBD; Casuarina in Darwin and Cranbourne in outer Melbourne have been redeveloped.

Andrew Coull, Telstra Countrywide Executive Director says the Telstra stores are transforming to make a personal connection between people and technology. "Melbourne Discovery showcases world-class technology alongside a new level of personalised service for customers, and we've seen significant interest from the retail industry in the innovations we've developed."

THE NEED TO INNOVATE (CONT.)

What creates the need to innovate?

COMPETITION

Competition always drives change in retail. On the flip side, when a retailer has no competition, standards can slip very quickly. It's normal to face competition in your category or when your particular business model becomes successful. It's also normal for retailers from other categories to want to muscle in on non-traditional areas when they can scent potential sales. Factors such as globalisation, online and the emergence of new, more nimble market participants are also driving increased competition.

Some retailers are being driven to innovate as a result of their success.

"We are facing quite a few challenges, with more and more players coming into the market in our category. We used to be the first and the only one, but very quickly we got a number of competitors. Over the last five years many more joined us, so it's important to keep ahead, both with our products – taste, concepts, etc. – and with a store experience and service that differentiates us."

"Thirty years ago we were rebels without a cause. Skincare was not the norm, not desired or sought after. Now, it's commercially lucrative and we now see a tremendous amount of competition – competition that is only increasing."

"On a much larger scale, we're competing outside our industry now. Traditionally, pharmacy competed with pharmacy and grocery competed with grocery. Now there is a merging – an overlap – of some of the things that we sell and they sell, and the customer is ultimately the one that benefits from that. The lines are looking more blurry."

For many years, it was thought that retail formats did not export. Historically, Australian retailers have been immune from global competition, but that ended with the entry of brands such as Zara, H+M, Uniqlo, Costco and Aldi to the market. Over forty per cent of the world's retail brands operate in Australia, but an even higher percentage operates in Asian markets. This means retailers everywhere must now be able to compete with the world's best if they want to be successful. The online challenge is linked because if the best brands are not yet in your market physically, they almost certainly will have an online presence.

"The competition's rife – good enough is not good enough, you've got to be world-class now. It's risen to world -class because of online and because of international competition."

"I think one of our greatest challenges is globalisation. You look at Walmart, Costco, [and others] who have set up global retail businesses, with global distribution, global sourcing, etc. – they are miles ahead of most Australian retailers."

Online is also driving commoditisation in some categories. Addressing this requires innovative thinking.

"The internet is responsible for commoditisation and complete transparency in terms of price. So how do we meet those competitive threats of pure play retailers both locally and internationally? Clearly any retailer in Australia is looking very closely at people like Amazon and the threat they pose, particularly when they have their own distribution channels within the Australian market."

"It's difficult to win in online from a competitive perspective, where you have a very commoditised experience with low customer engagement – for example, an Amazon or even a Zappos."

Then there are the new, nimble competitors who can move fast and disrupt a market. Some of them have collaborative business models, which means the normal rules of retail balance sheets do not apply.

"Customers will get even more familiar with the technology, will become even bigger consumers of the technology and because of very, very interesting new models like Uber and Airbnb, people will expect it to translate anywhere. It's just going to be relentless."

THE NEED TO INNOVATE (CONT.)

What creates the need to innovate?

EXTERNAL ENVIRONMENT (OTHER FACTORS)

Our retailers cited a number of other external factors as motivations to innovate. Most important among these were economic factors and, in particular, constantly rising costs

"From an economic sense, if you don't innovate – even with processes, systems and things like that – the ever-increasing cost of doing business will kill you in the end."

"The reality is we're competing with an always-on, 24/7 expectation [of service from] the customer. The reality of providing that at a competitive cost in a safe working environment for your staff is problematic. Structural issues around infrastructure, wages, opening hours and just the cost of doing business are big hurdles."

Some Australian retailers were particularly concerned about the economic impact of the slowdown in China and how it might affect consumers' confidence in and capacity for spending.

"In the Australian context, the real challenge will turn out to be the economic conditions. We've been a lucky country for so long – and while we're not Spain – there is still a lasting impact from the GFC and beyond. You can imagine still the scenario where China slows down and Australian raw materials and agriculture cease to have the value they currently do. These are large-scale economic issues that will have a bearing on retail and disposable income."

"I think in Australia we've become very accustomed to a fairly nice disposable income, but I don't think it's necessarily sustainable in our economy as it stands. I'm a little worried that a lot of the growth we have seen in our economy is probably going to slow. This means people's confidence will be lower, which will have an impact on cash in the till."

The growth of the Asian middle class does not make Asian retailers immune from economic factors because with growth comes higher rent and higher wages. In addition, some Asian markets have not experienced the growth experienced by China.

"What we're seeing in some of the key Asian markets – even some areas that are slowing – is continued rent increase, continued labour cost increases…. In a retail business, our greatest considerations are the capital cost of the store, [depreciation], the occupancy cost and the staff cost. Most of those key indicators are going up at double-digit rates and that puts a lot of pressure on us, not only to deliver sales growth, but also to deliver profit growth."

– Mark Whyman, CEO, Jurlique

THE NEED TO INNOVATE (CONT.)

What creates the need to innovate?

CHANGING ROLE OF THE RETAIL INDUSTRY

Another factor driving the need to innovate is the changing role of the retail industry. Digital disruption, globalisation and changing consumer behaviour have worked together to challenge the traditional role of the retailer as a merchant or buying agent for the end customer. Some manufacturers and wholesalers are now bypassing retailers and building direct access routes to consumers while consumers themselves are digitally equipped to fulfil many of the roles traditionally taken by retailers.

"For hundreds of years, the role of the retailer was to find products, deliver them to shelves in a store and let customers know. That's been turned on its head now so the customer now has the control, in that the customer is determining what products they want to find, when they want to find it, who they want to source it from and also at what price."

"One of the challenges for a retailer is the move for brands to [deal directly with the consumer]. So as brands – for example Nike, who holds the largest share of the shoe market – continue to push and move direct to consumer, they're able to be really choosy about their wholesale partners."

"The whole role of the middleman retailer is a huge question now. In a people-to -people economy – a social economy where everyone can be a retailer, a stylist, an editor, a content generator – our role needs to be redefined."

– Susan Sams, Chief Officer, Strategic Development and Communications, Lane Crawford

BURNING PLATFORMS

Some retailers have burning platforms. For them, innovation is a question of survival and it provides the highest possible motivation to change the way they do things.

"We are fundamentally going through a reinvention as a company. Our traditional business model – delivering letters – is very mature as a business model around the globe. For us to reinvent, we are saying: 'Where do we fundamentally think growth opportunities are going to come from?' For us, it's actually about innovation in understanding what our customers want. It's innovation in designing new products and services, in creating new channels and platforms and, for all of that, it's about ensuring that we remain a sustainable business. Because without innovation – if you look at the businesses we're in and its lifecycle – we don't have a future."

– Christine Corbett, Executive General Manager, Postal & e-commerce Services, Australia Post

"If we don't innovate, then the whole [industry] could become commoditised into a cheap 'this'll be good enough, who really cares?' type of thing. However, if we keep innovating, customers can justify spending on a particular technology or lifestyle product. If we don't, then it's easy to just commoditise it."

"If we don't innovate, we will die. Competing on price is just a race to the bottom. So, if we don't innovate, we'll go to the bottom and go bust – like a squillion retailers before us."

A burning platform is so important in driving innovation that some retailers who do not have one try to manufacture one.

"It's often difficult for us to build a burning platform for change within our business because we are so successful and number-one in the market."

EXECUTION

Figure 4

We saw earlier that innovation can be defined as ideas plus execution. Retailers recognise that the ability to execute is enabled by business structures, processes, culture and models of resourcing. Retailers also think there are certain characteristics of the retail industry itself that influence the ability to execute innovation.

BUSINESS STRUCTURE

Retailers agree that innovation is best executed in horizontal organisation structures rather than traditional hierarchical structures. But deploying those horizontal structures creates many organisational challenges, not the least of which is communications.

"You can deliberately set up very efficient ways of communicating and actioning laterally across an organisation, rather than up and down. Most traditional organisations still think in terms of hierarchy – they still rely on a relationship of seniority that forces stuff to go up and down, whereas I think some of the leading innovators in business don't [do this exactly]. There is empowerment where the leader says: 'I don't have to agree with you, but you can still do it, provided certain things are met.' The emphasis moves from being a vertical relationship to one that is horizontal. Then it becomes more about engaging stakeholders and people, and your need to make something happen, and less about selling your idea to more senior people so they will back it and give you access to resources."

A number of businesses have deployed innovation offices to create an internal focus for innovation within the company. Even some of the smallest companies in our sample have done this.

"We have a director of innovation here, which is unique in that we're not a huge company – yet. We want to be perceived as innovative because we believe customers are attracted to that."

"We've got an operations team that runs the day-to-day, and then we have a team we call 'restaurant excellence' whose basic mandate is to look at everything that's not going to hit one of our restaurants this year; they only work on next year or the year after or even further out than that. Their remit is focused on longer term projects and they've got half a dozen people who sit there and work on initiatives that are either locally or globally initiated, and they push and prod and try and get to a test phase or roll-out stage in their various different ways."

While horizontal structures and separate innovation teams are seen as important, it is also important to link innovation back to the core.

"If the core business thinks you're a bunch of blue-skying tossers, they'll just look the other way and pay no attention. Equally, if that small group has nothing but contempt for the core business for being laggards or whatever, you're going nowhere either."

EXECUTION (CONT.)

BUSINESS PROCESSES

Ideas

Innovation begins with ideas. Retailers recognise that it is necessary to have processes that ensure that a flow of good new ideas is constantly being generated and considered in the business. Some favour top-down models – such as studies of best practice, formal research and taking counsel from innovative individuals.

"I'm about to lead a [retail] study tour across Europe and America – we'll take about twelve people and look at best practice, not only in retail, but across other services industries as well. And their whole reason for being there is to understand the next step change that we need to make in term of our retail offer. So that's [coming from the] top down. It's the executive team saying: 'Get ahead of the curve; this is what we know."

"Historically, [innovation] has been led out of the product groups or out of formal market research – market intelligence, looking at what our competitors are doing, surveys and focus groups and then product groups developing things from there."

"[Innovation] comes largely from the individuals. There's not an innovation department. There are very few roles in the company that you would tag as innovation roles. So, a lot of it comes from individuals understanding where markets are headed, where customers are headed and then coming up with ideas that they then try to surface."

Others recognise the primary importance of customers in idea generation.

"We have a very simple methodology when we are with customers – whether via observation or interviews or intercepts or surveys or focus groups – everything is around clue collecting. It's not about an idea or a hypothesis and going out and testing it; it's about collecting the clues, turning those clues into hunches. Those hunches become themes and those themes become ideas. Then we have something we can take back to the business, saying: 'These are the ideas that reflect our customers' needs and wants and desires."

Some run competitions that generate innovative business ideas.

"One of the most significant things we do is to sponsor university challenges… We give them a challenge, generally [one of our] business challenges or something to do with retail innovation and those teams come up and present against each other. We get huge numbers of innovative ideas from those sessions – and also access to lots of really good quality interns."

Some of the best ideas come from the bottom up. This is not surprising in an industry where store staff are in constant contact with the end consumer.

"There's no one in the world who knows better what customers want and the stupid stuff that we are doing, than the people who serve our customers every day. I spend an awful lot of time in our stores with people in uniform serving customers because I know that's important."

"We have fantastic floor staff – you don't become the number one in Australia without really good people. The intelligence [we gain] from our store staff is a great source of ideas for innovation - primarily around product, the in-store experience and environment, etc. I think we should look to them more than we do."

Some take a theoretical view of idea generation. One of the popular models of innovation is Design Thinking. As we now know it, Design Thinking emanated from Stanford University and IDEO, the company founded by David M. Kelley. It is a method of designing a solution based on an objective (e.g. sell more pimple cream) rather than the more scientific approach of thoroughly defining all the aspects of the current situation (what's happening in skincare today?). In retail, a Design Thinking approach implies a thorough understanding of the customer's path to purchase.

"Design Thinking starts with a very clear and distinct profile of your target customer and an understanding of their day and their problems and what matters to them and how you can connect your plan to those two points in their life and consumer journey. That's really where our innovation starts.".

Collaboration with suppliers is another way of generating innovative ideas.

"The third major [source of ideas] is the partners we work with, especially the technical partners. Nearly all of them have labs with the latest ideas. What we bring to the party is the ability to describe what real business problems we have, whereas they're looking at it from the point of view: 'What can we do with technology that's interesting?' If you can marry the two, you can get some really good outcomes."

– Roger Sniezek, Digital & Financial Services Director, Coles

EXECUTION (CONT.)

CASE STUDY

THE PATH TO DIGITAL: MURU-D START-UP ACCELERATOR

Bringing together the word "muru" meaning "path to" and D for "digital", muru-D is a start-up accelerator, backed by Telstra, that aims to support and grow entrepreneurial talent in Australia by giving start-up founders the platform they need to take their ideas from concept to market.

muru-D connects promising start-ups with some of the best brains in the business while providing the funds, facilities and support to help make their dream product or service a reality. The six-month muru-D programme handpicks ten standout start-ups and gives them up to $60,000 in seed capital, a world-class workspace and access to a highly developed network of expert mentors and industry professionals. They also get tailored training programmes that cover all aspects of how to set up and scale a business.

Start-ups accepted into the programme are introduced to the telco's clients and partners. In return, muru-D helps identify fast-growth ideas for the telco, with Telstra taking a small stake in the concepts.

"[For the 2016 programme], we accepted 390 registrations and 171 applications and were blown away by some of the creative ideas we received this year. Between the drones, the nano-satellites, apps and Internet of Things platforms, this intake raised the bar again and reminded us what an incredibly exciting time it is to be part of today's technology landscape."

– Annie Parker, Co-founder of muru-D.

The facility, in the same exchange that relayed images of the Apollo 11 moon landing, is just a few metres from the Telstra internet backbone. It has minimum 100 Mbps internet speed serving hot-desks, informal meeting rooms and break areas as well as a boardroom with dual-plasma screens for telepresence meetings using wired and Wi-Fi networks.

2013, in his then role as Federal Communications Minister, Prime Minister Malcolm Turnbull opened the facility, located in his Wentworth electorate. He urged entrepreneurs to be tenacious because "the whole business of innovation was trial and error". "The start-up phenomenon requires a degree of insurgency," Turnbull was reported as saying in the *Sydney Morning Herald*. "It requires an attitude that is utterly and totally antithetical to everything Telstra used to stand for."

By harnessing big ideas and supporting the passion behind them, muru-D is designed to encourage digital innovations across a broad range of digital areas, not just projects that fit Telstra's current products or services. Just a few examples from the forthcoming 2016 intake include:

Drive Yello – a service ensuring the efficient and reliable delivery of food by allowing food service businesses to search, book, manage, pay, train and monitor their delivery drivers.

Helian Systems – software infrastructure for Internet of Things that connects the sensors to existing business applications.

Persollo – a tool that makes selling online, making donations or trading services quick and easy by using a simple URL.

Simpla – allows web developers to build better websites, web apps, and tools much faster by enabling edits to be made live on a page.

The end goal is to help Australia and South East Asia become a centre of digital business – one start-up at a time.

EXECUTION (CONT.)

Prioritisation

Ideas are to be found everywhere in a retail business. The ability to execute on innovation includes the ability to sort out which ideas to pursue. One way is to look back at how the initiative links back to the company strategy.

"You've got to decide which lens you assess things through. The most important lens is [the one that references your business strategy]. Just because something makes money, it doesn't make it the right thing to do. We could start a launderette tomorrow and probably run it very profitably. Is it the right thing to do?"

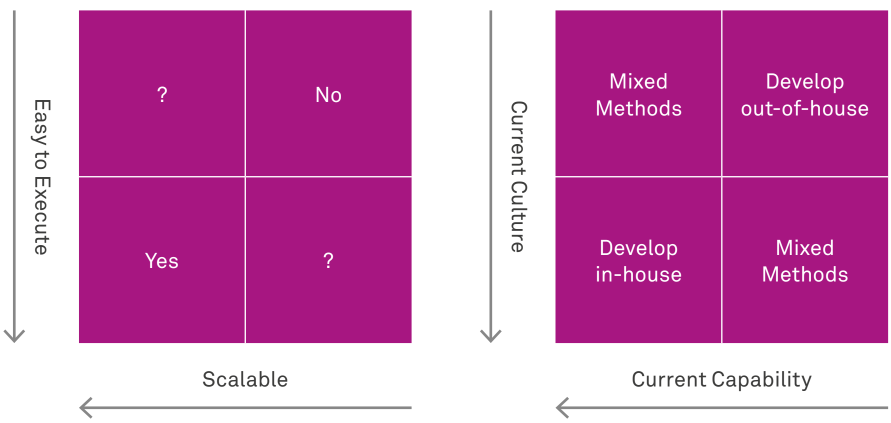
Some have a decision matrix.

"[An idea] that is easy to execute and highly scalable is something that we should definitely prioritise, versus something that's not as scalable and hard to execute. It seems like a really simplistic way to look at it, but if you actually put projects into a quadrant, it becomes pretty straightforward what you prioritise."

Others have a process that contains more traditional soft and hard measures.

"It's got to be change that adds value. It's got to be genuinely good for our customer and/or our team members, it's got to be safe – all that kind of stuff – but really we're looking for things that give us a great return on capital and take our customers with us."

Once ideas are prioritised, it's also important that they can be developed in an effective way. If an idea is intrinsically cannibalistic to the existing business model, then developing it in-house may not be optimal. On the other hand, if it fits within existing capability and business culture, in-house development may make sense. Using this approach, Walmart took the development of their online and digital platforms out of their Bentonville offices and created a new team based in San Francisco.



Idea Prioritisation Matrix

Figure 5

EXECUTION (CONT.)

Organisational alignment

Once innovative ideas have been selected, a process of building them into the company's operating model must be determined. And the main driver of the company's operating model is its business plan.

"We use a three-horizon strategy – defend, build, seed – and everything we do concurrently should be about all three... It's controlled and managed risk-taking where the business is always thinking of the next thing. If we start at the top, the key thing is getting the three-year business plan [going]. I set [the team] targets, but they can't come into the room just with a defend strategy or a build strategy; they have to come in and give me all three. It's forced into the business as part of the strategy process, and then we've taken the project management office and brought it right up to the top of the organisation. Structurally, this has allowed the business to take ideas and float them into a process of bringing them to fruition."

Putting innovation into performance plans has been an effective strategy for some companies.

"Here, employees can submit ideas through something we call Exlabs. [Innovation] is structured into managers' performance plans. They have to encourage their direct reports to come up with different innovative solutions to everyday problems that the organisation faces. Exlabs has introduced a whole bunch of really cool ideas and solutions to customer problems."

"From the staff point of view, we now have a rolling three-month survey based around innovation. It's loosely based on the Aon Hewitt measures of 'stay and strive,' etc. but also around how staff feel working within their own teams and the broader teams. We're always looking for any 'silo' mentalities that we haven't dealt with. We help teams understand that they'll be rewarded on their own set of metrics, of course, but also on how they engage across the business. Their KPIs are really focused around being innovative and collaborative. [How that translates into their role as a team member] will always end up in the set of results."

– Peter Knock, CEO, The Co-op Bookshop

Agile delivery

When it comes to delivering innovation, there is agreement among retailers that processes must be in place in order to deliver quickly.

"We used to check whether we could do something in 900 restaurants before we even tried it, versus just having a go in one or two restaurants to see if it worked. And if it did, then work out then how to scale it. It's been a very significant culture change in our business from scale and test to test and learn or test and go."

"More out-on-the-edge innovations are funded as very small proof of concepts. And then we have things that we want to prove out in the concept – once we've proved that, then we can take it and make a decision about the benefits before we roll it into our standard process."

CASE STUDY

STAMP OF SUCCESS: THE FUTURE OF AUSTRALIA POST

With the rise of digital alternatives such as email and online bill paying options, mail volumes in Australia have decreased by thirty per cent since 2008. And that means that the number of people walking into a local post office has also decreased – a major bottom line consideration for a retailer with more than 4,000 established outlets around Australia.

The traditional business model of the local post office is now resting on a burning platform, as Australia Post is the first to acknowledge. Another key issue is the relatively fixed cost associated with their physical network of stores and limitations on its ability to consolidate this, given their mandated community service obligations. Add to this the impact of global retailing platforms and the increased ease of doing business via mobile devices, and the need for Australia Post to reinvent their role as a retailer is very clear.

Key to meeting this challenge is finding new and better ways of delivering what their customers want to create customer advocacy, and the organisation recognises that digital will play a key part in this. Indeed, "Delivering eCommerce to everyone, everywhere, everyday" is a central plank of Australia Post's new corporate strategy.

> ***"When we talk about being a leading eCommerce provider, we're talking about using our digital services to help people do things faster and easier than before. It's about identifying customer needs and thinking differently about how Australia Post [and StarTrack] can help."***
>
> ***– Christine Corbett, Executive General Manager, Postal & eCommerce Services***

The organisation is aware that eCommerce will require them to work differently, while also staying true to their purpose of helping to deliver a better future to people, customers and the community.

Extensive stakeholder engagement is informing how the post office is changing. Says Christine Corbett, Executive General Manger, Postal and eCommerce Services: "Transforming the post office is all about reimagining the role and service offering of a post office and how we align our network to support customers' changing needs – particularly for consumers and small business. As part of this, we will be undertaking a range of trials in a limited number of locations, measuring their success and then looking to scale them across multiple locations."

One such venture is the mobile point of sale trial, launched in December 2015. This involved a trial in ten Victorian post offices of new POS technology, with roving staff members equipped with either a phone or a tablet to help customers with purchasing any product in-store that has a barcode. The staff member can take a card payment and issue a receipt on the spot, all without the customer having to join a queue.

More initiatives are in the pipeline, with Australia Post holding a number of workshops with their customers to gain a better understanding of what they value, their key challenges, and how Australia Post may help address these.

CASE STUDY

WHEN AGILITY IS PIVOTAL

There is no doubt that software is transforming business models. According to Tom Goodwin ("The battle for the Customer Interface") the world's largest taxi company owns no vehicles. The world's most popular media company creates no content. The world's largest accommodation provider owns no real estate. And the world's most valuable retail company has no inventory.

However, not every company has the people and resources – or can afford the time - to develop the software they need to meet today's business challenges or differentiate themselves in the market of tomorrow. And this is where Pivotal Labs first spotted an opportunity.

Solving the software challenge for customers across industries and across the globe has been the foundation of Pivotal Labs' own business model since the company's inception more than 25 years ago. Today, Pivotal Labs is a globally recognised leader in agile software development, building highly reliable, scalable software for established market leaders and emerging companies alike. More than 500 developers across sixteen offices worldwide (in the US, Europe, Japan and Australia) focus on turning each client's innovative vision into reality – and code.

The company focuses on end-user apps that leverage data and analytics, and clients from the big end of town include market disruptors such as Netflix, Groupon, Mercedes, and BMW, amongst many others. What makes Pivotal Labs' approach unique is that the client's team works in equal pairings with Pivotal Labs' staff onsite throughout a project – a rare opportunity for clients to co-create with the "The Navy Seals of app development."

The main benefit of pair-programming is better software code. Pivotal Labs' methodology achieves a shorter development time with fewer bugs. Meanwhile, continuous communication between developer and client vastly improves the end-user application, resulting in a superior result and the imparting of knowledge, training, and IP ownership to the customer.

Home Depot is one such company that has rethought their IT and software development strategy from the ground up – their need to transform being driven by the realisation that Amazon was selling more hammers than their business, and that they needed to become more agile, and better at building the software that was underpinning their operations.

Excited by the prospect of being able to deliver value faster, they partnered with Pivotal so their in-house development teams could access Pivotal's expertise and technology, particularly the Cloud Foundry platform. While the learning curve was steep and demanded major cultural change, today Home Depot's 1000-strong developer team models Pivotal practices to great effect with deployment times dropping from hours to mere minutes.

"In the development process, people typically like to point fingers – the process or technology or tools suck, or whatever. What the Cloud Foundry has done is remove one of the elements from the equation. We can no longer blame our toolset for any inadequacies in our company."

– Anthony McCulley, Manager App Platforms and Dev Tools, The Home Depot

Co-creation is something that is close to the heart of Telstra's approach to innovation too, so it was an logical move for Pivotal Labs and Telstra to enter into a joint venture in 2015 that will see the two companies helping Telstra's enterprise customers to innovate through the development of new software applications. (Telstra tested the waters with the development of a ram-matching app – described as Tinder for sheep – that allows farmers to buy rams on the basis of what the farmer wishes to achieve – for example, maximum meat yield or improved wool. The app simplifies complex genetic data into an easy-to-use and understand format and is a game changer for the farming industry.)

Telstra has also become a member of the Cloud Foundry Foundation, giving them access to cloud-native platform capabilities that will be the engine room for innovation at Telstra's Gurrowa Innovation Hub (see page 37), as well as reducing the time to market for Telstra's own new products and services.

EXECUTION (CONT.)

BUSINESS CULTURE

Retailers see business culture as an essential part of enabling innovation. As well as having the right structure and processes, a successful retail innovator will have ambiguity, empowerment and an acceptance of failure built into their culture. It's widely recognised that leadership is required to create this sort of culture across an organisation.

Ambiguity

The world of retail is one of certainty. To operate a retail business successfully there need to be strict policies around stock management, staff management and operational procedures. Part of being a successful member of a retail team is being comfortable with living in a business environment bound by strict rules. In contrast, the world of innovation is one of uncertainty and ambiguity. Retailers recognise the dichotomy and that culture needs to accommodate ambiguity if innovation is to thrive.

"We've always had these values we believe in and it's culminated in this thing called our 'bird song'. Our bird song is basically that if we are all on the same page, all singing the same song then we'll be a business that will thrive and the individuals within it will thrive. Each month, we celebrate a different value and we really live and breathe it."

– Jane Cay,
CEO, Birdsnest

"How do you make everybody feel safe in a world that they don't entirely control? That goes to the [essence of] how you make people comfortable with ambiguity. In my view, one of the more valuable human qualities is to be comfortable with ambiguity. Agents of change, entrepreneurs or people who are at the leading edge of innovation are inherently comfortable with ambiguity and uncertainty – arguably that's their adrenalin, that's what they get off on. How do you build a bit of that into your culture at an organisational level and not an individual level?"

EXECUTION (CONT.)

Empowerment

Along with ambiguity goes the idea of empowerment. As previously discussed, innovation is best fostered in horizontal rather than vertical structures. A necessary adjunct to a horizontal structure is the empowerment of the individuals within it.

"Systems and processes and following rules have really been part of the cultural heritage and you need guidelines and guard rails. But to empower people and to really trust the people on the shop floor and give them the power to make the decisions – that's different to how we've managed and led in the past."

"Businesses that give individuals some ability to spend their own money – some latitude to do their own thing, of which the most famous is Google's '10% Time'. This is the end point of a train of logic where you want innovation happening at the level where people are most affected by it, and have the best ability to make it happen. So anything that takes this power away from them slows everything down and makes it less likely to come up with the right answer."

Acceptance of failure

All retailers need to produce results to survive. The notion of failing in any way is hard for a business to accept, but in the world of innovation, the normal rules do not apply. Not every innovation project will succeed and retailers must have some degree of acceptance of this embedded in their culture to be successful innovators.

"If you don't have a culture of 'try it, let's experiment, let's push the boundary, how far can we go?' and you don't have people on board who share that approach – or at least share the acceptance of that risk – it's never going to work. It'll be just people lining up to say 'I told you so.' And they're not the people that you need. You want to say: 'Well that didn't work; let's try something different.'"

"Our head of innovation has a KPI of one project a year, I think. Last year, he delivered two or three. You can't have people under pressure to produce traditional sorts of results every time if they trying to produce innovation."

Leadership

The impetus to produce an innovative culture must come from the top.

"It starts at the top. The signals you send and the way you set up your organisational structures and create what I call an operating model – the 'way business gets done' model – that allows change to happen in a safe way for individuals is quite an interesting challenge."

"...The progress of [our] innovation projects is also reported to the executive team, so everyone understands the status. Those innovation projects are also assigned to different executive sponsors who help champion them and see that they get done."

EXECUTION (CONT.)

RESOURCING

Executing on innovation requires resourcing. Innovation by its nature has uncertain returns; therefore, some retailers fund innovation using specifically allocated resources.

"Once we've got our shortlist, we then put it into one of two buckets: something we should do right now and back with money, or something where we just experiment and try something and hold it together with sticky tape and string for a month in a store to see if it works. And if it does, we fund it more formally."

"It's rather like a 70/20/10 approach – 70% of our costs go against running the railroad, which is delivering the day-to-day basics of what we need to do to make it work next year. Then 20% of our costs go against things we hope to land next year – it might dribble out for a year beyond that – but they are pretty likely to come to fruition. And then we have maybe 10% of our costs and resources that are allocated to stuff that is further out than that – certainly not going to land next year – but that might add value to the business down the track. Whether it's actually 70/20/10, I'm not quite sure, but we use that framework to identify how to allocate resources."

Then there is bootstrapping – taking money from existing operational budgets with the intention of getting a return during the same budget year.

"Some of the best things we do include the stuff where it's just the small sprint for a few hundred thousand bucks of in-year money that we can just do ourselves."

Just as collaboration with partners has been shown to be a way to generate innovative ideas, some retailers are looking at collaborative ways of funding innovation.

"The other way we do it is to partner or share the cost of trying new things in the restaurant with the franchisee. This is a really important way for us, not only to reduce the risk financially, but to give us the ability, if we are sharing some of the costs of the new idea, to control the objectives as well."

"What we're starting to do – and this is early days – is set up a separate fund for innovation, and to work more directly with small innovative companies and third parties. You know, test, trial, innovate, get some new ideas to market and co-create rather than building it all ourselves."

EXECUTION (CONT.)

CASE STUDY

THE GREAT IDEA INTERCHANGE: THE GURROWA INNOVATION LAB

Great ideas are seldom born in isolation, which is one of the key drivers for Telstra's newest innovation baby, the Gurrowa Innovation Lab in Melbourne. The name Gurrowa means interchange in the Woiwurrung language and reflects the interchange of ideas that will take place in this brand new co-innovation space.

A centrepiece of Telstra's extensive innovation and technology research capabilities, the lab will drive the next wave of innovation at Telstra, and is kitted out with every high-tech toy imaginable, from ultra fast networks to 3D printers and even a drone lab.

Innovation works best when what once was considered an ivory tower activity is kept in close proximity with business. Accordingly, the Gurrowa facility was deliberately built in the heart of Telstra's Melbourne headquarters at 242 Exhibition Street.

Covering 2800 square metres, there is a workshop complete with power tools and bench space for prototyping, enough Cat 6A and Cat 7 cabling to wire a 20-storey building, and even a music room where staff and visitors can listen to their favourite tracks over an open source, web-based platform.

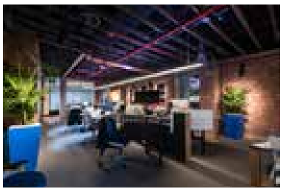
At the facility's heart is a very serious purpose though: the co-creation of smart solutions to some of the most pressing challenges faced by Telstra's customers today.

It is here in this open innovation environment that Telstra's subject matter experts work with enterprise customers, partners, incubators, vendors, research institutes and other members of the company's innovation network to connect and collaborate on cutting-edge technology.

Projects can range from quick brainstorming hits to longer, more extensive programs of work covering many months, depending on the customer and their requirements. As just a few examples involving Internet of Things technology, in 2015, the team connected haptic (touch-controlled/interactive) robots to rural ultrasound equipment, designed portable systems that can locate lost children in remote areas and developed sensor applications to predict when equipment or structures may fail.

"We recognise that our customers have a far better understanding of their business than we ever could. They know their customers and what they want to achieve. Our strength is the technology, and our aim is to spark a disruptive, transformative conversation…what do we have in our toolbox of goodies that could help you achieve your goals? How can Telstra's technology and products be adapted or applied to deliver the results you are after?"

– Ben Crosby, Director, Technology and Innovation, Telstra



Retailers, on the other hand, may be more interested in resource management or smarter merchandising, and Gurrowa not only enables access to subject matter experts (SMEs) but also freedom to explore solutions that use the latest in video analytics, Bluetooth beacons, 8K, digital signage, video walls and more. Importantly, Gurrowa also provides customers with a partner with whom to co-create ideas, as well as space to design and prototype a solution, the network services to connect it and the Telstra experts to bring it to life.

EXECUTION (CONT.)

RETAIL INDUSTRY FACTORS

Are there characteristics of the retail industry that make it easier to execute on innovation? Some of our retailers think so. While retail is generally tightly controlled, that control is used to a large extent to facilitate speed of execution. That contrasts with some other industries...

"When I compare the barriers to innovation in retail with other industries, they're much less. We can do most things right away. In the airline industry, airplane replacement cycles are ten years. Now that's a barrier to innovation!"

– Paul Coby, CIO, John Lewis

"My previous job was working for the provincial electricity utility and there, because the customer wasn't really champion, it was a very bureaucratic decision-making-by-consensus process that was very siloed. It made innovation at times really challenging. I believe that if retailers properly structure an innovation, they have lots of opportunity to fail fast."

"Because we are closer to the consumer, we should have more inspiration to innovate."

It may be that the industry has a problem understanding its own inherent strengths. Retailers have a simple view of business and they can execute fast if motivated.

"Innovation for the sake of innovation? No. But innovating where I understand what the benefit will be? Yes, we'll do that, and we'll do it fast every time. I think that's where the disconnect's been happening in the industry...[where people have been] trying to wrap their heads around the benefits."

– Stacy Shulman, VP Technology CDO, Levi's

CASE STUDY

LET THE FUN BEGIN: IN-STORE WI-FI AND BEYOND

McDonald's wanted a new way to engage with their customers and challenged Telstra to come up with something that was fun, fresh and delivered real customer and business value. Working closely with partner Mandoe Media, Telstra delivered a new digital entertainment restaurant concept that combined fast and free in-restaurant Wi-Fi with a McDonald's Instant App to open up a whole new world of news, entertainment, games and learning experiences for McDonald's customers.

"Innovation allows us to remain relevant. The world is moving faster and customer expectations are moving really quickly. If we can get customers to say: "I didn't expect that from McDonald's" – then that's a measure of the success of our innovation."

"We put digital kiosks and menu boards into our restaurants and I think that's just the first step. In the future, the way our customers will increasingly interact with our brand is through technology and mobile and other new formats - it allows us to interact with the customers in a different way."

– Andrew Gregory, Managing Director & CEO, McDonald's Australia

Free and fast Wi-Fi and the Instant App have been rolled out nationally in over 950 restaurants and Mandoe Media digital screens are now in place at around 50 restaurants across Australia. The goal was to encourage families into restaurants and engage with them in a different way.

The digital restaurant now offers something for everyone with separate zones for adults and kids. The separate zones make it easy for customers to connect with age-appropriate content like interactive table games and stream cartoons, with the confidence that there is no need to supervise kids' browsing. In the Adult zone, customers can connect to news, sport and weather or browse the internet on Wi-Fi.

Digital screens add to the whole experience and the architecture allows for content to be delivered simultaneously across multiple screens in multiple restaurants. While the content is currently consistent across the restaurants where it is available, moving forward McDonald's will investigate options to customise content by region or restaurant and take advantage of seasonal factors and landmark sporting and cultural events to help make the content relevant for each local audience. Communications can be integrated across multiple touchpoints too – for example, digital screens can be use to invite customers to join the Wi-Fi network, to showcase in-app content, or to direct people to activate in-app coupons and offers.

In the next phase, the solution may be integrated with McDonald's CRM ecosystem to provide further insight into customer's behaviour and influence business strategy. The solution will also make it simple to manage and distribute multiple messages to different screens simultaneously, including company updates, training and promotions.

Telstra has provided all the hardware, connections and installation for this solution, plus ongoing management via a single point of contact.

BLOCKERS

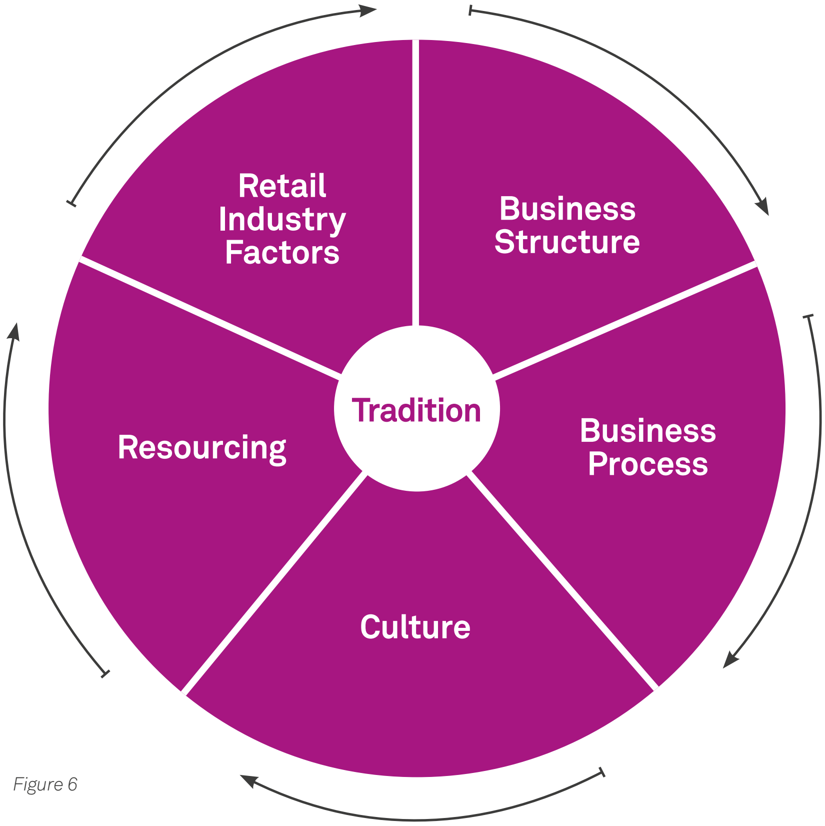


Figure 6

The same forces that can enable retail businesses to execute innovation can also become blockers of innovation.

BUSINESS STRUCTURE

In the previous section, we talked about how horizontal management structures, collaboration between teams and organisational alignment with strategy helps an organisation to execute innovation. This implies that traditional hierarchies, siloed management structures and organisational misalignment are natural blockers of innovation. In this section, we look at some other structural blockers of innovation in retail.

Retailers of all shapes and sizes find issues in their ownership structure that inhibit innovation. This applies to franchises, subsidiaries of multinationals, private equity owned businesses, public companies and privately owned companies alike.

"Our model of franchising sometimes is a barrier."

"We were owned by private equity for about ten years and their objective was simply to maximise sales and to therefore ensure that the value paid for the business was as high as possible, and then sell. They didn't do that by being innovative or investing in infrastructure or systems or anything else."

"It's harder for any business that is public because of reporting on a quarterly basis."

"That's probably a problem with a private company – if we were a public company, it would be very different because we would have to make that business case constantly to our shareholders and also be responsible for delivering the goods."

The one exception to the ownership structure problem is co-operatives. Two of the companies involved in our research have co-operative structures. Both are renowned innovators in their field and both feel that their co-operative structure is an advantage when it comes to innovation.

From what we have seen before, a co-operative structure formalises a break from traditional hierarchical management structures, should make it easier to work across management silos and, because it means ordinary workers are invested stakeholders, and there's a strong alignment between corporate strategy and the day-to-day actions of the company.

"One [advantage] we have as a co-operative is that we can take a long-term view because our whole raison d'etre is about keeping the business growing so we can hand over to the future leaders of the co-operative to take the business forward."

What retailers generally agree on is that innovation is harder in large companies than in small companies. This is partly to do with the logistical problems of size and partly to do with the weight of legacy investments deployed. In this sense, start-ups and onliners are seen as having an innovation advantage.

"For us, the sheer scale of the organisation means you can't just go and change. If you're online only, you can change it in one place and that's kind of it, whereas with us we've got to make sure all 2000 stores can cope with the change."

"It is probably correlated to the amount of legacy infrastructure an organisation has. What's your starting point in all this? If you're literally starting with nothing and you're a start-up, typically you can pretty much design as you like. If you have a legacy set-up to deal with, and current organisational structures to deal with, it's inherently harder."

"When you've got a huge amount of your brand and corporation invested in people, locations and places and ways of doing things, I think it slows you down a bit."

BLOCKERS (CONT.)

BUSINESS PROCESS

Just as business processes can help a retail business execute on innovation, so too can they be blockers of innovation. This section looks at what happens when business processes are not equipped to foster innovation. The theme is tradition. A business that is trying to innovate but is using traditional ways of prioritising, delivering and measuring projects is probably blocking innovation. Traditional processes are often based on the historical success of a business model or on legacy investments.

Ideas

Innovation starts with ideas, but some businesses do not have a process for generating new ideas and instead focus on the here and now.

"We don't have a process. We are very much in the day-to-day – retail is detail – and every day is a new day. We're trading, trading, trading, but what we need to do is look at two streams of work. There is the business as usual – there are the people who literally keep the store running – and then there's the future-forward innovation focus team who need to be working years in advance. We don't have that, although we talk a lot about it: how we make that happen is a big discussion here at the moment."

Historical success can be a blocker of innovation.

"We're a 160-year old company. We invented the category and we've carried the category for 160 years. Our market share of the category is over 50%, so one of the challenges that a category leader faces, and an older company faces, is just getting comfortable in that position and not innovating."

Some retailers recognise a dichotomy between product innovation and innovating the customer experience. Innovating in product is a traditional core competency of retailers, but innovating the customer experience, which may only be required once in a generation, does not come so easily.

"We innovated in product, but we didn't innovate in technology – the consumer-facing technology, that is. Now, as a company, we're catching up to that and we have a lot of catching up to do."

"We think that as an organisation we are very innovative, but let's be realistic – we are innovative in manufacturing technology and product, but in terms of retailing, wholesaling, customer-facing things, there's no investment at all."

"Traditionally, we look at product and look to innovate in product. Even though we are a retailer and don't create product, it's about how do we source and find great product? How do we present it? The innovation [we need is] in the creativity around how we innovate the store experience, how we present that product, how we engage with the customer..."

Prioritisation

In traditional business process, projects are given priority based on their ROI and the certainty that a result can be delivered. When these rules are applied, they can block innovation.

"The biggest roadblock for innovation is the old habit of how businesses generally work. It's about building a business case and showing that it's worth a certain amount of money at the end of the day, which is not how I think innovation really works. It's [more about] incubation, investing in things that might have a high failure rate, but you've only got to hit gold once."

– Sumit Saker, Director, Distribution Strategy and Innovation, Rogers Communication

Traditional approval processes are often long, bureaucratic and require a certainty of outcome that is not compatible with innovation.

"In order to make a business case, we are expected to be able to dot every 'i' and cross every 't' and be crystal ball readers – to know how it is all going to pan out. And the thing with innovation is that you don't know because innovation is inherently learn fast, fail fast, adapt fast and keep going. That again is counter-intuitive to: 'you need to spec the whole thing out, you need to tell us how it's going to work out and what the ROI is.' I can't tell you that, because it might change along the way and we might come up with a better idea as we move. So, it's very difficult."

BLOCKERS (CONT.)

Approval processes sometimes involve consensus, which can also be a blocker of innovation.

"If you live in a conventional world where everybody has to be happy, everybody has to sign off and everybody has to be in the loop and effectively give their approval, and if you live in a culture where everybody has a veto over everything, in practice you can't go anywhere."

Without an effective way of prioritising projects, an organisation can become overwhelmed and nothing gets done.

"We're doing more projects, making more investments and changing our management structures and people like no other organisation I've ever worked in. So the busy-ness takes over and becomes a constraint in itself, if you're not careful."

Organisational alignment

We saw earlier that aligning the whole organisation towards innovation through business planning and design helps retailers execute innovative projects. A failure to align in this way can be a blocker of innovation.

"We haven't built the organisational processes to nurture, incubate and mature the steady flow of innovations in the company. We're doing it in an old-fashioned, run-an-ad-hoc-project way. 'That sounds like a good idea. Let's see if it will stand up in a business case and if it can't, then we stop it.' So we haven't understood how innovation processes need to work differently to the rest of the organisation. We haven't built those and provided the executive support yet."

Sometimes the alignment required is between the executive management and the broader team.

"I think [traditional management] hasn't quite got it yet. They don't understand the disruption that technology and innovation will have on the industry and so there's resistance to doing things differently."

Alignment is also required between the technologies deployed.

"You have all these technologies and consumer demands. The challenge is that if you implement each of them as a separate work stream and silo, it starts to erode the impact and the effects and benefits of the other ones.

The challenge is to be able to work in a cohesive and holistic way that leverages each of those new technologies or new capabilities so that they share data seamlessly across one another. Otherwise, I see what we have is the same channelisation effect that we saw in e-commerce:, 'Yes, I've got a new e-commerce platform, but it doesn't talk to any of my other stuff.'

I see that as the challenge – to bring all these new technologies together in a way that's holistic, seamless, and not channelised or siloed like we've done in the past."

– Stacy Shulman, VP Technology CDO, Levi's

Delivery

Executing on innovation requires agile delivery. Traditional approval processes also have the blocking effect of slowing down delivery to the point that innovative projects can sometimes be out-of-date before they even get underway.

"We have a business case process that you go through where you get sign-off from all the various stakeholders, do the due diligence around the numbers, create an NPV and create a statement of business benefits and quantify those. Then it goes up through four gates – and where it's a big amount, it goes up to a fifth stage. You do that with innovation and you've probably lost three or four months and by that time you should already have seed-funded a piece of work, got it to at least an idea/concept stage [where you can] evaluate it to see if it smells good and give it a bit more funding."

"I presented a business model in 2008 – we didn't get the go-ahead to build it till 2010 because people were saying: 'I don't think anyone is going to buy fashion online.' It was years of trying to educate people that this isn't 'a nice to have' – it's a 'must have'."

BLOCKERS (CONT.)

BUSINESS CULTURE

We have seen that a retail business culture that embraces ambiguity, empowerment of individuals and acceptance of failure helps execute innovation. The cultural blockers of innovation are again derived from tradition and a history of success. People in retail businesses are reluctant to change, especially when what they have done has worked well in the past or if any change affects them directly in a negative way.

"You need a culture that doesn't shut innovation down, but embraces it and makes it happen by default. You need the DNA settings and the business settings of the organisation to be receptive to this stuff happening. Not heavily biased towards the status quo. It's very difficult to do that because I believe human beings are hard-wired to some extent into being risk-averse. If the unknown is risk, you stick to what you know.]

"That's why the decision-making is slowed down because you have to get comfortable with something before you're prepared to do it."

"What you're basically saying is anything that cannibalises is inherently countercultural because turkeys don't vote for Christmas."

RESOURCING

We have seen that successful resourcing of innovation requires the allocation of dedicated resources (both people and funding), bootstrapping from time to time, and being open to collaboration and co-creation with external parties. Overall, it requires the view that innovation must be resourced for the greater good of the organisation – regardless of the certainty of return on individual projects.

Traditional resourcing methodologies based on ROI can block innovation. But innovation is risky and uncertain by nature. Projects promising small incremental improvement are likely to win over innovation projects if ROI is used as the sole determinant of resource allocation.

Earlier this century, online retailing became victim to the ROI-driven resource methodology. A number of our largest traditional retailers closed down their online operations because they were not delivering the returns commensurate with their traditional bricks and mortar channels. These decisions disregarded the overall organisational benefit of engaging customers both online and offline.

"We build a business case and request capital and it needs to jump through the same hoops that any other business case would jump through. That's pretty high-risk, because the MD doesn't like the occasional failure. If you are doing stuff that is innovative, you are going to fail far more frequently, so it's very easy to get turned off putting those business cases forward."

"E-commerce is going to take some time, particularly in a nascent market like China. I said there should be different KPIs we should be looking at and profitability is not one of them. This is about customer acquisition, customer loyalty, market research... This is about being able to expand into markets that we would never expand to physically, so we should be looking at the KPIs around that and saying, 'We've got some really great wins here,' not 'You're below pay-back expectations."

Even when innovation is agreed to, and budgeted for, it can create some interesting accounting challenges.

"In our budgeting cycle, we know that 50 cents of every dollar we're going to invest in software innovation or web development support systems will be obsolete in less than two years. So what does that mean to your depreciation schedules? It's better to send it straight to OPEX, because if you capitalise on that and write it down over your normal three to five years or longer on the depreciation schedule, your auditors won't buy it."

RETAIL INDUSTRY FACTORS

Some retailers thought that the nature of the retail industry – with its fast pace, constant connection with the customer and emphasis on execution – gives it an advantage in innovation. Others saw another side to that coin. This can be summarised as an emphasis on today meaning a lack of regard for the needs of tomorrow.

"We're transactional people. We're very pragmatic as an industry. Innovation is one thing, but does it drive sales? We want to sell clothes. We're not trying to understand technology; we're trying to figure out how to sell more clothes."

"In retail, we are very much around the short term, and profitability. I think when you are looking at innovation, you need to be able to invest to grow, and that's counter to: 'We're doing this because we need to change – we need to create a game changer in the industry.' It's counter-intuitive."

"One of the things in retail that makes it hard to innovate is that retailers generally have to provide what customers want, and it's hard for them to get too far ahead of themselves."

Fear of failure is natural, but with retail being in perpetual contact with the customer, feedback can be quicker and more public than that received by innovators in other industries.

"If you take a risk and back something, you've got to be prepared for it not to work and for people to give you lots of feedback. And that's why it's more difficult for retailers, because it's so public. One of the things I've seen

BLOCKERS (CONT.)

is the change around social media and judgment of people. So you put yourself out as a retailer and you've got 23 million opinions in a second, and if the innovation is not easy to understand and [not] seen to be of immediate or long-term benefit to the people it was designed for, you don't get a chance to explain it."

In addition, some retailers point to the large investments in infrastructure that are required by traditional retailers as being a blocking force for innovation.

"I think it's harder for [traditional] retailers than others, because to set up as a digital pure play, you have a green field site, [no] legacy payroll or inventory systems or stock in stores ... there are a lot of cost efficiencies. I think that's why we've found it harder."

"When you have a huge amount of your brand and corporation invested in people, locations and places and ways of doing things, I think it slows you down a bit. I'm not sure that makes it sluggish, but it certainly does put a different dimension on it, which slows it down a fraction."

TECHNOLOGY AND THE FUTURE OF RETAIL

Underlying the need for retailers to innovate now is Digital Disruption. This is influencing customer expectations, the competitive landscape, the nature and role of the industry itself and has created a burning platform in some categories.

Retailers see that the need to innovate in the future will also be driven by the transformative influence of digital technology. Our sample identified Mobility, the Internet of Things (IOT) and Big Data as the most important technologies; they also recognise that these elements are interconnected.

MOBILITY

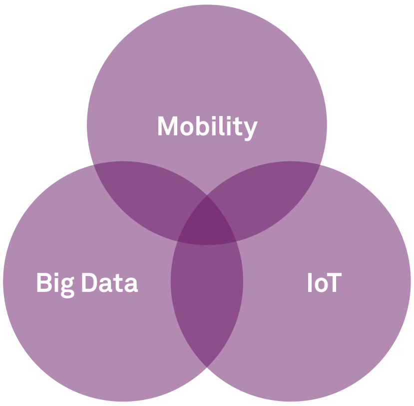


Figure 7

The smartphone and other devices with a perpetual connection to the internet have transformed the way that people shop and forever changed the relationship between retailer and customer.

Retailers see that there is still a long way to go in recognising and unlocking the value available from connected consumers. That value comes from the ability of the devices to transact, to be geo-located and from the growing ecosystem of secure apps that facilitate payments, and provide identity verification and other services. In combination, these features make the smartphone a multipurpose shopping assistant that allows retailers to engage customers in and out of store and, in the case of opted-in customers, to track patterns of behaviour to serve them better.

"From a device perspective, [the future is] obviously mobile. People will become increasingly used to transacting via mobile phone, so how do you get that right and take that forward?"

"I'd say [the future is] definitely mobile. Understanding the whole customer journey and how we can stay with them over all the different devices they're using right now will definitely unlock our business."

"If I look at our customer base, the more we can adapt our products and services to a mobile design, [the bigger the difference we will make]. It's here now, but in terms of take-up for all of our customer base or ease of access for connectivity, I think there's still a fair way for us to go. Mobile platforms – whether for identity, payments or communications - will really be the biggest ones for us."

"It's all about a better customer experience and better customer intelligence, and I think we can do that. In China, we can do that in [our] stores or we can do it through smartphones to half a billion people."

The power and usefulness of mobility is not confined to customer devices. Retailers see an increasing role for connected devices in their own operations.

"We've started to trial some mobile technologies in the stores and the reaction we've had from the store reps and other people is tremendous. It has the potential to truly define the interaction between the rep and the customer, the design of the store, the training of people whether they be in physical stores or not – that kind of stuff can be virtual in mobile kiosks, etc. With mobility, you truly have the power to redefine retail, which is why I find that a super-foundational element of how retail will be run in the future."

"We put digital kiosks into our restaurants and I think that's just the first step. In the future, the way our customers will increasingly interact with our brand is through technology and mobile and other new formats – it allows us to interact with the customers in a different way."

– Andrew Gregory, CEO, McDonald's

TECHNOLOGY AND THE FUTURE OF RETAIL (CONT.)

MOBILITY – THE TECHNOLOGY, WARREN JENNINGS, STRATEGIC TECHNOLOGY EXPERT VERTICALS

We're in the midst of a revolution in the way people interact with digital resources. As the device most intimately associated with lifestyle activities, the smartphone has replaced the PC as the primary connected device. For example, in 2015:

- Mobile is now the largest banking channel[1]
- Google serves more searches on smartphones than PCs[2]
- Of the 2 hours and 19 minutes a day Australians spend engaging with digital media, 61 per cent is via smartphones and tablets.[3]

For consumers, smartphones are an increasingly important retail tool. *The Guardian* reported that, in the UK, more online shopping occurs on smartphones than PCs or tablets. Deloitte found[4] that 78 per cent of US holiday shoppers used smartphones as part of the shopping process. The five most commonly reported activities were:

1. Get store locations (60%)
2. Compare prices (55%)
3. Browse online (50%)
4. Read reviews (46%)
5. Get product information (45%).

From this, we see that smartphones are being used for fairly traditional information access. What is still to emerge is the use of smartphones as part of a rich, fully designed consumer-retailer interaction. Retailers are still in the early days of understanding what those experiences may look like.

As reported in our previous whitepaper, *"How mobility is changing the rhythm of Australian retail",*[5] mobility is having a huge impact on the way Australians both shop and sell. In particular, retail operators are equipping staff with mobile devices to:

- Lift productivity – by enabling staff to efficiently manage inventory, take payments, record CRM data, and process transactions, etc., anywhere in store
- Improve customer interactions – by allowing staff access to full product catalogues, stock data, visualisation tools and POS systems, anywhere in-store

They're also using the customer's smartphone to engage more deeply with them:

- Using the smartphone as vital bridge between digital resources/ channels and the physical store – all part of the journey to omnichannel
- Providing customers with information that adds value to their experience – in a direct, timely and highly accessible way
- Gathering valuable customer intelligence from in-store mobile usage – for example, via in-store Wi-Fi
- Triggering personalised and localised offers through location technologies, including beacons

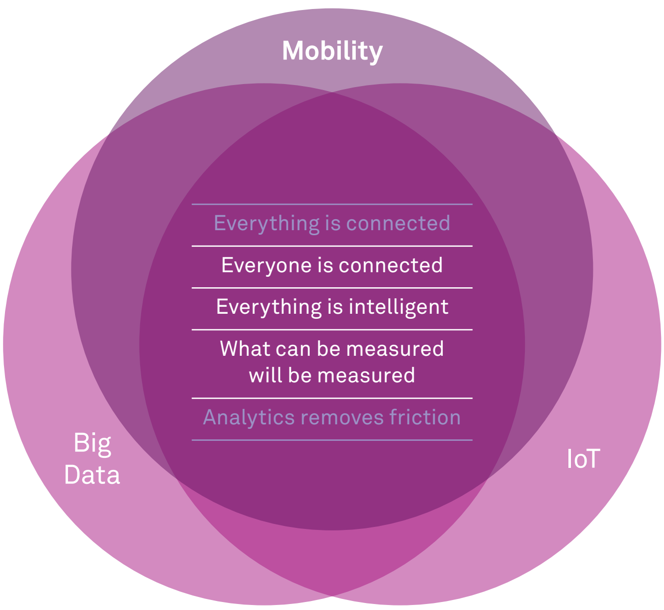


Figure 8

[1] "Global Mobile Banking Report", KPMG LLP, 2015
[2] http://adwords.blogspot.com.au/2015/05/building-for-next-moment.html
[3] http://www.nielsen.com/au/en/insights/news/2015/mobile-mania-australians-spend-on-average-more-than-an-hour-a-day-on-their-smartphones.html
[4] "30th anniversary edition 2015 holiday survey", Deloitte, October 2015
[5] http://www.telstra.com.au/business-enterprise/download/document/business-enterprise-teg1398_mobility_retail_white_pages_v08_hr_singles.pdf

TECHNOLOGY AND THE FUTURE OF RETAIL (CONT.)

Recent technology advances in handset and tablet hardware have seen incremental improvements in battery life, display resolution, camera quality and processing power. Perhaps more interesting, however, are the developments in an associated class of hardware – consumer wearables. Currently, the wearables market is small, but growing at comfortable double digit rate[6]. Today, single-purpose activity/ fitness bands heavily dominate this market (61% of market[7]). By 2020, however, multifunctional devices such as smartwatches and smartglasses are predicted to take over market share (to 63%[7]). Wearables provide a rich new source of data ranging (for example, vital signs, activity patterns, etc.). General-purpose wearables also have user interface capability, opening the way for new processes and interactions such as authentication, messaging and alerting.

For retailers, wearables offer an additional tool for the design of customer interactions and operational workflows – for example, to provide a less intrusive way to deliver push marketing, such as localised and personalised offers.

Spotlight: Augmented and Virtual Reality Get Real

After many false starts, Augmented and Virtual Reality is actually showing commercial promise. In Augmented Reality (AR), digital information and artefacts are blended with the user's real-world view. In Virtual Reality (VR), a complete digital-world view is created.

Early retail forays into AR applications use tablets and smartphones, for example:

- Furniture and homeware retailers such as John Lewis and Lowe's let customers "virtually dress" a room using a tablet or smartphone
- Coca-Cola enables retailers to visualise the type and location of stock refrigerators in-store using a tablet.

Perhaps offering a more natural user experience, smartglass-based AR applications are just starting to emerge on a relatively immature hardware base. To date, the most mature use cases are to be found in the mining, oil, gas and energy sectors where engineers are able to see equipment or status information overlaid on their field of view.

Spotlight: NFC Revitalised?

NFC (Near Field Communications) is a short-range communications technology available in many mobile devices. It's also the technology that underpins contactless payment cards and most RFID infrastructure.

Many retail use cases have been explored for NFC – to replace payment cards, simplify loyalty and coupon transactions or provide ready access to product-specific content. However, NFC has never gained traction – in part due to the poor user experience. Consumers find it inconvenient to take a smartphone out of a pocket, bag or purse for even simple transactions.

NFC-equipped smartwatches offer the same capability but with greater convenience. For example, the customer can make a payment by simply swiping a smartwatch across a payment terminal. Similarly, they can get a link to product information by swiping their smartwatch across an NFC-enabled poster, product or shelf. And coupons can be collected or redeemed with a simple swipe, as can loyalty bonuses.

Some are predicting that NFC-equipped wearables will finally allow NFC to reach its potential.

[6] *http://www.businessinsider.com.au/the-wearable-computing-market-report-bii-2015-7*

[7] *"Wearable Compute Market Insight: Smartwatches Drive Growth in Global Wearables Market", Frost & Sullivan, September 2015.*

TECHNOLOGY AND THE FUTURE OF RETAIL (CONT.)

INTERNET OF THINGS (IoT)

As well as smartphones, other devices now have the capacity to capture data and interact with customers. The so-called Internet of Things (IoT), in which all sorts of devices are connected, is seen by retailers as another important technology with the potential to transform customer experiences and improve the efficiency of retail operations. Overseas we have already seen IoT technologies like RFID transform stock management, but that could only be the start of IoT's potential.

"I really do think that IoT in retail is a topic that people should look at. And not just RFID – I'm talking about real connectivity and engagement, about systems that can detect the number of people in a store and automatically adjust sound and temperature – things that can make a store responsive. I think that IoT is something that, over the next five years, is definitely going to make people think differently about their stores."

"Connected devices are definitely something that will transform retail. Beacon and other technologies like that [will change our] ability to market to our customers and to understand the customer's behaviour, whether they are in-store or not in-store."

"Innovation around wearables and repositioning people's relationship with products they felt they needed to try on before they purchased."

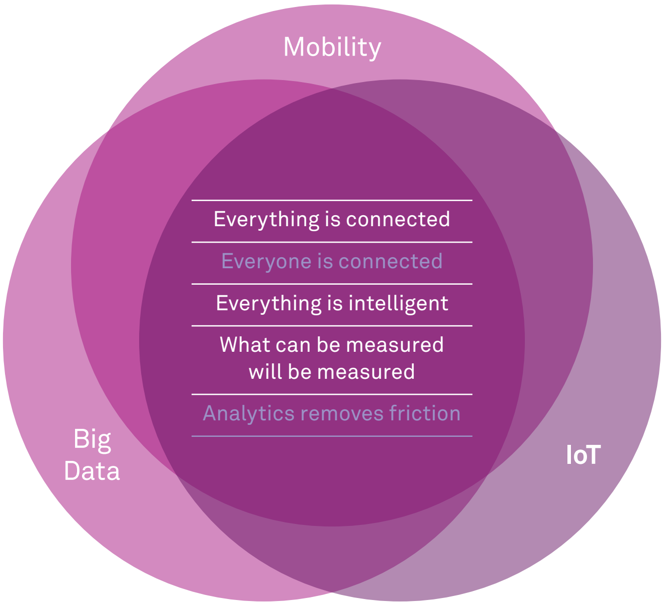


Figure 9

INTERNET OF THINGS – THE TECHNOLOGY, WARREN JENNINGS, STRATEGIC TECHNOLOGY EXPERT VERTICALS

The last ten years have seen an explosion in the number of devices that are, in some way, network-connected. Not all of these devices are generally considered part of the Internet of Things. Definitions of "things" vary widely, but most can be summarised by:

"Sensors and actuators connected by networks to computing systems. These systems can monitor or manage the health and actions of connected objects and machines. Connected sensors can also monitor the natural world, people and animals."[8]

Most sources estimate between 7-10 billion IoT devices are already installed today. Forecasts for 2020 vary widely: Gartner predict 20.8 billion connected devices by 2020,[9] Ericsson predict 26 billion[10] and Cisco predict 50 billion.[11] Regardless of which forecast is most accurate, we're clearly witnessing an explosion in the number of devices designed to measure and interact with the physical world.

[8] The Internet Of Things: mapping the value beyond the hype", Mckinsey & Company, June 2015.
[9] http://www.gartner.com/newsroom/id/3165317
[10] "Ericsson Mobility Report: On the pulse of the networked society", Ericsson, June 2015.
[11] https://www.cisco.com/web/about/ac79/docs/innov/IoE_Economy.pdf

TECHNOLOGY AND THE FUTURE OF RETAIL (CONT.)

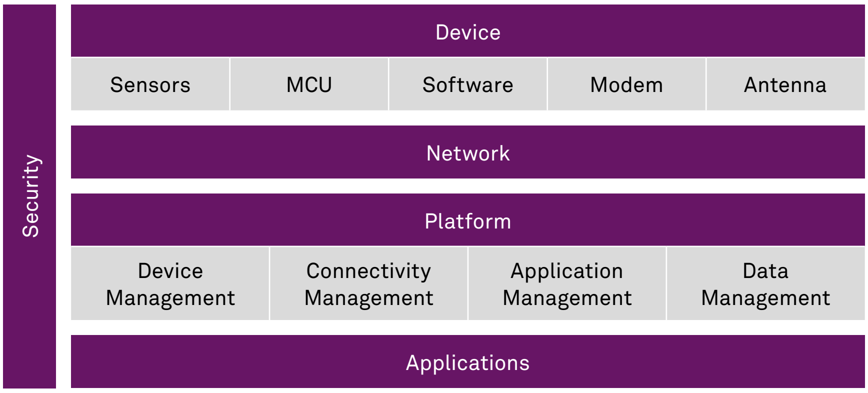


Figure 10. Simplified IoT Architecture

At a device level, the focus is on reduced size, cost and power usage. Moore's Law has made it possible to produce microcontroller units (MCUs), on smaller dies, but with greater processing and memory capacity than previously feasible. Wide-scale licensing of semi-standardised MCU designs is driving down the cost of development and production. Unlike computing power, battery capacity is only improving incrementally so there is a strong focus on power management techniques like "dark silicon" where functional areas of chips can be rapidly shut down or spun-up to save power. These techniques all help reduce MCU power requirements.

Sensors themselves are also evolving rapidly. There is great focus on Micro-Electro-Mechanical-Systems (MEMS), where individual microscopic sensors and even large arrays of sensors can be created on the same substrate used for integrated circuits. Some producers claim to be able to discriminate millions of different chemicals with a single array. Companies are developing solutions aimed at identifying every virus a person has been exposed to by fingerprinting antibodies in a single drop of blood.[12]

From a network perspective, pervasive broadband wireless networks with ever-greater speeds have grabbed the headlines. IoT devices, however, usually have very modest bandwidth requirements – even a few bytes per second are sufficient for many applications. At the same time, high-speed network devices are generally more expensive and require more intelligence. As a reaction, we're seeing the emergence of complementary low-speed, low-power, long-range wireless technologies such as LoRa, Sigfox and the forthcoming narrowband LTE standards.

One potential issue in IoT is security. IoT is premised on a huge distributed population of heterogeneous connected devices. Like any IT, security flaws in devices do occur, so it is essential that a) devices be actively monitored and b) affected devices be rapidly updated. The huge "attack surface" for IoT makes effective device management a critical first line of defence.

"Traditional" IT systems use strong encryption to ensure the confidentiality and authenticity of data. However, many IoT devices don't have resources to support strong encryption. Additionally, common cryptographic approaches require the distribution and maintenance of secret keys. In an IoT world, key management can go from difficult to unfeasible. However, for many IoT applications, data confidentiality actually isn't really an issue. However, authenticity is – particularly when data is being used to inform critical decisions. Techniques such as packet signing with BlockChain-based distributed ledgers can be used to ensure that data originates from the expected device and hasn't been altered by unauthorised parties.

IoT covers a huge variety of use cases across every industry. Retail interest is primarily focused on two areas:

- **Data-driven Operations**
  This means using the Internet of Things to gather rich data across the whole supply chain, from production to the store and beyond. Retailers can use IoT data to optimise operational processes, automate decisioning, optimise store design and greatly enhance the traceability of goods and produce.
- **Customer-aware Retail**
  The Internet of Things is potentially a goldmine of data relating to customers, their behaviours, the context of their interaction with retailers and how those interactions occur. However, society is still coming to terms with who owns the data, who has rights to use the data and for what purposes, and how distribution is controlled.

Spotlight: Traceability

Traceability is a thorny issue for retailers. Increasing consumer demand for transparency means retailers carry more risk from longer and more complex supply chains. At the same time, retailers who can prove provenance and a non-repudiable chain of custody can potentially command greater margins.

Embedding devices to track stock location and monitor handling isn't new. Off-the-shelf units can log location, temperature, weight and many more parameters. However, the cost, complexity and size of such units means they've been used very selectively – and typically at a container or pallet level.

IoT technology advances promise to massively reduce the cost, size and power requirements of devices. It becomes feasible to instrument stock at much finer granularity – even per item for high-value goods. It also becomes feasible to capture data much more frequently, and to have it available in near real-time.

[12] *See, for example, https://www.newscientist.com/article/dn27659-cheap-blood-test-reveals-every-virus-youve-ever-been-exposed-to/*

BIG DATA

Information has always been important to retailers. Information can allow you to know your customer better than the competition or allow you to share data with your suppliers to improve supply chain efficiency. In recent years, the growth of online, mobility, IoT and loyalty schemes means that the amount of data available to retailers has grown exponentially. What is now on the horizon is the ability to combine multiple data sources and analyse that data at speed to create actionable insights. Retailers see Big Data as potentially transforming how they do business in the near future.

"If we can apply the stuff we've achieved so far with our use of Big Data for the benefit of how we talk to our customers and how we interact with them. If we can apply that more widely across the business, helping all the way through our operations and supply chain, I think that has some really interesting potential benefits."

"We recently looked at some research that was being done on how to navigate our webpage and it used retina scanning. We got a fairly broad sample to navigate our website and talk about their experiences and by using retina scanning, we were able to tell exactly what they were looking at, how long they were looking at it, etc. [Then we could] connect the dots between what they were looking at and what they were saying as it related to their experience of navigating our site. That sort of innovation is unbelievable, in how it informs the way we do things."

BIG DATA AND ANALYTICS-DRIVEN BUSINESS – THE TECHNOLOGY, WARREN JENNINGS, STRATEGIC TECHNOLOGY EXPERT VERTICALS

Modern retailers have always been data-driven organisations. Two things have radically changed. Firstly, the volume and variety of data available to retailers has grown exponentially. Customer intelligence streams in from always-connected consumers and the Social Web. Stock movements and production forecasts flow from highly connected supply chains. IoT generates data on almost any aspect of the physical world. IDC estimate that enterprise data doubles every 18 months[13] and, unlike traditional operational data, most of this data is unstructured.

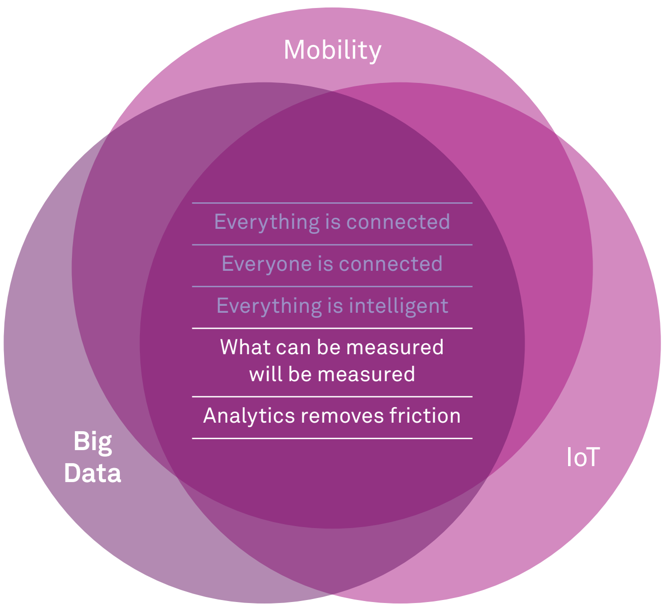


Figure 11

BIG DATA (CONT.)

Secondly, the demand to use data effectively has risen. Retail organisations require greater operational productivity and more agility than ever before. Analytics are being used to optimise retail processes and accelerate decision-making – lifting both productivity and agility. Concurrently, customers' service expectations have risen – a generation of consumers has been trained online to expect highly engaging, personalised, low-friction interactions.

The response has been the rise of Big Data and analytics-driven business. It is critical to understand that Big Data is not solely (or even primarily) about managing and processing huge amounts of data. It is about being able to more effectively use all of the data available (whether structured or unstructured, internal or external). Even more importantly, it is about organisations becoming much more agile in how they exploit data. **Figure 12** shows a classical analytics architecture. Data is closely held, while analytics are highly operationally focused and only developed by skilled data analysts.

In contrast, the Big Data architecture depicted in **Figure 13** frees analytics from the data warehouse – it provides business analysts from all parts of the business with access to data and highly usable analytical tools. Big Data is about enabling organisations to experiment with new analyses – rapidly and cheaply. It is also about making it easier for organisations to operationalise the resulting insights.

Figure 12. Traditional Analytics Architecture

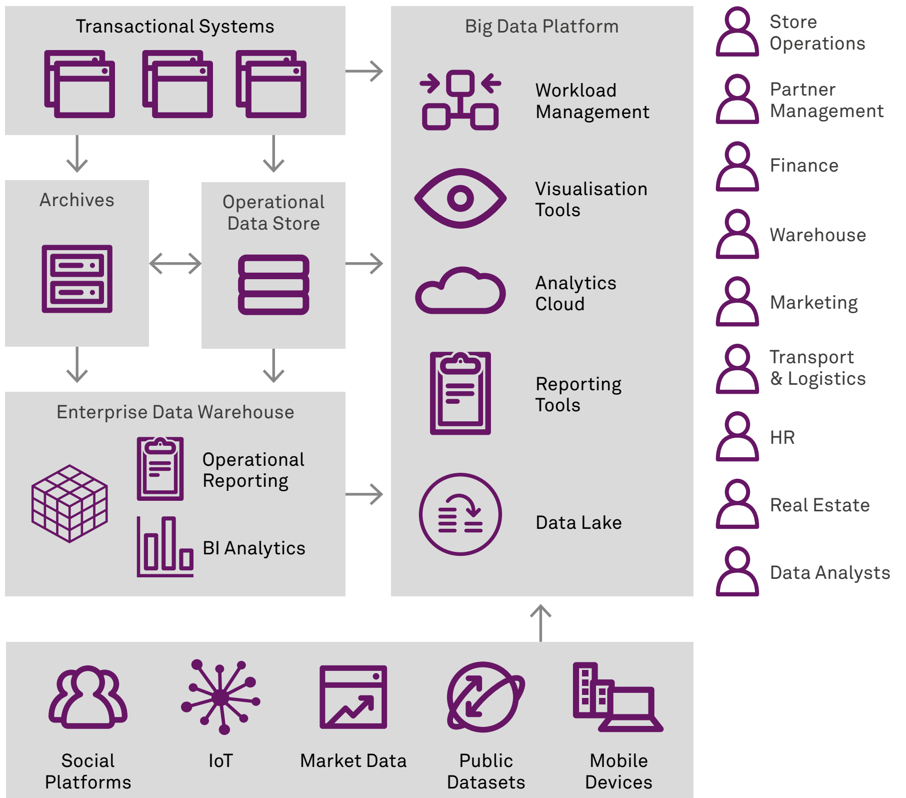


Figure 13. Big Data Analytics Architecture

[13] http://www.infoworld.com/article/2608

BIG DATA (CONT.)

Several important technology trends are helping retailers better exploit Big Data and analytics.

The first trend is the ongoing maturation of cloud computing. The cloud provides ready access to the large-scale computing horsepower and high-volume, high-performance storage required for sophisticated analytics and does so without requiring large capital outlays. Cloud technologies enable organisations to experiment and then scale. The cloud has also moved beyond Infrastructure as a Service (IaaS, where basic computing infrastructure such as servers and storage is centralised and virtualised) to Platform as a Service (PaaS, where the major platform building blocks such as databases, message busses, Big Data platforms, etc. are centralised and virtualised). The cloud effectively democratises access to Big Data-scale computing.

One of the most resource-intensive aspects of analytics is the development of analytical models. Traditionally, this involves highly skilled analysts manually developing hypotheses, building models to test these on fairly small sets of data, and progressively refining the model.

In a Big Data world, the volume and complexity of data make it infeasible for humans to identify important features and complex relationships in the data set. Thus, the second trend driving Big Data is an alternative approach called machine learning. It is a discipline about algorithms that actually generate models directly from data (either with or without human supervision). These models can then be used to make predictions (predictive analytics) or to inform decision-making. The last decade has seen major advancements in machine learning techniques and the development of widely available software to implement machine learning.

Another important enabler is the thriving open source software community – in particular, the willingness of large analytics-driven businesses such as Facebook, Google, IBM, and Microsoft to contribute substantial resources and even in-house developed platforms and methodologies. This reflects the fact that although these organisations see such platforms as critical to their business and have invested heavily to develop them, they don't see these as a differentiator – but rather the analytics they can implement using them. As a result, other organisations can access a much richer pool of pre-developed, well-written and well-managed software tools to fuel their own Big Data initiatives at a low cost.

Spotlight: Moving Analytics from Descriptive to Prescriptive

Figure 14 shows a hierarchy of analytical approaches. Most traditional analytics sits in the descriptive or diagnostic domain – looking at what has happened and what drove that outcome. More advanced organisations stray towards predictive analytics – usually taking models developed for diagnostic analytics and extending them to try and predict outcomes such as customer behaviour.

There is currently a great deal of interest around prescriptive analytics – which seek not only to predict outcomes, but also to identify factors that can be used to cause particular outcomes – for example, causing a cohort of customers to buy a particular bundle of products.

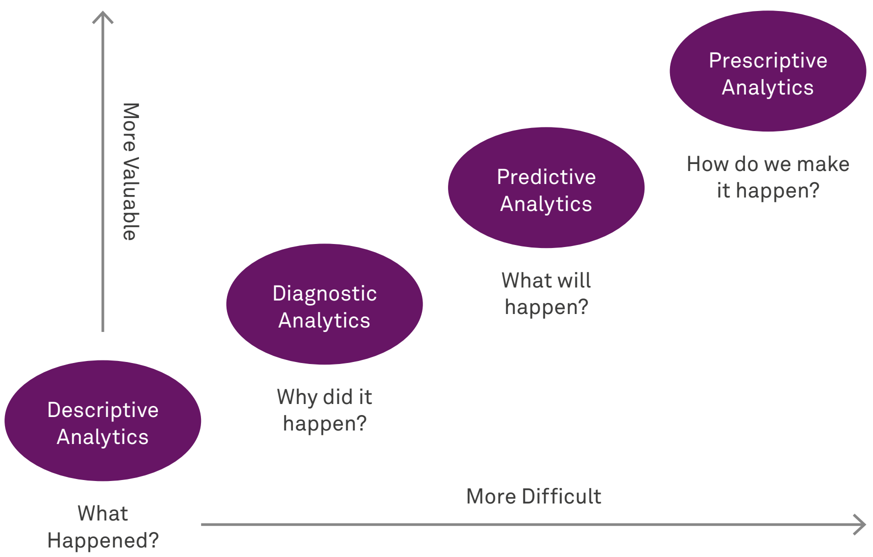


Figure 14. A Hierarchy of Analytics

CONCLUSION

The need for retailers to innovate will continue. What does this research tell us about what retailers need to do to be successful innovators now and in the future?

USING THE INNOVATION INDEX

- Determine how strong the need to innovate is for your business. Some retailers have a stronger need to innovate than others. The need to innovate will be a product of customer expectations, competitive forces, other external factors and the changing role of the retail industry as they apply to your specific business. In some cases, they may add up to a burning platform where innovation is imperative. In all cases, the underlying driver of need will be digital disruption.
- Do an assessment of your organisation's capacity to execute a programme of innovation. We have seen that business structure, processes, culture and resourcing all need to be considered. Successful innovation tends to be fostered in a horizontal business structure with a connected innovation team as the focus for activity, where processes are agile and collaborative, where innovation measures are built into strategic and individual performance plans, in a culture that embraces change and accepts the possibility of failure in some projects and where resourcing of innovation is planned.
- Do a parallel assessment of blocking forces to innovation in your organisation. Blocking forces come from the same places as the forces that foster innovation, i.e. business structure, processes, culture and resourcing. We have seen that tradition is the underlying

enemy of innovation and its effects multiply when an organisation gets bigger.

- Find ICT partners who can help you navigate the changing digital landscape. Retailers agree that most of the significant innovation over the last twenty years has been facilitated by digital technology and that this trend will continue in the future. However, it is not a retailer's job to understand long-term technology trends. A retailer's job is understanding customer needs and fulfilling them today. On the other hand, it is an ICT company's job to understand long-term technology trends. This is necessary because of the long development cycles and large capital investments involved in product development. Retailers and the right ICT companies are natural partners in innovation.

TEN GOOD READS

We asked retailers for some inspirational reading on innovation. The following are their top ten picks.

1. Govindarajan, V., & Trimble, C. (2010). The Other Side of Innovation: Solving the Execution Challenge. Harvard Business Press.
2. Hajkowicz, S (2015). Global Megatrends: Seven Patterns of Change Shaping Our Future. CSIRO Publishing.
3. Humble, J., Molesky, J., & O'Reilly, B. (2015). Lean Enterprise. O'Reilly Media Inc.
4. Keeley, L., Walters, H., Pikkel, R., & Quinn, B. (2013). Ten Types of Innovation: The Discipline of Building Breakthroughs. John Wiley & Sons.
5. Koch, R. (2011). The 80/20 Principle: The Secret to Achieving More with Less. Crown Business.
6. Kotter, J. P., & Cohen, D. S. (2012). The Heart of Change: Real-life Stories of how People Change Their Organizations. Harvard Business Press.
7. Kotter, J. P., & Rathgeber, H. (2006). Our Iceberg is Melting: Changing and Succeeding Under any Conditions. Macmillan.
8. Reis, E. (2011). The Lean Startup. New York: Crown Business.
9. Slap, S . (2010) Bury My Heart at Conference Room B: The Unbeatable Impact of Truly Committed Managers. Portfolio Penguin.
10. Stephens, D. (2013). The Retail Revival: Reimagining Business for the New Age of Consumerism. John Wiley & Sons.

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