Joe Berry Award 2022

Entry – JBA-22-266

Topic 2B Suppliers Reduction of Environmental Footprint

Presentation #3

Amy Knight

Employer: Simplot Australia

Executive Summary & Introduction:

Humanity currently faces an enormous challenge; how to feed a growing population a nourishing diet, without exceeding environmental boundaries. By 2050, the global food system will need to feed 10-billion people[1]. With this date looming, attention is on the environmental impacts of producing, moving and consuming food. The concept of 'sustainable diets' has emerged as a solution for reducing the environmental footprint of food[2,3]. Sustainable diets consist of low environmental impact foods that are produced in ways that protect and restore natural resources[4].

The shift to more sustainable diets involves the entire supply chain. As manufacturers of food products, fast-moving consumer goods (FMCG) suppliers have touchpoints from farm to table. With that comes a large scope of influence on environmental impact (Figure 1). Progress towards more sustainable operations has been a key focus for suppliers in recent years. With the urgency of action[5] and significance of environmental targets set, unlocking the full scope of influence is crucial.

Looking to the future, suppliers who focus on sustainable diets will unlock the capability to make food products with the lowest environmental impact possible. This includes producing sustainable food products and influencing sustainable food choices by consumers.

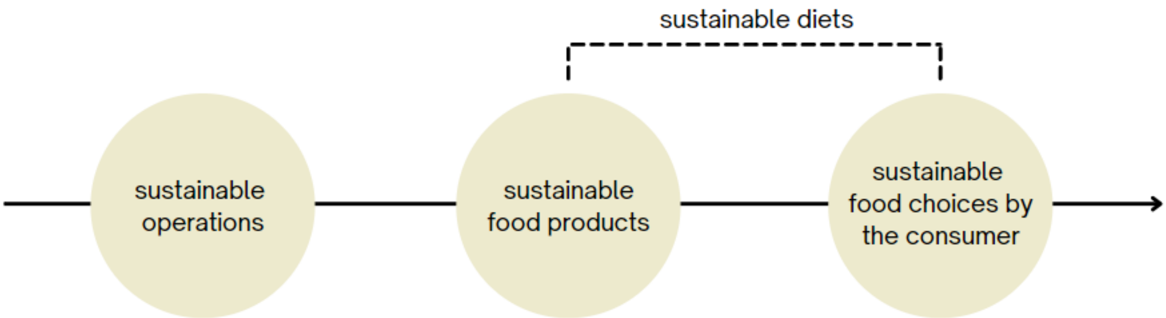

Figure 1: FMCG food suppliers' scope of influence on environmental impact.

This essay will discuss how the impacts of sustainable diets are not only good for the planet but good for business also, and how suppliers can act in this space.

[1] EAT-Lancet Commission Summary Report - EAT (eatforum.org)
[2] FAO and WHO. 2019. Sustainable healthy diets – Guiding principles. Rome.
[3] Willet et al 2019
[4] FAO Dietary Guidelines and Sustainability
[5] IPCC Sixth Assessment Report 2021

Part 1: Sustainable diets equal big impact for suppliers

The impacts for suppliers of sustainable diets are two-fold: positive environmental impact and then leveraging that into commercial gain.

Positive environmental impact

The amazing thing about food is its potential to go beyond neutral and have a positive environmental impact. Sustainable diets via sustainable food products and influencing sustainable food choices by the consumer, are key to amplifying impact and realizing the nature-positive potential of food. Utilizing the levers across the full scope of influence is essential (Figure 2).

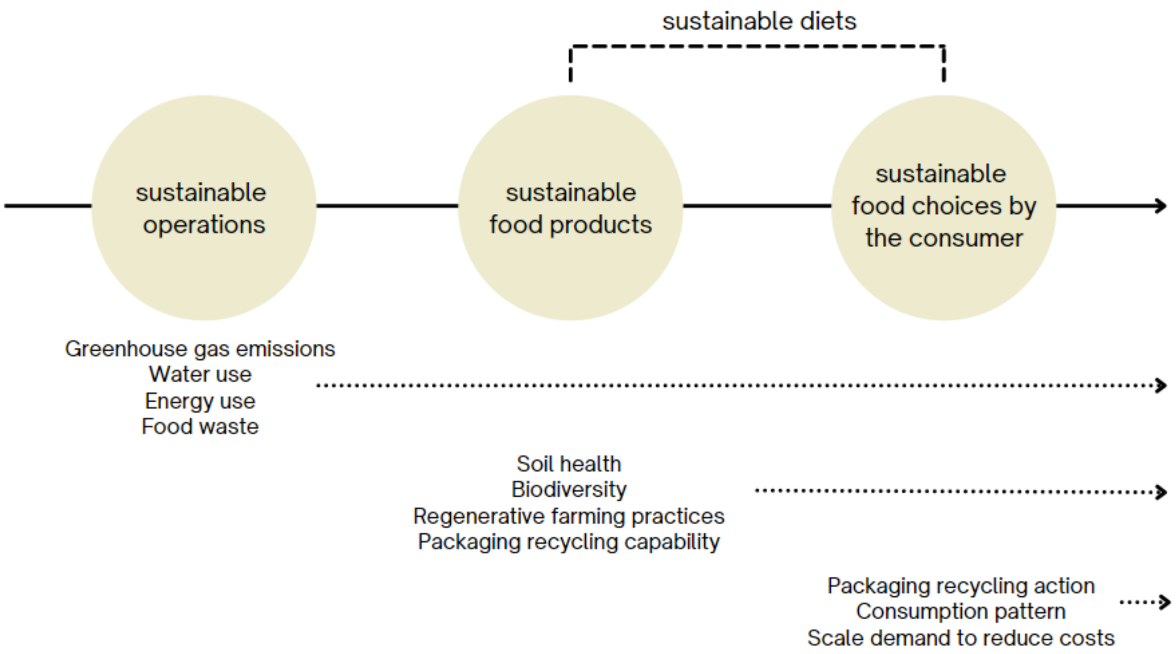

Figure 2: Levers for environmental impact at each stage of FMCG food supplier's scope of influence.

The foundation of operational environmental impact

The global food system currently accounts for one third of greenhouse gas emissions (GHG)[6]. Seventy percent of the globe's fresh water is used to produce food[7]. One third of all food produced is wasted[8]. To date, suppliers have targeted reducing these

[6] Food systems are responsible for a third of global anthropogenic GHG emissions
[7] National Geographic, Freshwater Resources
[8] FAO, Global Food Losses and Waste

impacts by focusing on operations and logistics. Further positive impact against these metrics is possible however, by leveraging the move to more sustainable diets.

Linking to the impact of growing and producing food products

Variety in our ecosystem, termed biodiversity, is essential in protecting the food system against shocks and stressors, including environmental. The Earth's soils are home to one quarter of the planet's biodiversity, however due to soil degradation much of this biodiversity is lost[9]. More than 6000 plants have been cultivated for food, however less than 200 of those are major contributors to the food we eat globally[10]. Many of the farming practices used at scale to date have been detrimental to both soil health and biodiversity.

Regenerative farming practices produce food in harmony with nature[11]. Through regenerative practices soil health flourishes, biodiversity is restored, and more carbon is removed from the atmosphere and sequestered into the healthy soil. Many suppliers are acting on this now. General Mills have made the commitment to advance regenerative agriculture on 1-million acres of farmland by 2030[12]. Nestle Global is investing 1.8-billion Australian dollars over the next 5-years to support the adoption of regenerative practices across their supply chain[13].

Impact in the homes of consumers

Australian households alone throw away one in every five bags of groceries purchased[14]. Each perfectly edible food product thrown away is a waste of emissions, water, energy, and on-farm resources. Furthermore, scaling of sustainable food products and influencing consumer food choices unlocks longevity of positive impact. In terms of packaging, suppliers cannot create truly sustainable packaging without action by the consumer.

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[9] Biodiversity | Food and Agriculture Organization of the United Nations (fao.org)
[10] FAO, The biodiversity that is crucial for our food and agriculture is disappearing by the day
[11] Schreefel et all 2020. Regenerative agriculture – the soil is the base
[12] Regenerative Agriculture 2020 (generalmills.com)
[13] Transition to Regenerative Food System | Nestlé Australia (nestle.com.au)
[14] Foodbank Australia, Food Waste Facts in Australia

Leveraging positive environmental impact into commercial gain

For positive environmental impact to have longevity, it must also be good for business. Fortunately, there are powerful levers to pull in leveraging environmental impact into commercial gain.

Corporate environmental and social responsibility

A brand's operational sustainability commitments are no longer impactful as a competitive advantage. Sustainability is now about 'right-to-play' in market. The expectations are coming from multiple directions. Investors' expectations are high, with sustainability credentials an increasingly valuable measure alongside financial performance. Major investors in Australia are becoming increasingly black and white around their expectations. Companies are expected to adopt and outline a robust corporate strategy in alignment with climate targets[15,16].

Brand equity

Two-thirds of consumers believe that it is the responsibility of brands to ensure products are produced sustainably, and to be transparent about this process[17]. Consumers have evolved beyond just supporting brands with strong sustainability credentials. They now want to reduce their personal environmental footprint. 'Eco-anxiety' is felt by many consumers who want to make more sustainable choices but are overwhelmed. Consumers are also becoming more and more perceptive to 'green-washing' whereby large companies are publicizing environmental commitments but not delivering. They are seeking credible brands they can trust.

Alignment to retailers' strategies

It is not just investors and consumers applying the pressure. The retailers have embarked on environmental targets that will require radical change (Table 1).

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[15] Australian super funds to vote against company directors not tackling climate crisis | The Guardian
[16] BlackRock votes against 49 companies for lack of climate crisis progress | The Guardian
[17] BBMG 2021 'Radically Better Food – 4 Imperatives for Regenerative Brands'

Retailer	Environmental commitments
Aldi	Current – 100% renewable energy 2023 – zero food waste to landfill
Coles	2025 – 100% renewable energy 2025 – zero food waste to landfill 2050 – net-zero emissions
Metcash	2030 – 42% emissions reduction
Woolworths	2025 – 100% renewable energy 2025 – zero food waste to landfill 2050 – net positive emissions

Table 1: Environmental commitments set by the major Retailers in Australia[18,19,20,21].

Retailers will need backing from suppliers and will increasingly preference suppliers who align with their values. Coles recognized 15 suppliers who delivered on sustainability commitments this year as part of their supplier awards[22]. The retailers are also investing financially. Last year Woolworths announced a 4-million-dollar investment to bring more sustainable products to supermarket shelves[23].

18 Aldi Australia – Environment
19 Coles Group Sustainability
20 Metcash Sustainability Report 2021
21 Woolworths Group Sustainability Plan 2025
22 Coles recognises sustainable businesses in Supplier Awards - Inside FMCG
23 Woolworths invest $4m in adding sustainable products to supermarkets | news.com.au

Part 2: The actions for suppliers to take

Creating more sustainable food products and influencing more sustainable food choices is not going to happen overnight. For suppliers, it is simply about starting and making plans for today and into the future.

Now

Mapping the environmental footprint on a category and SKU level

Before transformations to more sustainable product portfolios can begin, suppliers must have visibility of the impact of products today. This process is complex and will require time, so companies must start now to keep up with the direction the market is heading. To complete a full product lifecycle analysis, there are many product attributes that need to be accounted for (Figure 3).

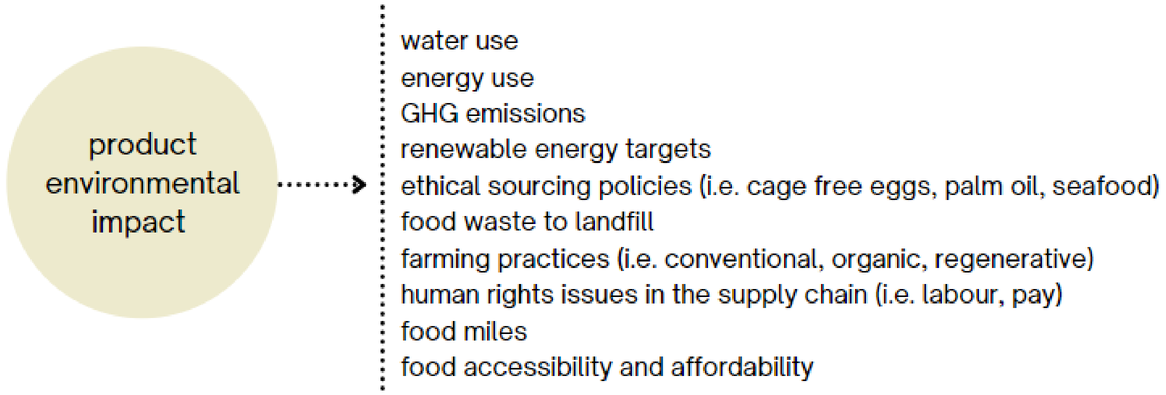

Figure 3: Product attributes contributing to environmental footprint.

The return on investment of time and resource is that it will enable credible and robust product claims and messaging around sustainability credentials. There is damage to be done to brands who try to fast-track this. Oat milk brand Oatly in the UK was recently reviewed by the country's advertising standards authority for misleading GHG emission claims after receiving more than 100 complaints[24].

[24] Oatly misleads consumers with environmental claims, rules ASA (foodnavigator.com)

The power of storytelling

Influencing consumer purchase is imperative to scaling positive environmental footprint. Brands that create a sense of community through transparent storytelling will gain advantage. Brands outside of food are taking this direction also. Country Road are showcasing the brand's own journey to more sustainable practices and Australian-made sourcing. Upcoming activations include in person events in partnership with Melbourne Fashion Festival, to engage their customers in conversations around climate change[25].

Next

Rethinking product development

A 2021 report titled 'The Big Food Redesign' proposed a method for creating more sustainable food products. The four key pillars (Figure 4) were diverse ingredients, lower impact ingredients, upcycled ingredients and sourcing regeneratively farmed ingredients[26]. Greater diversity of ingredients links to restoring biodiversity. Using ingredients that inherently have a lower environmental impact makes sustainable food products more feasible. Consumer perceptions and expectations around 'perfect' food are changing, opening the market to 'upcycled' ingredients – ingredients otherwise destined to be wasted[27]. Danone in North America have launched under their 'Two Good' yoghurt brand a 'Good Save' proposition, whereby blemished fruit destined for landfill is rescued[28].

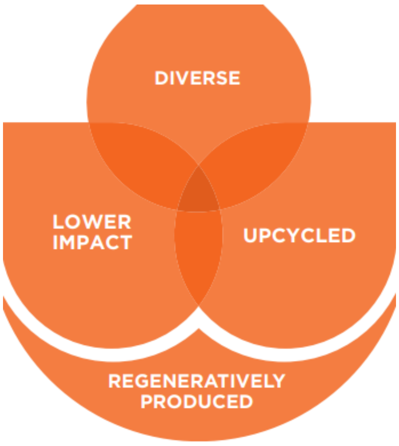

Figure 4: The Ellen MacArthur Foundation's 'The Big Food Redesign' which outlines a blueprint to more sustainable food products[12].

[25] Country Road, Our World
[26] The Ellen MacArthur Foundation, The Big Food Redesign
[27] Consumer preferences for upcycled ingredients: A case study with biscuits
[28] Mandarin Orange Two Good™ Greek Yogurt with 2 Grams of Sugar (twogoodyogurt.com)

Mutually beneficial industry collaborations

The shift from 'competitive advantage' to 'right-to-play' for suppliers, opens the door to collaboration and sharing of resources. Despite being competitors in market, in January Coca Cola Europacific Partners and Asahi Beverages joined forces to build a new plastic recycling facility, which will process 1 billion plastic bottles each year[29]. It is a big ask for suppliers to tackle these challenges in silos. Collaboration is key to gaining efficiency and traction as an industry.

Future

Like the Health Star Rating, but for the environment

In the same way health ratings are becoming standard on food products, it is no longer futuristic to imagine an environmental rating front-of-pack also. In fact, new front-of-pack labelling schemes are beginning to emerge with the aim of clear environmental impact messaging, and to allow consumers to compare products at the point of purchase (Figure 5). While there is no doubt this is on the way, locally there is currently clear air in this space. By having this on the radar now, the supplier community will be in a good position to advocate for clear and credible rating systems, and a feasible rollout plan for industry

Figure 5: Emerging environmental rating schemes for food products – 'Enviroscore'[30] developed in Belgium, and 'Eco-Score' out of France[31]

Continue to innovate and scale to bring costs down

Cost is still a key driver of purchasing behaviour. The move to sustainable food products will be heavily scrutinized from this lens. Suppliers will need to continue innovate to gain new efficiencies and cost savings, but also leverage the community of consumers formed over the years to scale demand.

[29] CPA_Vic_Recycling_Facility_-_18_Jan_2022.pdf (asahi.com.au)
[30] Food Navigator, New environmental labelling scheme unveiled
[31] Food Navigator, First Nutri-Score for nutrition, now Eco-Score for the environment: New FOP lands in France

Conclusion – a vision for 2050

It is the year 2050 and the global population is 10-billion as predicted. The farm to table journey of food has undergone radical transformation in the last 25 years. The food system now works with nature, with a net impact that is good for the planet! The suppliers who saw this transformation coming 25 years ago, have unlocked their full scope of influence on environmental impact (Figure 6).

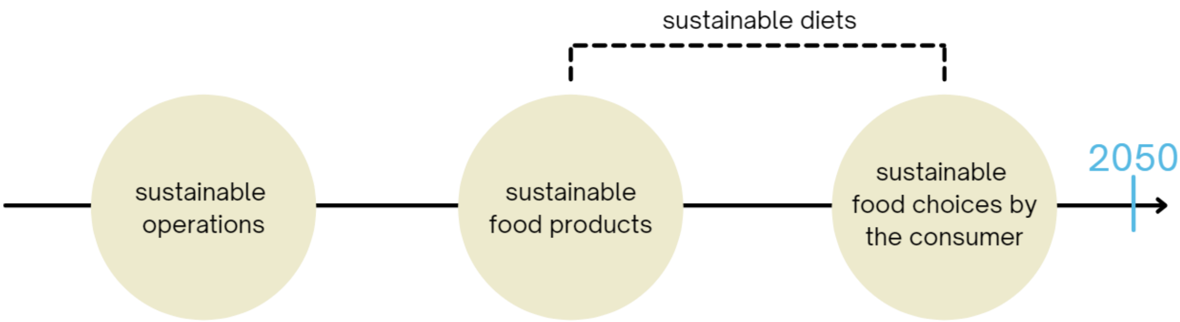

Figure 6: A vision for the year 2050 where suppliers have unlocked their full scope of influence on environmental impact.

This shift has also proven to be good for business! Supermarket shelves are stocked with sustainable food products. Sustainability is one of the top drivers of purchasing behaviour, along with taste, cost, and convenience. Consumers are choosing brands that deliver real impact and a sense of community. The Australian environmental impact rating scheme is gaining momentum, with more brands opting to display this front of pack. It is expected this will become mandatory within the next few years, leaving some suppliers scrambling to comply with this deadline.

Looking to the future, the major retailers have set targets for environmental rating improvements across all categories. The early adopters within the supplier community are in the box seat, with many having set their own targets to shift their product portfolios. It is an exciting time, as the true power of food to positively impact the environment is realised!

Joe Berry Award 2022

JBA-22-054

Topic 3B: Using Data for Better Supply Chains

Presentation # 4

Kieran Best

Employer: Woolworths

1. Executive Summary

The debate on the provision and use of customer data upstream in the supply chain rages. It's been one of the hot macro topics for retailers and suppliers alike since the first byte of transaction data was made available for sale years ago. Since then, it's built its own economy with the sale of various data points to third parties now a major revenue stream for supermarket retailers, as well as the base for an entire suite of corporate businesses globally who earn their crust processing and presenting this data.

The COVID-19 pandemic has pushed the entire Australian supply chain to its limits and changed customer shopping habits forever. Online has surged, category mixes have been turned upside down, and don't even think about trying to complete trend analysis on the performance of even the most stable and basic products. Now in a 'post-COVID' world, the way forward must be different. It must be more collaborative, it must be more transparent, and the visibility of data required *must* be freely accessible.

To lift retailer/supplier relationships to effective operational levels and adapt to the hypersonic speed in which the world is now changing, data sharing needs to be reimagined. Only by improving supplier and retailer abilities to execute what customers want, and how and when they want it, can a strategic, collaborative and largely free data-sharing model be truly able to benefit the industry.

With confidence of the most recent and relevant data available without the price tag, suppliers can look to improve on just-in-time metrics effectively to optimize working capital, production runs, energy usage and logistics operations to ultimately create true value across the supply chain.

2. Introduction

Big-data collection, provision and insight has been one of the major macro topics of the past decade. We've seen organizations across all industries embrace big-data in different ways and with varying degrees of success to the point where the use of data has now become 'a ticket to get in the gate' instead of 'a seat in the grandstand' as it once was.

This has been accentuated by the supply chain pressures on supermarket retailers caused by the COVID-19 pandemic, floods, bushfires and global trade disruptions. The need to use data to drive upstream solutions to improve customer experience and supply security has never been stronger.

Data has also become one of the largest supplier cost components. With suppliers and retailers now calling out significant cost pressures[32] due to the extraordinary circumstances of the past three years, it's now up to the retailer to consider how data can be used so suppliers can continue to offer value.

Strengthening partnerships has been a focus of the "big four" Australian supermarkets (Woolworths, Coles, Aldi & Metcash). Multiple programs, strategies, and public claims have been the frontline of the fierce battle for supplier's preference.

Despite the global supply chain challenges of the last three years, and instability in key overseas markets, export is still a fast-growing avenue for Australian suppliers[33], thus retailers need to work even harder to remain relevant and preferable in the eyes of suppliers. In short, suppliers now more than ever need to *want* to deal with retailers, or they will simply find other avenues. The balance of power in the retailer/supplier relationship has shifted and now the data-sharing culture must change.

Another key environmental factor is around the increased cost to serve for suppliers. Australian production has become increasingly expensive, showing no signs of letting up with pressure to increase wages, increased cost of energy and the highest logistics costs

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[32] Walsh, L., Mitchell, S., Baird, L. and Sier, J., 2022. *Cost pressures challenge supermarkets, insurers*. [online] Australian Financial Review. Available at: <https://www.afr.com/policy/economy/cost-pressures-challenge-supermarkets-insurers-20210905-p58oy3> [Accessed 27 February 2022].

[33] Cooper, A., 2021. *Australian food and grocery manufacturing grows due to exports*. [online] Food & Beverage Industry News. Available at: <https://www.foodmag.com.au/australian-food-and-grocery-manufacturing-grows-exports/> [Accessed 27 February 2022].

ever seen[34]. When compared against cheaper overseas markets, Australian manufacturing appears unfavourable, although crucial to local food security, supply stability and quality assurance, all factors made more prevalent by the events of the past three years.

An assessment follows of key data points used today, with the aim to validate the need for key datasets to be made freely available to suppliers. Such provision would aim to promote production efficiencies, improved supply security and better value for consumers on a more sustainable platform for suppliers and retailers alike.

3. Understanding the Datascape

Protecting Australian manufacturing, ensuring security of supply for Australians in challenging times and the ability to plan for uncertain futures using volatile historical data, are key priorities for tomorrow's supermarket supply chain.

To achieve this, retailers must rethink historical norms with a more strategic, longer-term view on how to utilize one of their most prized assets, data. The part that might send a chill down the spines of retail executives everywhere is that to work, the solution must be largely free.

Retailer's war for the customer continues to rage, but the war for the supplier has just begun. Data is the key to victory. The way the big four operate with suppliers is similar in their procedural norms around range and cost reviews, contract negotiations and promotional planning that are indifferent in the grand scheme of things. This means the battle for the supplier will be fought on a different front. One of the key fronts where differentiation can be achieved is the treatment of data and the relationship it can form between retailer and supplier for value-creation.

It's now time for the successful retailer to reimagine data-value. This isn't an easy sell, this total shift in recognition and understanding of value will be a hard pill to swallow for those who are used to seeing data revenue on their P&L.

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[34] Elmas, M., 2022. *Woolworths, Coles, Aldi suppliers push for higher prices amid soaring costs*. [online] The New Daily. Available at: <https://thenewdaily.com.au/finance/finance-news/2022/01/24/woolworths-coles-aldi/> [Accessed 27 February 2022].

To move from a transactional revenue line to a strategic, value-creation model containing data provision, insight creation, outcome delivery and value recognition requires an all-new mindset at a retailer senior management level and must be backed up by tangible benefit.

First Thing's First

Given the immense cultural change required to enable a free-data market, we must break the model down into more practical pieces so benefits can be recognized quickly. Transaction data is the easiest and most useful for improving supplier's day-to-day operations.

Transaction data such as sales, volume, inventory, average sell price and stock-loss work to form a picture about performance, trends, and opportunities to improve margins and supply rates. It can also help enable more advanced analytics such as energy optimization, working capital and consumables procurement.

By making this data-set free for suppliers for the products they supply, suppliers can better manage ranges within the retailer and their wider portfolios. They can identify opportunities, draw insights, and allocate resources, providing the maximum coverage to end-consumers, creating longer-term thinking and much more efficient strategic planning.

Many global retailers such as Walmart and Tesco have made varying levels of transaction data free in the past decade. More locally Woolworths and Coles have both made steps to provide free “scorecards” or point-in-time snapshots of range performance. While an encouraging step, this still falls short of the true value in providing line-item data in real time to suppliers.

By understanding a retailer's pain-points in the key metrics, as well as working capital, space-for-sales and the other more complicated metrics, a supplier can not only address their own production & operations opportunities, but effectively solve problem statements retailers may not know they have, thus creating the foundations for truly collaborative, longer-term, customer-led partnerships.

The Holy Grail

While making transaction data available to suppliers is a substantial and a low-cost win, the longer-term provision of more complicated or sensitive datasets is where true value exists.

In the past decade the richness of customer data has grown exponentially. Now with 88%[35] of Australians signed up to at least one rewards program, Woolworths and Coles have 50% and 34% of the total population signed up respectively[36]. The data can be used to identify purchasing trends and help with adapting new trends quickly.

This data is where money is for retailers and offsetting the uneasy feeling of no longer charging millions per-year in data subscriptions services will require a robust management model. The model needs to include structured governance, visibility of the end-to-end supply chain and collaborative retailer/supplier partnerships that many speak about, but few manage.

Firstly, addressing the criteria for partnership is key. Investment in data packages is an attractive and addictive income, however there is little accountability to utilise the data. It also isn't dependent on the supplier operating in a strategic or innovative category and is often subject to cuts when costs get tight.

The new model will tier suppliers, large and small, in a system that rewards good behaviour and business outcomes with higher access to data. Rewards based on the value added to customers, recognized through some of the core financial metrics, weighted against other factors such as service levels, quality culture and even qualitative feedback from their stakeholders.

The purpose of a tiering system is to incentivize those at lower-tiers to reach higher-levels to gain more access. This encourages both the retailer and suppliers to enjoy the upstream benefits in production, planning and logistics, and focus on the most important asset and their core revenue stream, the end-customer.

This measurement method is based on the supplier's ability to deliver to the customer need and is exclusive of their financial contribution. The financial contribution of the larger suppliers is still important to the retailer through marketing funds, trading-terms, promotional support and/or best cost, and these variables need deep analysis to ensure total net-value

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[35] Blake, D., 2021. *Australians' use of loyalty programs tested during pandemic - Inside Retail*. [online] Inside Retail. Available at: <https://insideretail.com.au/business/australians-use-of-loyalty-programs-tested-during-pandemic-202105> [Accessed 26 February 2022].

[36] Bradney-George, A., 2021. *Coles Flybuys vs Everyday Rewards – which is better?* | *Finder*. [online] finder.com.au. Available at: <https://www.finder.com.au/coles-flybuys-vs-woolworths-rewards-comparison> [Accessed 26 February 2022].

is retained. The difference in the new model is the supplier tiering for data access is *not* a negotiation variable, instead based purely on the ability to deliver customer needs, which removes size from the equation entirely.

For those lower-tier suppliers, or for ad-hoc data requests, the sale option can still be utilized at a cost-covering level as opposed to a profit-stream. This may incite more suppliers to use data effectively and work more closely with retailers to build customer-led strategic plans, as well as building this data into their own demand planning and time-of-day-day-of-week planning.

It's a big leap to think of retailers providing data at no cost to improve supply security, supplier efficiency and product lifecycle management. Considering the past three-years, the benefits of aligned retailer/supplier plans and processes have been recognized time-and-time again through improved DIFOT, mitigated supply risks and reduced costs.

If data can be more openly shared for the true benefit of the industry, the customer benefit will undoubtedly be improved.

4. **Conclusion**

The last three-years has seen Australia face-off against unprecedented challenges. From bushfires, to floods, to COVID-19 paired with all the other macro-economic factors challenging households, an environment primed for major disruptive change has arisen.

A major part of this change *must* be retailer/supplier relationships. Since 2020, supply security in the Grocery sector has become one of the biggest concerns of the developed world[37]. The only way to truly achieve this is through long-term partnerships between suppliers and retailers and the only way to execute this is through a customer-focused supplier tiering model, of which free-data sharing is the key.

This change in thinking for retailers is not one to be taken lightly. It must consider total value-creation as opposed to the short-term view of revenue. Whether the current models

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[37] OECD. 2020. *Food Supply Chains and COVID-19: Impacts and Policy Lessons*. [online] Available at: <https://www.oecd.org/coronavirus/policy-responses/food-supply-chains-and-covid-19-impacts-and-policy-lessons-71b57aea/> [Accessed 27 February 2022].

can support the exponential expansion and volatility of customer demands and global supply factors.

By providing transaction and customer data mostly free-of-charge, retailers can count on supplier preference, improved costs, smarter category decisions and a more aligned, longer-term end-to-end strategy. All these benefits will create a better customer experience which improves market share, customer retention and profitability for all.

Joe Berry Award 2022

Entry – JBA-22-402

Topic #4 Freestyle   Digital Accessibility in Retail

Presentation #5

Laura Moller

Employer: Coles

Executive Summary

Have you ever thought about how you would access the internet if you were blind? Or if you had a physical disability and couldn't use your hands? It's entirely possible to design and build websites and apps to be accessible and work with assistive technology (for example screen readers which read text aloud, and voice control software that allows you to use your voice instead of a mouse). Yet retailers in Australia are lagging in digital accessibility – and it's having a human and financial cost.

With the COVID-19 pandemic, digital adoption rates have exponentially increased. People with disabilities are more at risk for severe complications from COVID[38], so when digital products are built without accessibility, it potentially puts lives at risk.

Access to digital products for people with disabilities is essential and considered a human right by the UN. Digital accessibility empowers people – and is a way for organizations to put inclusive values into practice. It also reduces the risk of lawsuits, which do happen, such as the case of Coles vs. Mesnage back in 2014. Finally, it can bring financial benefits by capturing the market share of the 1 in 5 Australians who have a disability.

[38] Springer, T. (2020). *The Impact of COVID-19 of People with Disabilities*. [Online] Available at: https://www.levelaccess.com/resources/impact-of-covid-19-on-people-with-disabilities-webinar/ [Accessed 25 Feb. 2022].

Contents

Foreword

A note on language: As a disabled person, I use both identity-first and person-first language when I'm talking about disability. It's common to use either in Australia – "disabled person" (identity-first) or "person with a disability" (person-first).

Introduction

Have you ever had a shop door slammed shut in your face? Been refused entry because they don't serve *people like you*? This is a reality for the 1 in 5 disabled Australians in the online retail world – shut out because websites and apps are not accessible.[39]

In this essay, I will be exploring the question *"Why digital accessibility should be a priority for your organization?"*. Digital accessibility is a relatively new field, so I'll start with some background – outlining the main international standards and human rights charters that support digital accessibility in Australia. Since 2020, the COVID-19 pandemic has accelerated digital adoption – but to what extent are organizations currently prioritizing and investing in digital accessibility in retail?

Finally, I'll explain not only the ethical importance of digital accessibility, but why it's a smart financial decision for retail companies.

[39] Australian Network on Disability. (2019). *Disability statistics*. [online] Available at: https://www.and.org.au/resources/disability-statistics/ [Accessed 20 Feb. 2022].

About digital accessibility and disability

The inventor of the World Wide Web, Tim Berners famously said that the power of the web is in its universality. Access by everyone regardless of disability is an essential aspect.[40] This sums up the core principle of digital accessibility – equal access. Can your customers who are blind, have low vision, physical disabilities, cognitive disabilities (and many more) access your website or app?

In Australia – this principle of equal access is reinforced by the 1992 Disability Discrimination Act which prohibits discrimination against people with disabilities in the provision of goods and services. The UN Charter on the Rights of People with Disability specifically mentions ICT access. Access to websites and apps is a basic human right.[41] So how do you know if your digital asset is accessible? Most organizations in Australia rely on an international standard called the Web Content Accessibility Guidelines (WCAG). In addition, user testing websites with disabled people provides invaluable insights.

Disability is part of being human. Most people will experience a disability during their lifetime, which can be permanent or temporary.[42] Some examples of a temporary disability are a broken leg, sprained arm, recovering from surgery or a concussion. The World Health Organization has a nuanced view on disability, describing how it results from the interaction between people with disability and personal and environmental factors (negative attitudes, inaccessible technology, transport, or buildings, and limited social support).[43]

A person's environment has a significant effect on their experience of disability. Someone who has a mental health condition like bipolar disorder can thrive when working with supportive colleagues and if they have flexibility in their work hours. Yet if those flexible work hours are not allowed, and their manager holds stigmatized and derogatory views about mental illness – this person will likely struggle.

Similarly, when the online retail environment is inaccessible, disabled Australians are disempowered, and blocked from basic daily tasks. This issue has been compounded by the COVID-19 pandemic – as interactions have shifted from in-person to online.

COVID-19 digital acceleration

People with disabilities show massively increased risks for both hospitalization and infection due to COVID-19.[44] One way to significantly reduce the risk to their health is by using online options instead. If retailers have a digital service and using it can protect people from viral

[40] Berners-Lee, T. (1997). *Accessibility - W3C*. [online] www.w3.org. Available at: https://www.w3.org/standards/webdesign/accessibility.

[41] United Nations (2019). *Article 9 - Accessibility | United Nations Enable*. [online] United Nations. Available at: https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/article-9-accessibility.html [Accessed 23 Feb. 2022].

[42] World Health Organisation. (n.d.). *Disability*. [online] Available at: https://www.who.int/health-topics/disability [Accessed 25 Feb. 2022].

[43] Ibid.

[44] Springer, T. (2020). *The Impact of COVID-19 of People with Disabilities*. [Online] Available at: https://www.levelaccess.com/resources/impact-of-covid-19-on-people-with-disabilities-webinar/ [Accessed 25 Feb. 2022].

exposure – making sure it is accessible can potentially save lives. During the pandemic, customers have demanded more digital channels. A global survey by McKinsey in late 2020 showed that the number of digital products available has accelerated by seven years in only a few months.[45] However, with this rapid movement towards digital products, digital accessibility has not always been front of mind.

A report from December 2021 found that only 3% of organizations are meeting Digital Accessibility standards in all their employee and customer facing digital assets and services. When filtered for retail organizations, that drops to 0%. However, 90% have made some initial progress – although they are not fully accessible yet.[46] This research also found that organizations which are more accessible are more driven by their culture and values of inclusion, rather than by the risk to their reputation.

Make no mistake though, inaccessible digital products in retail are still a risk to reputation – and this case study will illustrate why. In 2014, a legally blind woman, Gisele Mesnage, sued Coles for disability discrimination, because their online shopping website was not accessible for her to order groceries.[47] It was taking her up to 8 hours to place an order – can you imagine spending an entire day just trying to order basic groceries? Ms. Mesnage commented, “For me, online shopping is a revolution…not only do I want to be part of it, I need to be part of it. It's about independence”.[48]

Coles and Ms. Mesnage reached a settlement where Coles agreed to improve its online shopping website, so it was more accessible for blind customers. It has been 8 years since that case, but it is still often brought up in digital accessibility circles as a warning. Disability discrimination accounts for the highest volume of complaints across the board to the Australian Human Rights Commission.[49]

Reputation is easy to lose, and hard to build back. Yet people will still remember the story of how a disabled woman was once blocked from ordering her groceries. Coles now has a dedicated digital accessibility team, to ensure assets are accessible.

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[45] McKinsey & Company (2020). *How COVID-19 has pushed companies over the technology tipping point--and transformed business forever | McKinsey*. [online] McKinsey & Company. Available at: https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever [Accessed 12 Feb. 2022].

[46] The Digital Accessibility Journey: Exploring Priorities and Investments in Aus and NZ Organisations. (2021). [online] *Infosys*. Available at: https://www.infosys.com/australia/digital-accessibility-journey/digital-accessibility-journey.pdf [Accessed 24 Feb. 2022].

[47] Casben, L. (2014). *Blind woman launches court action against Coles over its website*. [online] ABC News. Available at: https://www.abc.net.au/news/2014-11-05/blind-woman-launches-court-action-against-coles-over-its-website/5869874?nw=0&r=HtmlFragment [Accessed 10 Feb. 2022].

[48] Browne, R. (2014). *Blind woman Gisele Mesnage sues Coles over online shopping website*. [online] The Sydney Morning Herald. Available at: https://www.smh.com.au/technology/blind-woman-gisele-mesnage-sues-coles-over-online-shopping-website-20141105-11h6zw.html [Accessed 21 Feb. 2022].

[49] Australian Human Rights Commission. (2021). *Annual Report 2020-2021 | Australian Human Rights Commission*. [online] Available at: https://humanrights.gov.au/our-work/commission-general/publications/annual-report-2020-2021 [Accessed 20 Feb. 2022].

Ethical and financial drivers behind digital accessibility

Investigating the ethics behind digital accessibility means reflecting from a personal viewpoint. You may or may not currently have a disability, but it is extremely likely that you know someone who does. Would you want that person to be able to order online whatever they needed independently (clothes, food, medicines)? To take it one step further, if you became disabled, would you want to have access to order plants from Bunnings, groceries from Coles or Woolworths and essential medicine from your local pharmacy? Things you may not be able to get easily otherwise… Empathy is at the core of this perspective. We are all humans, trying our best to exist in a complicated world – so how can we remove barriers rather than reinforce them?

Aside from having a disability myself, I have friends who are legally blind, Autistic, have mental health conditions, and cognitive disabilities. I want a world for them where they are not limited by someone who chose to code a website inaccessibly, or by someone who de-prioritized digital accessibility because they thought it was a "nice to have" feature.

That leads onto the financial drivers behind digital accessibility. Disabled people are consumers, with significant buying power. To ignore this market segment is to ignore financial opportunities. When eCommerce websites are accessible, the number of potential customers is much higher, and the potential sales are much greater.[50] In Jan 2022 in Australia, the total turnover for retail organizations was $32,491,900,000.[51] That is only one month of turnover. Designing accessible websites can directly lead to more financial revenue when new market share is acquired.

The Centre for Inclusive Design reveals that products and services designed with accessibility in mind have the potential to reach 4 times the number of intended customers.[52] Digital accessibility can also have benefits for people without disability. When high-contrast colours are used for an app – it helps people with low vision, but it also makes it easier to see content on a mobile phone in bright sunlight. When captions are used for videos, it makes the audio available for people who are Deaf and hard of hearing, but it also helps people in noisy environments, or if they've forgotten earphones and are on a train trip in a quiet carriage.

When companies don't design their websites and apps to be accessible, customers will often leave, and warn friends and family of the inaccessibility of a particular company. An UK study on disability and ecommerce found that 71% of disabled customers will click away

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[50] Lazar, J., Goldstein, D. and Taylor, A. (2015). *Ensuring digital accessibility through process and policy*. Amsterdam Elsevier, Mk Morgan Kaufmann.

[51] Australian Bureau of Statistics (2022). *Retail Trade, Australia, Jan 2022 | Australian Bureau of Statistics*. [online] www.abs.gov.au. Available at: https://www.abs.gov.au/statistics/industry/retail-and-wholesale-trade/retail-trade-australia/latest-release.

[52] Centre for Inclusive Design. (2019). *The Benefits of Designing for Everyone Report – Centre for Inclusive Design*. [online] Available at: https://centreforinclusivedesign.org.au/index.php/the-benefits-of-designing-for-everyone-report/ [Accessed 21 Feb. 2022].

from a website when they experience difficulties using it.[53] Making sure your digital assets are accessible can help retain customers and thereby bring significant competitive advantage.

Conclusion

In Australian retail, few companies are currently fully meeting digital accessibility standards for their employees and customers. This has a human impact – people are prevented from interacting in the ways they choose. Often online channels are more convenient when you are disabled, but when they are inaccessible it can be extremely frustrating, and in some cases, breach human rights laws.

Digital adoption in retail has been accelerated by the COVID-19 pandemic, as customers demanded more online options to protect their health. When these online options are inaccessible, companies are potentially endangering the health of their disabled customers.

Looking to the future, we need to embed digital accessibility in the way we operate, rather than looking at it as an afterthought – or not looking at all. When making the case for digital accessibility, it is a multifaceted argument – protecting human rights and reducing the risk of lawsuits, aligning your digital products with the ethics of inclusion, and providing significant financial opportunities by capturing an untapped market.

Ultimately, it's about ensuring your friends, neighbours and family can be independent and empowered.

[53] Williams, R. and Brownlow, S. (2020). *The Click-Away Pound Survey 2019*. [online] www.clickawaypound.com. Available at: http://www.clickawaypound.com/downloads/cap19final0502.pdf [Accessed 15 Feb. 2022].

Joe Berry Award 2022

Entry – JBA-22-141

Topic # 2A The Retailer's Role in Sustainability Initiatives

Presentation #6

Enrico Coquico

Employer: Goodman Fielder

EXECUTIVE SUMMARY

The push for sustainability is the next industry game changer, an even bigger one than the shift to e-commerce more than a decade ago![54]

Consumer preferences and expectations around sustainability have only intensified since the COVID-19 pandemic.[55] Hence, retailers that integrate sustainability into their strategy can unlock new opportunities for growth, while those that do not will be left behind.

This paper explores the role that retailers must assume to drive sustainability, with emphasis on the following key areas:

- The largely unexploited potential for emissions reduction that lies in retailers' supply chains
- Why supply chain decarbonization in retail is not already commonplace
- How retailers can employ supplier engagement to overcome the challenges of supply chain decarbonization

This paper concludes that pursuing supply chain decarbonization through effective supplier engagement is key to achieving a net-zero retail industry.

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[54] Evans, S., 2021. Officeworks, Kmart, Target and IKEA speed up net zero push. [online] Australian Financial Review. Available at: <https://www.afr.com/companies/retail/officeworks-kmart-target-and-ikea-speed-up-net-zero-push-20211110-p597lu>.

[55] Mastercard, 2021. How the COVID-19 Pandemic Has Impacted Consumer Attitudes About the Environment. [online] Available at: <https://www.mastercard.com/news/media/qdvnaedh/consumer-attitudes-to-the-environment-2021.pdf>.

INTRODUCTION

In 2020, experts around the world believed that COVID-19 would push sustainability to the back burner for consumers.[56] But time has shown that nothing could be further from the truth.

Since the pandemic, 58% of consumers are now even more mindful of their impact on the environment, and 85% are willing to take personal action to combat environmental challenges.[57]

The scientific consensus is that the only way to prevent the worst consequences of climate change is by reducing carbon emissions.[58] As the gatekeepers for consumers in the value chain, how can retailers best respond to this enormous challenge?

THE CARBON WE ARE NOT COUNTING

The Greenhouse Gas Protocol, the standard framework for reporting corporate-level carbon footprint,[59] classifies emissions into the three categories illustrated in Figure 1.

- Scope 1 emissions cover those generated directly by the resources that the reporting company owns and controls itself.
- Scope 2 emissions come from the generation of energy, such as electricity and heat, that the reporting company purchases.
- Scope 3 emissions consist of both upstream and downstream value chain emissions of the reporting company.

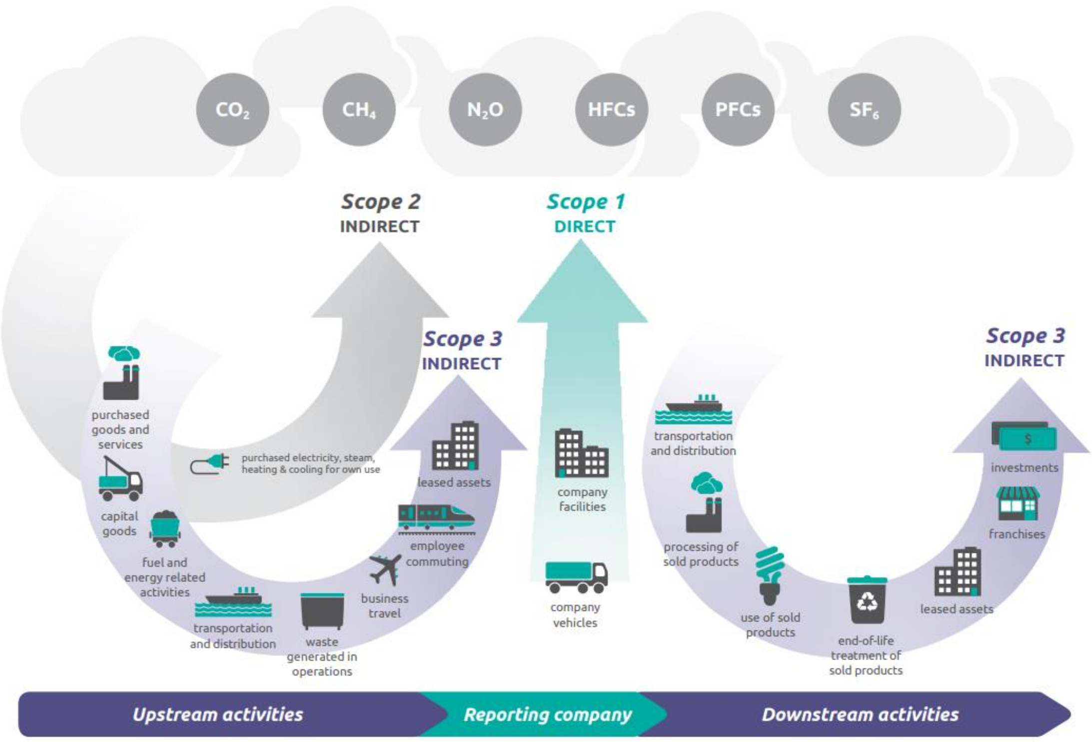
[56] McKinsey & Company, 2021. Disruption & Uncertainty The State of Grocery Retail 2021. [online] Available at: <https://www.mckinsey.com/~/media/mckinsey/industries/retail/our%20insights/the%20path%20forward%20for%20european%20grocery%20retailers/disruption-and-uncertainty-the-state-of-grocery-retail-2021-europe-final.pdf>.

[57] Mastercard, 2021. How the COVID-19 Pandemic Has Impacted Consumer Attitudes About the Environment. [online] Available at: <https://www.mastercard.com/news/media/qdvnaedh/consumer-attitudes-to-the-environment-2021.pdf>.

[58] Candanosa, R., 2021. Reducing Emissions to Lessen Climate Change Would Yield Dramatic Health Benefits by 2030. [online] climate.nasa.gov. Available at: <https://climate.nasa.gov/news/3134/reducing-emissions-to-lessen-climate-change-would-yield-dramatic-health-benefits-by-2030/>.

[59] Wbcsd, W. R. I. (2004). The greenhouse gas protocol. A corporate accounting and reporting standard, Rev. ed. Washington, DC, Conches-Geneva. Available at: <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>.

Figure 1. Categories of emissions across the value chain[60]



Many businesses have been focusing their efforts on reducing Scopes 1 and 2 emissions, where they have more direct control.[61] This flies in the face of the 80-20 rule, as data shows that Scope 3 emissions account for the largest proportion of emissions.[62] In particular, upstream emissions – the dominant source of Scope 3 emissions – are, on average, 11.4 times greater than those of Scopes 1 and 2 combined.[63] This ratio is even higher in the retail industry, where upstream emissions are a whopping 28.3 times greater than the sum of its Scopes 1 and 2 emissions,[64] as shown in Figure 2.

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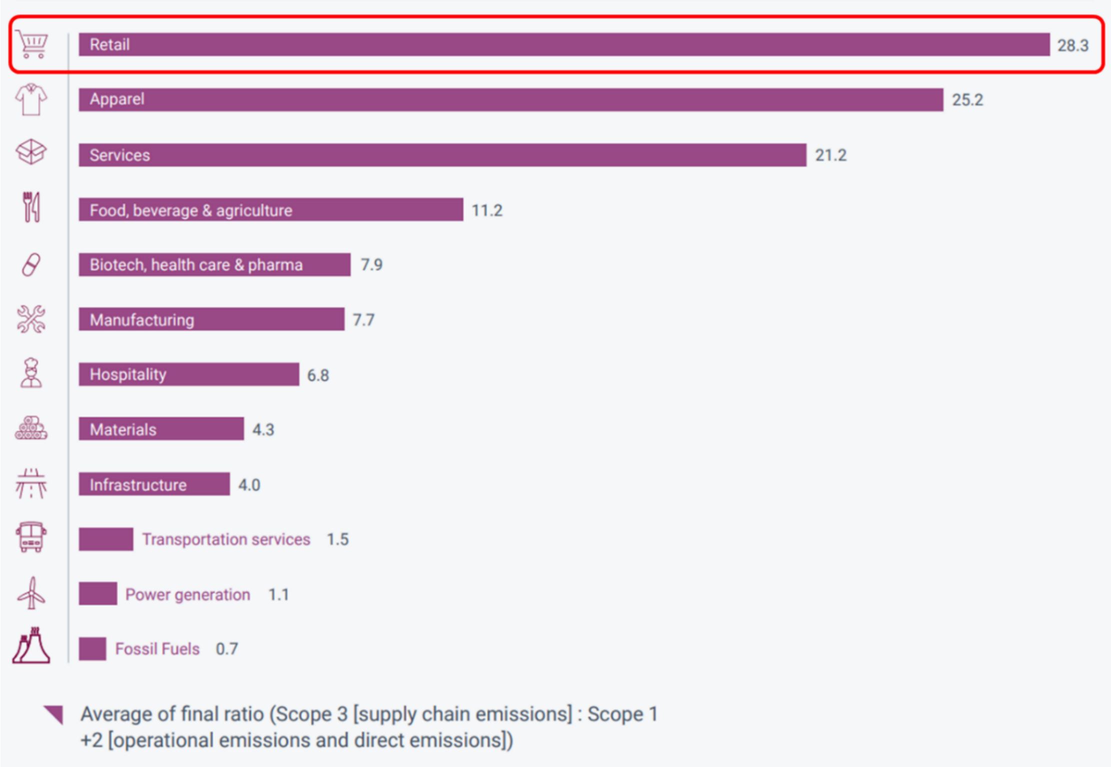
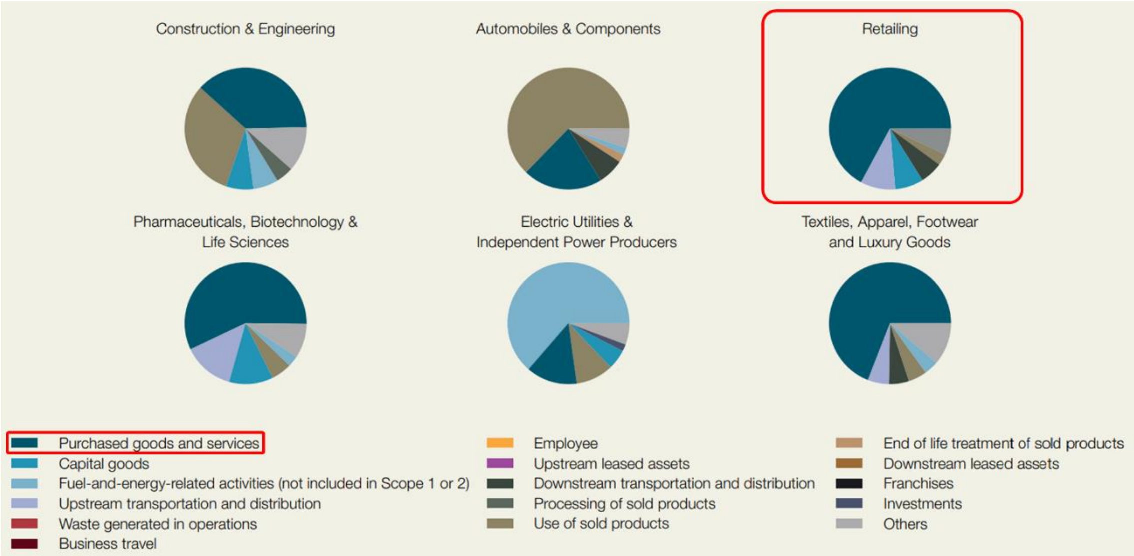
[60] Protocol, G. G. (2013). Technical guidance for calculating scope 3 emissions. Supplement to the Corporate Value Chain (Scope 3), Accounting & Reporting Standard, in partnership with the Carbon Trust. Available at: < https://ghgprotocol.org/sites/default/files/standards/Scope3_Calculation_Guidance_0.pdf>.
[61] Farsan, A., Chang, A., Kerkhof, A., Cserna, B., Yan, C., Villasana, F., & Labutong, N. (2018). Value Change in the Value Chain: Best Practices in Scope 3 Greenhouse Gas Management. Science Based Target initiative and Navigant and the Gold Standard. Available at: <https://sciencebasedtargets.org/resources/legacy/2018/12/SBT_Value_Chain_Report-1.pdf>.
[62] CDP, 2021. Transparency to Transformation: A Chain Reaction. CDP Global Supply Chain Report 2020. [online] Available at: <https://cdn.cdp.net/cdp-production/cms/reports/documents/000/005/554/original/CDP_SC_Report_2020.pdf?1614160765>.
[63] Ibid.
[64] Ibid.

Figure 2. Ratio of upstream emissions to operational emissions[65]



Moreover, as Figure 3 shows, the lion's share of Scope 3 emissions of retailers come from purchased goods and services.[66]

Figure 3. Breakdown of Scope 3 emissions[67]



[65] Ibid.
[66] Farsan, A., Chang, A., Kerkhof, A., Cserna, B., Yan, C., Villasana, F., & Labutong, N. (2018). Value Change in the Value Chain: Best Practices in Scope 3 Greenhouse Gas Management. Science Based Target initiative and Navigant and the Gold Standard. Available at: <https://sciencebasedtargets.org/resources/legacy/2018/12/SBT_Value_Chain_Report-1.pdf>.
[67] Farsan, A., Chang, A., Kerkhof, A., Cserna, B., Yan, C., Villasana, F., & Labutong, N. (2018). Value Change in the Value Chain: Best Practices in Scope 3 Greenhouse Gas Management. Science Based Target initiative and Navigant and

Clearly, the ways in which retailers choose to engage with their suppliers present a far greater opportunity for emissions reduction than could be achieved through acting only on areas within their direct sphere of influence. Failure to account for supply chain emissions can result in a severe underestimation of environmental impact.[68]

AN "UPSTREAM" BATTLE

While the potential of retailers to drive emissions reduction in the supply chain is of colossal proportions, it is not without its challenges:

Retailers do not have direct control. The fundamental reason why supply chain emissions are difficult to address is that they fall outside of a retailer's direct ownership.[69] Hence, any retailer that is serious about decarbonization requires intimate, long-term partnerships with its individual suppliers. This difficulty is compounded by the complexity of supply chains, as there can be multiple tiers of geographically dispersed businesses that supply retailers.[70]

A lack of high-quality data exists. Quantifying emissions is an essential starting point for managing carbon footprint.[71] As shown in Figure 4, while pressure for data transparency is increasing, systematic disclosure of emissions is, however, still limited in the supply chain. This is attributed to the fact that many suppliers still do not properly understand the emissions outside their direct sphere of influence, let alone how to calculate them.[72] Even when estimates are available, there remains uncertainty in the reliability of the data due to the complexity and inconsistency of calculation methodologies.[73]

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the Gold Standard. Available at: <https://sciencebasedtargets.org/resources/legacy/2018/12/SBT_Value_Chain_Report-1.pdf>.

[68] Patchell, J., 2018. Can the implications of the GHG Protocol's scope 3 standard be realized? Hong Kong University of Science and Technology. Available at: <https://doi.org/10.1016/j.jclepro.2018.03.003>.

[69] Farsan, A., Chang, A., Kerkhof, A., Cserna, B., Yan, C., Villasana, F., & Labutong, N. (2018). Value Change in the Value Chain: Best Practices in Scope 3 Greenhouse Gas Management. Science Based Target initiative and Navigant and the Gold Standard. Available at: <https://sciencebasedtargets.org/resources/legacy/2018/12/SBT_Value_Chain_Report-1.pdf>.

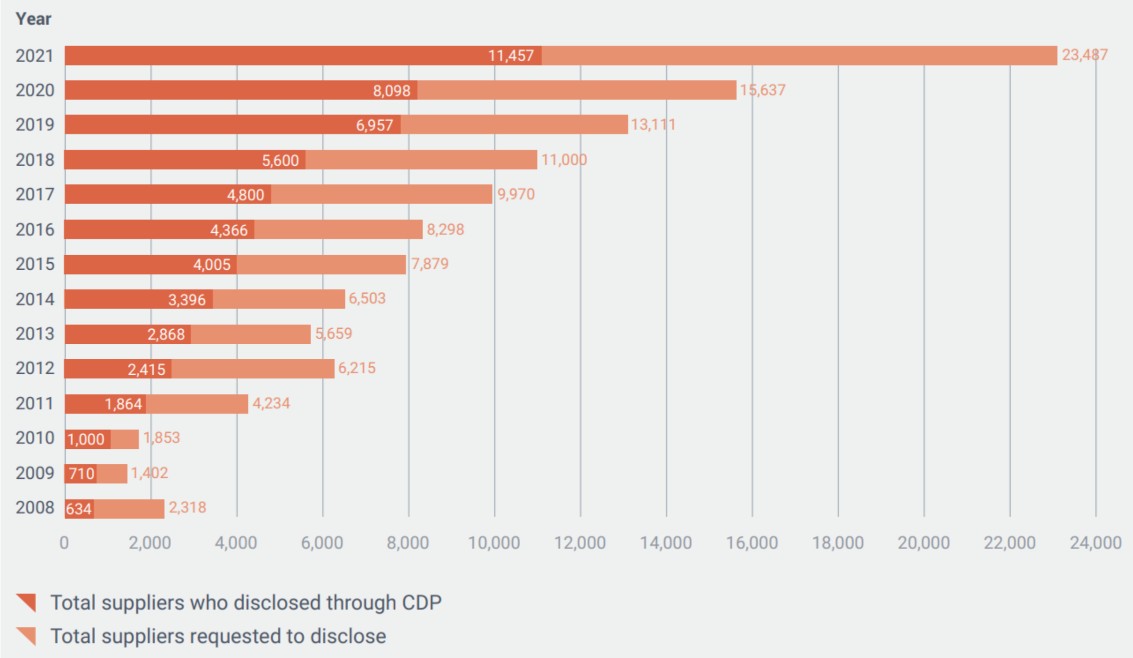
[70] World Economic Forum and Boston Consulting Group, 2021. Net-Zero Challenge: The supply chain opportunity. [online] Available at: <https://www3.weforum.org/docs/WEF_Net_Zero_Challenge_The_Supply_Chain_Opportunity_2021.pdf>.

[71] McHughan, J., 2021. Scope 3 Emissions: The Next Frontier in Climate Engagements. [online] Responsible Investment Association. Available at: < https://www.riacanada.ca/magazine/scope-3-emissions-the-next-frontier-in-climate-engagements/>.

[72] Spiller, P., 2021. Making supply-chain decarbonization happen. [online] McKinsey & Company. Available at: <https://www.mckinsey.com/business-functions/operations/our-insights/making-supply-chain-decarbonization-happen>.

[73] Flexidao, 2021. Scope 3 Emissions Reporting: Solving the Transparency Issue. [online] Available at: <https://www.flexidao.com/post/scope-3-emissions-reporting-better-transparency>.

Figure 4. Growth in CDP supplier disclosures from 2008 to 2021[74]



There is limited support from the broader industry. Success in managing supply chain emissions is reliant on a vast array of suppliers, many of whom may not have a strong impetus to participate voluntarily.[75] Often, companies cite a lack of targets from the broader industry as justification for inaction. This inertia can be difficult to overcome, especially in areas where decarbonization would necessitate a sizable investment in infrastructure.[76]

A RIPPLE OF CHANGE

Despite the challenges, some businesses are beginning to demonstrate that supply chain emissions can be addressed. Solutions lie in effective supplier engagement, and data shows that partnering with suppliers does drive change. In the past year, over 200 of CDP's partner companies successfully drove 231 million tonnes of emissions reduction through engaging with suppliers.[77]

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[74] CDP, 2022. Engaging the Chain: Driving Speed and Scale. CDP Global Supply Chain Report 2021. [online] Available at: <https://cdn.cdp.net/cdp-production/cms/reports/documents/000/006/106/original/CDP_SC_Report_2021.pdf?1644513297>.
[75] Corkery, M. and Creswell, J., 2021. Corporate Climate Pledges Often Ignore a Key Component: Supply Chains. The New York Times, [online] Available at: <https://www.nytimes.com/2021/11/02/business/corporate-climate-pledge-supply-chain.html>.
[76] World Economic Forum and Boston Consulting Group, 2021. Net-Zero Challenge: The supply chain opportunity. [online] Available at: <https://www3.weforum.org/docs/WEF_Net_Zero_Challenge_The_Supply_Chain_Opportunity_2021.pdf>.
[77] CDP, 2022. Engaging the Chain: Driving Speed and Scale. CDP Global Supply Chain Report 2021. [online] Available at: <https://cdn.cdp.net/cdp-production/cms/reports/documents/000/006/106/original/CDP_SC_Report_2021.pdf?1644513297>.

With access to a broad range of suppliers owing to their unique position in the value chain and typically large product catalogues, retailers wield great power – with which comes great responsibility – to create a ripple of positive change.

Therefore, it is recommended that retailers work with suppliers through the following avenues:

Encourage data collection. Achieving data visibility is a prerequisite for enabling businesses to take targeted and high-impact action.[78] Studies show that 94% of consumers are more likely to be loyal to companies that offer complete supply chain transparency,[79] and regulatory requirements are predicted to add greater urgency.[80]

Many retailers share the same suppliers, and this overlap helps increase the probability of success. A report from CDP shows that suppliers are more likely to take action when the number of requests that they receive increases.[81]

Top retailers such as Target and CVS Health have already begun collecting emissions data from suppliers.[82]

Cascade commitments. It is best practice for companies to set sustainability targets that are in line with climate science.[83] Retailers must take the lead in doing so and invite their suppliers to follow their example.

This is exemplified by Walmart when it launched Project Gigaton, an initiative which aims to avoid one billion tonnes of emissions from the value chain by 2030. Suppliers are encouraged to set their own goals, showcase their progress, and take advantage of recognition opportunities.[84] Figure 5 shows the scale of emissions reduction that the project has achieved as of 2020.

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[78] CDP, 2022. Engaging the Chain: Driving Speed and Scale. CDP Global Supply Chain Report 2021. [online] Available at: <https://cdn.cdp.net/cdp-production/cms/reports/documents/000/006/106/original/CDP_SC_Report_2021.pdf?1644513297>.

[79] Choudhury, S., 2021. Consumers Want Supply-Chain Transparency. Are Food Brands Listening?. [Blog] Supply Chain Brain, Available at: <https://www.supplychainbrain.com/blogs/1-think-tank/post/32906-consumers-want-supply-chain-transparency-are-food-brands-listening>.

[80] Corrs Chambers Westgarth, 2021. Scope 3 emissions: a regulatory cloud soon to lift?. [online] Available at: <https://www.corrs.com.au/insights/scope-3-emissions-a-regulatory-cloud-soon-to-lift>.

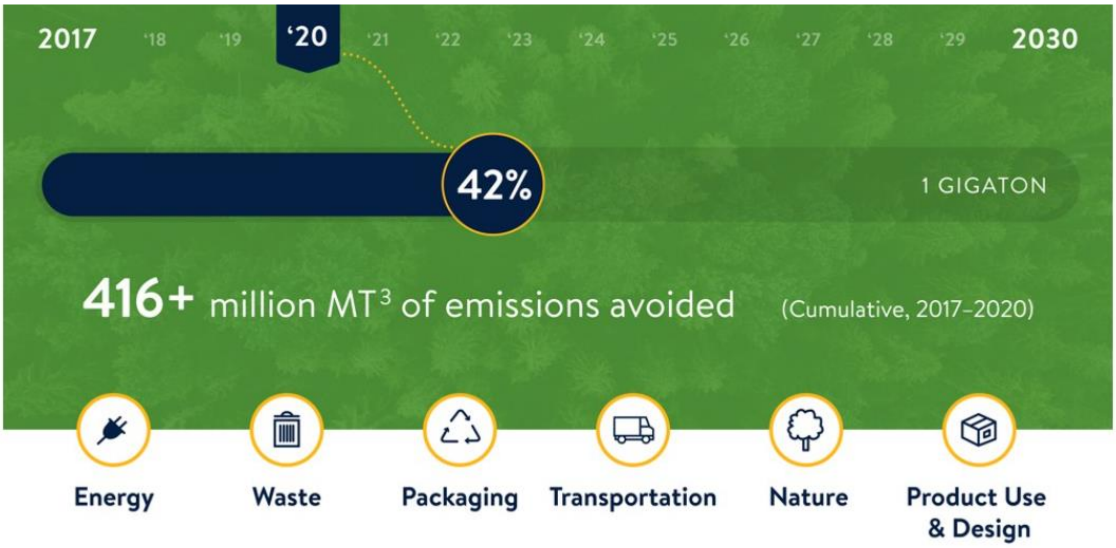
[81] CDP, 2021. Transparency to Transformation: A Chain Reaction. CDP Global Supply Chain Report 2020. [online] Available at: <https://cdn.cdp.net/cdp-production/cms/reports/documents/000/005/554/original/CDP_SC_Report_2020.pdf?1614160765>.

[82] Sustainable Brands, 2018. Target, CVS, Tesco Among Orgs with Over $3.3T Spend Scaling Up Supply Chain Sustainability. [online] Sustainable Brands. Available at: <https://sustainablebrands.com/read/walking-the-talk/target-cvs-tesco-among-orgs-with-over-3-3t-spend-scaling-up-supply-chain-sustainability>.

[83] Farsan, A., Chang, A., Kerkhof, A., Cserna, B., Yan, C., Villasana, F., & Labutong, N. (2018). Value Change in the Value Chain: Best Practices in Scope 3 Greenhouse Gas Management. Science Based Target initiative and Navigant and the Gold Standard. Available at: <https://sciencebasedtargets.org/resources/legacy/2018/12/SBT_Value_Chain_Report-1.pdf>.

[84] Walmart Sustainability Hub. 2021. Project Gigaton FAQs. [online] Available at: <https://www.walmartsustainabilityhub.com/climate/project-gigaton/faqs>.

Figure 5. Progress of Walmart's Project Gigaton as of 2020[85]



Implement standards. To improve consistency of carbon footprint calculation methodologies and make apples-to-apples comparison of suppliers' emissions possible, it is recommended to ensure that suppliers are held to a common standard that is defined either by the retailer or by an external independent organization.[86]

ALDI SOUTH Group, recognizing that over 92% of its emissions come from purchased goods, is taking a step towards its vision of "Zero Carbon" by supporting strategic suppliers in setting science-based emissions targets by 2024.[87] Targets are considered "science-based" if they are consistent with what the latest climate science deems necessary to keep global warming below two degrees Celsius from pre-industrial levels.[88]

Share knowledge and resources. Because uncertainty on where to begin and lack of support are commonly cited barriers,[89] retailers can inspire suppliers to take action by providing them with the tools and technical expertise that they will need in the beginning of their journey towards climate action.

A great initiative in knowledge sharing shown in Figure 6 is the Tesco Supplier Network that was launched in 2015. The network serves as an avenue for Tesco's suppliers to connect directly with the retailer's team and find peers that are facing similar sustainability

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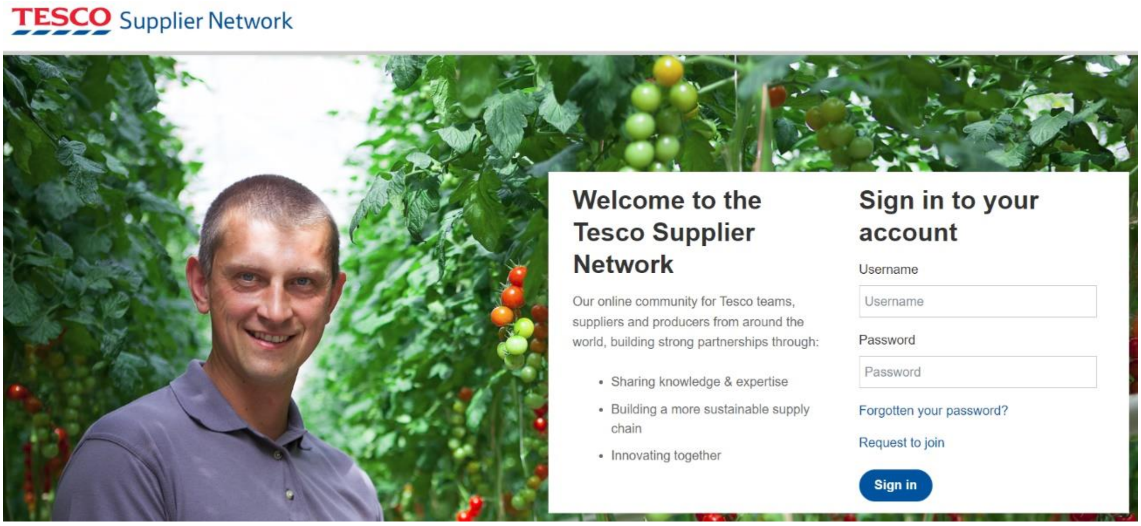
[85] 2020. [image] Available at: <https://www.walmartsustainabilityhub.com/climate/project-gigaton>.
[86] Farsan, A., Chang, A., Kerkhof, A., Cserna, B., Yan, C., Villasana, F., & Labutong, N. (2018). Value Change in the Value Chain: Best Practices in Scope 3 Greenhouse Gas Management. Science Based Target initiative and Navigant and the Gold Standard. Available at: <https://sciencebasedtargets.org/resources/legacy/2018/12/SBT_Value_Chain_Report-1.pdf>.
[87] ALDI SOUTH Group, 2021. Progress Report on Climate Protection 2020. [online] Available at: <https://cr.aldisouthgroup.com/en/download/progress-report-climate-protection-2020>.
[88] Science Based Targets. 2022. How it works - Science Based Targets. [online] Available at: <https://sciencebasedtargets.org/how-it-works>.
[89] HSBC and BCG, 2021. Delivering Net Zero Supply Chains. The Multi-Trillion Dollar Key to Beat Climate Change. [online] HSBC. Available at: < https://www.hsbc.com/-/files/hsbc/news-and-insight/2021/pdf/211026-delivering-net-zero-supply-chains.pdf>.

challenges. Currently, the network is supporting over 10,000 suppliers from various sectors.[90]

Figure 6. Login page of the Tesco Supplier Network[91]



In addition, Morrisons is providing its suppliers with a software that they can use to accurately measure, track and forecast their operational emissions. Through this initiative, Morrisons hopes to achieve a 30% reduction in Scope 3 emissions by 2030.[92]

Collaborate on projects. Partnering with suppliers in creating innovative solutions helps affirm a retailer's genuine commitment to a net zero supply chain. It can amplify the industry's efforts and enable action in areas where financial constraints exist. After all, the COVID-19 pandemic has demonstrated that collective action is key to solving urgent, global challenges.

Beef is one of the best sellers at the supermarket, and methane produced by the burping and farting of cattle comprises about 10% of Australia's total emissions. Woolworths, along with Harvest Road and GrainCorp, is investing in the FutureFeed initiative, which aims to promote the use of the *Asparagopsis* seaweed as a natural ingredient for livestock feed to reduce emissions by up to 80%.[93] Fiona Walmsley, general manager for climate and environment at Woolworths, agrees that Scope 3 emissions is "really all about how [retailers] partner with [their] suppliers" and that addressing them "means investing further up the supply chain."[94]

[90] Tesco. 2022. Tesco Supplier Network. [online] Available at: <https://www.tescoplc.com/sustainability/taking-action/farming-and-sustainable-agriculture/supporting-farmers/tesco-supplier-network/>.
[91] Tescosuppliernetwork.com. 2022. Tesco Supplier Network: Log in to the site. [online] Available at: <https://www.tescosuppliernetwork.com/login/index.php>.
[92] CIPS, 2021. How retailers are helping suppliers cut carbon. [online] Available at: <https://www.cips.org/supply-management/news/2021/december/how-retailers-are-helping-suppliers-cut-carbon/>.
[93] FutureFeed. 2022. FutureFeed. [online] Available at: <https://www.future-feed.com/>.
[94] Dunn, J., 2021. Big supermarkets set emissions reduction targets. The Australian Financial Review, [online] Available at: <https://www.afr.com/companies/energy/big-supermarkets-set-emissions-reduction-targets-20211004-p58x5v>.

Reward progress. A proven method to reinforce positive behaviour and sustain progress made by suppliers involves giving recognition where it is due.[95]

In its 2021 Supplier Awards, Coles has awarded suppliers that have achieved remarkable progress in their commitment to sustainability, community and health innovation. Coles CEO Steven Cain acknowledges that “the creative sustainability solutions [of Coles’ suppliers] are integral to helping [Coles] achieve [its sustainability ambition].”[96] Figure 7 shows the owners of the Mitolo Family Farm, which was named Fresh Produce Supplier of the Year by Coles.

Figure 7. The Mitolo family, one of the winners of the 2021 Coles Supplier of the Year Awards[97]

Furthermore, retailers can cultivate a sustainability culture by providing incentives to high-performing suppliers. Because research shows that small- and medium-sized businesses have limited financial capability to fund climate transformation,[98] Walmart has partnered with HSBC and CDP in creating a supply chain finance program for these suppliers. Those that participate can be eligible for early payment on their invoices and take advantage of special financing to make the necessary investments in their sustainability journeys.[99]

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[95] World Economic Forum and Boston Consulting Group, 2021. Net-Zero Challenge: The supply chain opportunity. [online] Available at: <https://www3.weforum.org/docs/WEF_Net_Zero_Challenge_The_Supply_Chain_Opportunity_2021.pdf>.
[96] Coles Group, 2022. Coles Supplier Awards commend businesses leading the way in sustainability, community and innovation. [online] Available at: <https://www.colesgroup.com.au/media-releases/?page=Coles-Supplier-Awards-commend-businesses-leading-the-way-in-sustainability--community-and-innovation>.
[97] 2022. [image] Available at: <https://www.news.com.au/lifestyle/shopper-interest-in-sustainable-supply-chain-drives-changes-on-the-shelf-at-coles-supplier-awards/news-story/9c4091912667ad99445329bfafb164c5>.
[98] HSBC and BCG, 2021. Delivering Net Zero Supply Chains. The Multi-Trillion Dollar Key to Beat Climate Change. [online] HSBC. Available at: < https://www.hsbc.com/-/files/hsbc/news-and-insight/2021/pdf/211026-delivering-net-zero-supply-chains.pdf>.
[99] Walmart, 2021. Walmart Creates Industry First by Introducing Science-Based Targets for Supply Chain Finance Program. [online] Available at: <https://corporate.walmart.com/newsroom/2021/12/08/walmart-creates-industry-first-by-introducing-science-based-targets-for-supply-chain-finance-program>.

CONCLUSION

With the knowledge that a huge fraction of their environmental impact lies outside their own direct operations, retailers must turn the spotlight on their supply chains. Data shows that the solution lies in strong, deliberate engagement with suppliers, which retailers can pursue by employing strategies such as communication of targets and sharing of resources. As a result, it is predicted that the dynamics between retailers and suppliers will evolve to more intense, long-term partnerships. Failure to address supply chain emissions will leave retailers vulnerable not only to losing a competitive advantage but also to the searing consequences of climate change.

Joe Berry Award 2022

JBA-22-093

Topic 1-A: Automation of Online Fulfilment

Presentation # 2

Benjamin Jacobs

Employer: Aldi

Contents

Introduction

The World Wide Web. The steam engine. The chocolate bar.

Great Britain is responsible for some of mankind's greatest innovations. But while society may have reached the pinnacle of achievement with some advancements (see: Snickers bars), others are in a state of relative infancy. Amongst these is one of Britain's lesser-known creations: next-day delivery.

In the obscure Welsh village of Llanllwchaiarn in the mid-1800s, humble flannel-maker Pryce Pryce-Jones started taking mail-in orders, utilising stagecoach and the expanding British railway network for fulfilment. By optimising production and brokering deals for daily distribution, Pryce-Jones was able to offer a truly unique selling point at the time: convenience.

Almost two centuries later, billionaire Jeff Bezos spearheads a flock of behemoths vying for your wallet's loyalty, venture capitalists amass upon near-instant delivery start-ups, and immediacy remains the pervasive goal.

This essay evaluates the merits of the various fulfilment models used in online retailing globally. It achieves this by assessing the current retail landscape, before analysing fully automated fulfilment centres, micro-fulfilment centres (MFCs) through the lens of grocery delivery services, and new technologies supplementing supply chains.

It will be asserted that:

1. Retailers reducing their physical store footprints are mistaken

2. Automation is essential, but not enough to win alone

3. Near-instant delivery start-ups will not succeed, but have redefined convenience forever

4. New technologies must be adopted to stay relevant

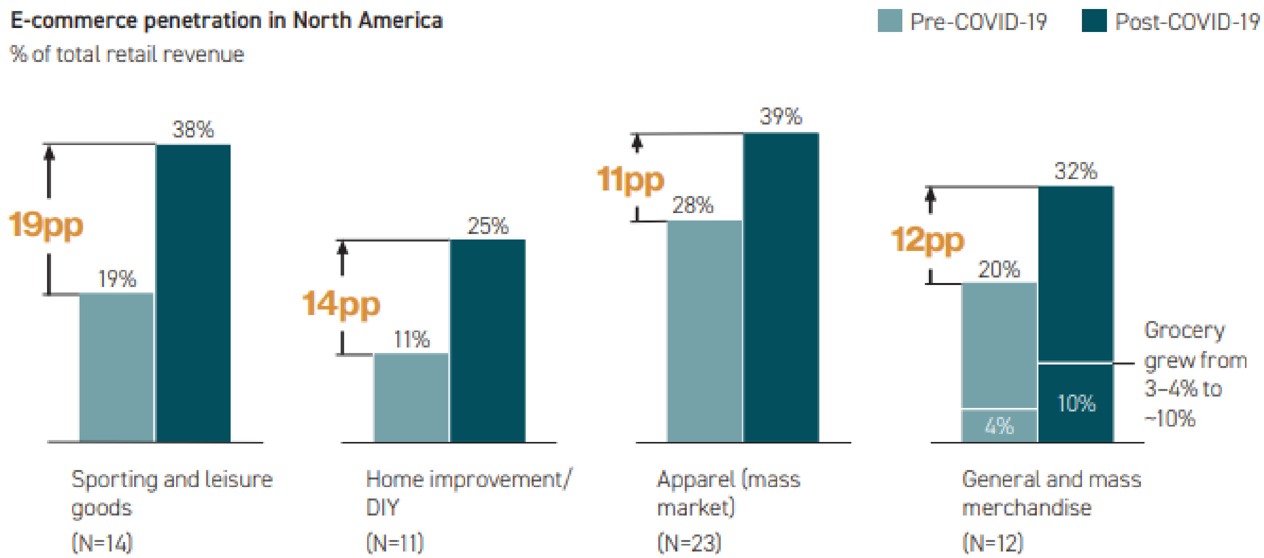
The concluding recommendation is for retailers to utilise a balanced assortment of physical stores, fully automated fulfilment centres, MFCs, and new technologies in an omnichannel fulfilment strategy.

This is the golden ticket to success.

Current landscape: more clicks, less bricks

As online penetration rises in the $5 trillion-a-year global retail market[100], businesses have been turning to automated fulfilment centres at the heart of their supply chains. Many of these sites are not being developed in addition to store networks, but to supplement the decreasing physical footprint in the retail sector.

Research from the KPMG CEO Outlook 2021 revealed 69% of CEOs plan to downsize (or already have) their physical store networks.[101] The pandemic didn't instigate this trend, it merely expedited it. In 2019 there were over 9000 store closures in the US alone, almost 60% more than in 2018.[102]



[103] **Exhibit 1: Increasing online penetration is compelling retailers to close stores**

With store closures continuing to outpace openings (at a current rate of 2:1), retailers have been pivoting to smaller format stores (Bloomingdale's, Macy's) [104], experiential flagships (Nike 'Live', Dollar General's 'Popshelf', Dick's 'House of Sport'[105]) and a plethora of shop-in-shops (Target, Bloomie's, Kohl's, Bed Bath & Beyond, Nordstrom's). [106]

These strategic pivots are necessary. The store closures, however, are narrow-sighted and represent a critical error of retailers. Stores still play a powerful and versatile role in

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[100] https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/
[101] https://home.kpmg/au/en/home/insights/2021/03/ceo-outlook-pulse.html
[102] https://www.retaildive.com/news/store-closures-pass-9k-in-2019/569597/
[103] https://www.mckinsey.com/~/media/McKinsey/Industries/Retail/Our%20Insights/retail%20speaks%20seven%20imperatives%20for%20the%20industry/retail-speaks-full-report.pdf
[104] https://fortune.com/2021/07/07/bloomingdales-bloomies-small-store-macys/
[105] https://www.retaildive.com/news/whats-in-a-flagship/584366/
[106] https://www.retaildive.com/news/7-experiential-store-concepts-that-opened-this-year/606809/

connecting customers to brands. Research from CACI indicates that 37% of online spend is attributable to the halo effect of retailers' physical presence.[107] This is exemplified by Amazon's 17% brick-and-mortar sales increase in Q4 of 2021- their third double-digit quarterly sales increase in a row.[108]

Customers still value the sensorial experience and immediate gratification of physical shopping. Store outlets must not be viewed as single-purpose enterprises whereby in-store sales are the only metric of success.

Click-and-collect transactions contribute to the data evidencing increased online penetration, with the store pickup process remaining a crucial part of the customer's experience.[109] Bricks can drive clicks, and the proliferation of the latter should not prompt the dissolution of the former.

Retailers must leverage their existing store networks as a critical component of a holistic omnichannel offering. This point will be elucidated following a closer look into retailers' penchant for automation.

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[107] https://pages.caci.co.uk/rs/752-EBZ-498/images/Insite%20report%202.pdf
[108] https://www.supermarketnews.com/retail-financial/amazon-brick-and-mortar-sales-climb-nearly-17-q4?NL=SN-09&Issue=SN-09_20220204_SN-09_819&sfvc4enews=42&cl=article_1_b&utm_rid=CPG06000060362221&utm_campaign=49630&utm_medium=email&elq2=53fb9d4648ad49bdaf4082156b622ed8
[109] https://www.mckinsey.com/industries/retail/our-insights/adapting-to-the-next-normal-in-retail-the-customer-experience-imperative

Fully automated fulfilment centres

Almost all manual tasks can now be conducted by fully automated and integrated robotics, sorters, and conveyors. It is no surprise that retailers froth at the numerous merits of these game-changing fulfilment centres:

- **Increased productivity and reduced operational costs**
  - The average human resource can pick approximately 60 cases per hour, whereas automated sorters and conveyors can pick up to 600.[110]
  - Superfluous labour can be redeployed to retail stores suffering from critical levels of pandemic-induced turnover, keeping experienced employees in-house while offsetting the soaring payroll costs attributed to recruitment.
- **Increased picking accuracy and capacity**
  - Automated Storage and Retrieval Systems (AS/RS) can pick at accuracy rates of up to 99.99%[111], reducing double handling costs and improving the customer experience.
  - The processing flexibility that comes with the higher capacity for order quantities reduces peak season bottlenecks.
- **Improved workplace safety**
  - The reduction in manual labour required for tasks such as picking leads to a reduction in musculoskeletal issues, particularly repetitive strain injuries.
- **Space efficiencies and increased product range**
  - Fulfilment centres' higher density improves space utilisation by up to 50%[112], with streamlined inventory management allowing for an increased SKU quantity to be stored, processed, and sold to customers.

While corporate boardrooms delight at costs shifting from hefty payroll expenses to capital investment in automation, there are flaws to be considered:

[110] https://www.ny-engineers.com/blog/5-competitive-advantages-of-micro-fulfillment-centers
[111] https://www.sciencedirect.com/science/article/abs/pii/S0305054803003575
[112] https://scg-mmh.s3.amazonaws.com/pdfs/cimcorp_wp_4_benefits_030918.pdf

- **Upfront capital expenditure**
    - The initial outlay of capital expenditure necessary to transition to fully automated warehouses is significant. This could pose a challenge to smaller players struggling to keep pace with the giants, or those for whom technological obsolescence is a risk too great.
- **The reliance on reliability**
    - AS/RS work according to pre-set criteria and are best suited for predictable and repetitive operations. Rapid changes to the core products or materials handled can lead to intermittent cost blowouts for businesses that don't benefit from consistent product mixes and order patterns.[113]
- **Distance to the consumer**
    - Large, fully automated fulfilment centres are often located outside of dense urban centres. In the race for immediacy, proximity to the customer is becoming less of a predilection and more of a prerequisite.

Evidently, fully automated fulfilment centres' ability to streamline operations provide a net benefit to retailers looking to maximise efficiencies. Amazon, Jaycar, Kogan, Drakes, Coles, and Woolworths have all invested hundreds of millions of dollars in automated DCs in the Australian market already[114], with ALDI also signalling intent to join the party.[115]

Retailers will be left behind if they do not automate the hearts of their supply chains. However, the realised efficiencies of fully automated fulfilment centres will not replicate the convenience that customer proximity brings. Consequently, they should only represent a piece of the broader omnichannel fulfilment puzzle. MFCs also play an imperative role, as evidenced by the grocery delivery start-ups setting the market alight by redefining convenience altogether.

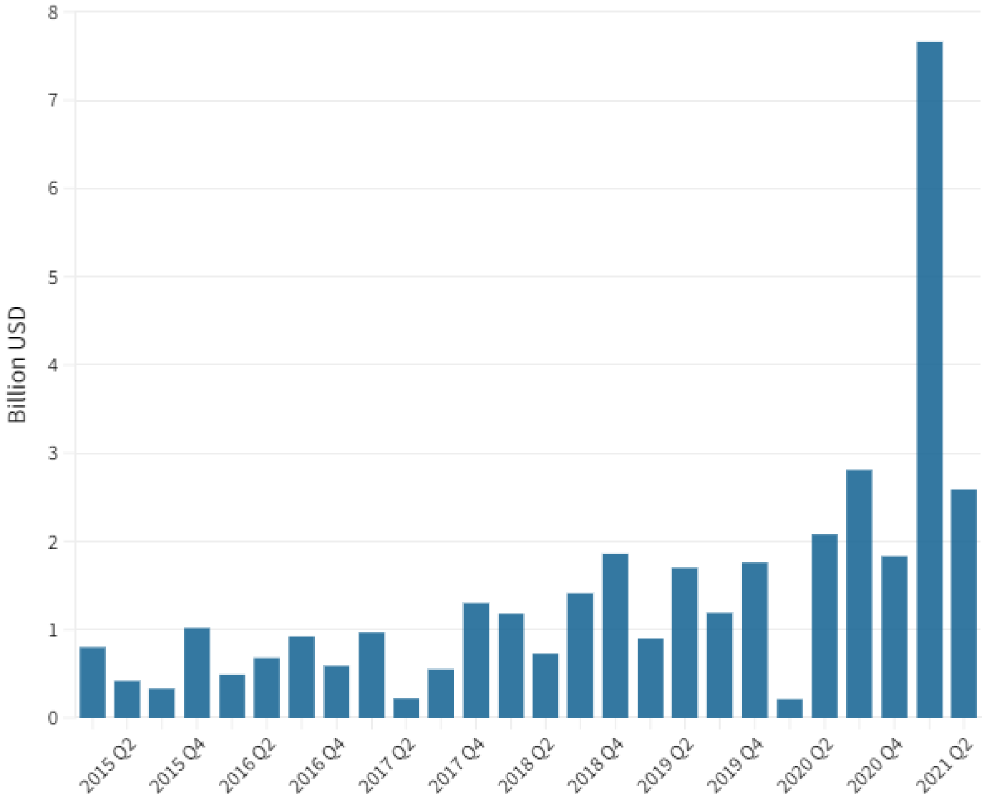
The post-pandemic plunge into 10-minute delivery

"Every crisis accelerates some sort of model; this one accelerated e-commerce grocery penetration", asserts Gorillas' CEO and co-founder Kagan Sumer. "Some of this

[113] https://www.conveyco.com/pros-cons-asrs-warehouse-automation/
[114] https://www.mondaq.com/australia/real-estate/983004/the-logistics-of-developing-large-scale-automated-warehousing
[115] https://www.aldiunpacked.com.au/aldi-signals-change-is-on-the-horizon/

accelerated adoption will go back to traditional retail, but a significant amount of this peak is going to stay because of convenience."[116]

Gorillas is amongst a flurry of vertically integrated start-ups promising groceries at retail prices, delivered in as little as 10 minutes. With venture capital funding catapulting its value above the $1B mark[117], Gorillas joins fellow Berlin-based newcomer Flink[118], Turkey's Getir[119], China's Xingsheng Youxuan[120], and the US' goPuff[121] and JOKR[122] in achieving unicorn status.



[123] **Exhibit 2: Global VC deal activity in grocery delivery**

In a post-pandemic world showing signs of stability, grocery delivery start-ups are the primary disrupters. Traditional supply chains convulse in the presence of these guerrilla fulfilment strategies, with the Australian market the latest to quake.

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[116] https://www.bloomberg.com/news/articles/2021-05-26/gopuff-uber-delivery-hero-other-startups-enter-instant-delivery-business?utm_content=businessweek&utm_medium=social&utm_source=twitter&cmpid=socialflow-twitter-businessweek&utm_campaign=socialflow-organic

[117] https://www.bloomberg.com/news/articles/2021-10-19/delivery-hero-leads-1-billion-funding-round-for-gorillas

[118] https://techcrunch.com/2021/12/09/flink-the-berlin-based-instant-grocery-startup-is-now-valued-at-2-85b-after-raising-750m-in-a-round-led-by-doordash/

[119] https://www.bloomberg.com/news/articles/2021-03-26/getir-takes-turkish-unicorn-top-spot-on-2-6-billion-valuation

[120] https://retailasia.com/technology/news/tencent-invests-100m-in-online-grocery-startup-xingsheng

[121] https://www.businessinsider.com.au/gopuffs-valuation-reaches-15-billion-with-1-billion-funding-round-2021-7?r=US&IR=T

[122] https://techcrunch.com/2021/12/02/instant-grocery-delivery-startup-jokr-bags-another-huge-round-to-enter-unicorn-status/

[123] https://www.cnbc.com/2021/07/02/grocery-startups-vc.html

MILKRUN, VOLY, and SEND (with their stylised capitalisation matched only by their impressive capital funding) all entered the Australian market in 2021[124], following the tried and tested playbook of the aforementioned unicorns:

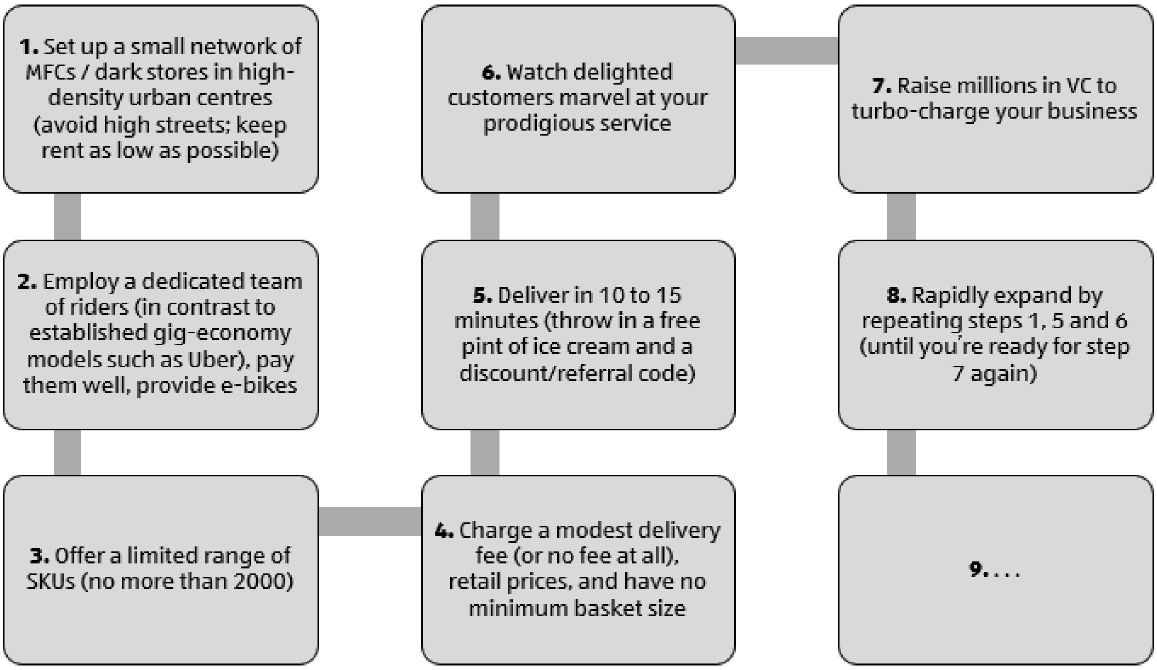


Exhibit 3: Author's Own

There's no Step 9 in the playbook- yet. The long-term sustainability of such a low-margin endeavour is questionable. While short-term market conditions have exposed fertile breeding ground for instant delivery services, the long-term conditions remain unfavourable. Australia's low population density and high wages are too strong a barrier to surpass. These start-ups may be trailblazing a new meaning of convenience but are leaving a fiery pit of burnt capital in their wake. It won't last.

The paradox of the environment is that while it is improbable that these players will survive, they are setting new parameters for competitors (even indirect ones) to match. The utopia of near-instant delivery has arrived, and with it, revised customer expectations. In order to stay relevant, there appears only three options:

1. **Invest in, or acquire, one of the start-ups**
    - Incumbents may be wise to delay an acquisition until the market matures or there is consolidation among the players; this will likely be necessary for them to avoid liquidation

[124] https://www.businessinsider.com.au/instant-delivery-service-milkrun-75-million-raise-expansion

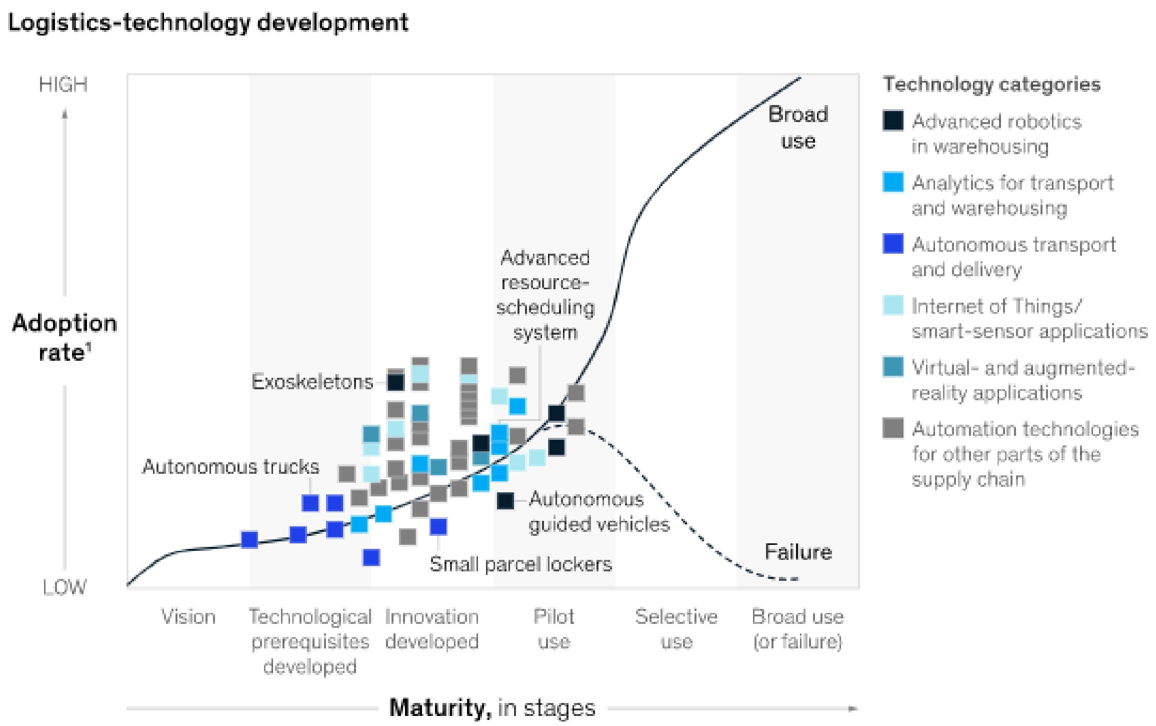
2. **Supplement your existing supply chain with a network of MFCs**
    - This is the recommended option, and will be expanded upon below

3. **Do nothing and hope for the best**
    - Many seem reluctantly settled on this option. That will change. Retailers cannot sit idle as market share gravitates toward convenience

Networks of micro-fulfilment centres (whether bespoke MFCs or basement dark stores) are necessarily required to increase proximity to the customer and decrease the last mile, with vertical integration key to controlling costs. Fully automated fulfilment centres can remain the cornerstone of a supply chain, but the unique traits of MFCs cannot be replicated. The supply chains of tomorrow will require both as part of their omnichannel offering, and this will need to be supported and supplemented by new technology and innovations.

Tapping into technology

Technological progression is driving advancements in physical retail outlets, fully automated fulfilment centres and MFCs respectively. While the Australian market is a later adopter of some technologies, it is a breeding ground for others, and no part of the supply chain is void of potential for innovation.



[125] **Exhibit 4: Dozens of logistics fulfilment technologies are under development; which will succeed in Australia?**

Automation, robotics, AI, and the IoT are the cornerstones of these innovations:

- Drone technology being piloted by IKEA[126] and KFC[127] cuts payroll costs, shortens the last mile, and can be a sustainable fulfilment alternative[128]
- Register bypass technology such as Woolworths' Scan&Go application[129] improves the in-store shopping experience

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[125] https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/automation-in-logistics-big-opportunity-bigger-uncertainty
[126] https://www.retaildive.com/news/ikea-furniture-store-fulfillment-operations-automation/616814/
[127] https://www.cmo.com.au/article/695011/kfc-australia-makes-its-drone-delivery-debut/
[128] https://www.researchgate.net/publication/332249057_Impact_of_drone_delivery_on_sustainability_and_cost_Realizing_the_UAV_potential_through_vehicle_routing_optimization
[129] https://www.woolworths.com.au/shop/discover/about-us/scan-and-go

- RFID and EAS technology improves stock-on-hand data at all points of the supply chain, with optimised inventory management leading to lower out-of-stocks and increased product availability[130]

- AI-powered, temperature-controlled robotic collection hubs enable 24/7 click-and-collect pickups[131]. This will be the natural progression from existing collection lockers seen in Australian retailers today

- Autonomous vehicles have positive impacts on productivity, operating costs, safety, and sustainability[132]. With Australia boasting more active autonomous trucks than any country in the world[133] (largely due to the mining and military sectors), it is only a matter of time before the technology is pervasive in retail

The merits of the aforementioned technologies on all parts of the supply chain are abundantly clear. They will be supplemented by the growth of advanced data analytics which elucidate insightful consumer behaviour trends. Dubbed the Internet of Behaviours[134], this will enable retailers to know exactly which prong of their multifaceted supply chain to utilise for specific customer segments.

It is clear that retailers cannot abstain from incorporating any individual fulfilment model from their holistic strategy. As the insatiable appetite for convenience grows, the innovations that supplement all components of retailers' omnichannel fulfilment models will be essential for future success.

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[130] https://www.bizdata.com.au/blogpost.php?p=how-iot-and-ai-are-changing-retail-part-2
[131] https://cleveron.com/news/cleveron-launches-the-world-s-first-grocery-robot-with-two-temperature-zones
[132] https://css.umich.edu/factsheets/autonomous-vehicles-factsheet
[133] https://www.mining-technology.com/features/australia-leads-the-way-in-autonomous-truck-use/
[134] https://www.sciencedirect.com/science/article/pii/S2666351121000437

Conclusion

From Pryce-Jones to Bezos, from Llanllwchaiarn to Silicon Valley, and from next-day textiles to 10-minute ice cream delivery, the fulfilment of retailing globally has never stopped evolving.

The meaning of convenience has changed, and the once-elusive nirvana of immediacy is in sight.

No independent fulfilment model is enough to succeed. Retailers must leverage existing store networks, fully automated fulfilment centres, MFCs, and new technologies as part of a broad, balanced, and agile supply chain.

In the enduring war for market share, the currency is convenience, and an omnichannel fulfilment strategy is the only way it can be obtained.

Retailers will be left behind if they dare settle for anything less.

JBA 2022

JBA-22-093

Topic 1-A: Automation of Online Fulfilment

Presentation # 1

Julia Wood

Employer: Simplot

Introduction

As online penetration soars retailers are being forced to adapt to an increasingly dual-channel demand for their goods. This brings positives for our Australian supermarket retailers. Shoppers online are more loyal to their chosen retailer and spend on average 2.3x more per transaction when compared to in-store[135]. But there is one glaring negative – cost to service online demand is far higher than a typical in-store experience[136]. Our retailers must find a way to reduce cost per serve, while simultaneously providing a seamless user experience for shoppers who are becoming savvier and more demanding of the service.

This paper focusses on four online order fulfilment models

1. Large scale automated fulfilment
2. Micro automated fulfilment
3. Manual dark stores
4. In-store manual picking

There are pros and cons to each of these methods and, taking learnings from more advanced grocery E-Comm markets, it is clear there is no one-sized fits all approach – particularly for Australia. With a combination of dense, inner-city populations along with urban sprawl in some states, Australian retailers will need a multi-faceted fulfilment approach combining larger-scale automated warehouses with smaller-scale fulfilment requiring human touch. This will enable them to reach large cross-sections of shoppers in a timely fashion and balance the high set up cost / low cost per pick of large-scale automation, with the lower establishment cost / higher cost per pick of smaller scale operations.

The current state

Australia is the 6th largest country in the world, with the 56th largest population[137]. Population density in our capital cities (and surrounding suburbs) varies by state with the ACT (100%) and Western Australia (78%) having the most centralized population, down to the vast state of Queensland where just 48.1% of the population resides in and around Brisbane[138]

Not only are retailers troubled with servicing shoppers across our immense nation, these shoppers will become increasingly demanding in terms of the time they are willing to wait for delivery, the delivery window they will accept, and the price they are willing to pay for that convenience[139].

While small, Australian grocery newcomers like Milk Run and Send who boast delivery in 10-15mins from the time of order with no delivery fee[140], will over time change shoppers' scope of reference for what is deemed convenient, timely, and value for money. This can be viewed in a

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[135] IRI (2021), *Grocery Market Moves 2021 Presentation*
[136] Citi Research (2020), *Australian Retail: Retail's eCommerce Renaissance* (17/09/2020)
[137] World Population Review 22. Available at: https://worldpopulationreview.com/countries
[138] ABS 2012-2013, *Regional population growth*
[139] Mitchell, S (2021), *Woolworths to automate online grocery orders*, Australian Financial Review. Available at: https://www.afr.com/companies/retail/woolworths-to-automate-online-grocery-orders-20210427-p57moc
[140] Bencic, E (2021), *Online-only supermarket delivers groceries in 15 minutes or less*, Retail Biz. Available at: https://retailbiz.com.au/online-retailing/online-only-supermarket-delivers-groceries-in-15-minutes-or-less/

similar way to which the Iconic & ASOS shook up E-Commerce fashion retailing with their speedy delivery and convenient returns process – forcing others to pivot and adapt, or risk being left behind[141].

We must take into account our large land mass, population sprawl and this increasing shopper demand for flexible, timely & cheap delivery when considering which online fulfilment model (or combination of models) is suited to our market. These factors must be considered alongside cost and pace of establishment, ongoing cost per grocery pick and shopper experience.

Large Scale Automated Fulfilment Centres

Ocado, a provider of large-scale automated fulfilment centres, boasts its warehouses to be configured to

> *"accommodate much greater storage capacity than large store-based alternatives, with scalable product range and volumes[142]."*

Algorithms control where products are located, and robot arms work to sort, pick and deposit items for human packing. Where economies of scale are present this process is more efficient, in both time and ongoing cost per grocery item picked, than a typical manually run warehouse[143]. This is the key advantage of large scale automated fulfilment.

But, this fulfilment model has three key drawbacks. Firstly, the high cost of establishment. Coles is reportedly spending $150m on two large scale automated CFC's in Sydney and Melbourne, while the price tag for Woolworth's automated 22,000m2 facility in Auburn is expected to top $100m[144].

Secondly, lengthy build times means a retailer not effectively set up to cope with customer demand in the short-medium term risks being left behind by competitors with more agile approaches. Coles, who announced their Ocado partnership in early 2019 does not expect their first CFC to be operational until 2023[145].

This high one-off cost, large scale footprint, and lengthy build time means it is not feasible to have warehouses dotted in high numbers across our vast nation. This leaves service limited to smaller distribution areas or subject to higher cost/slower delivery. Estimates from Kroger's Ocado fulfilment centres in the US suggest a delivery radius of up to 90 miles[146]. This is the third key drawback of an exclusively large-scale automated warehouse model.

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[141] Business View (2017), *Delivering the goods is THE ICONIC ethos*, NAB Business. Available at: https://business.nab.com.au/delivering-goods-iconic-ethos-23641/

[142] Ocado Group, *What is OSP?* Available at: https://www.ocadogroup.com/our-solutions/what-is-osp

[143] Vincent, J (2018), *Welcome to the automated warehouse of the future*¸ The Verge. Available at: https://www.theverge.com/2018/5/8/17331250/automated-warehouses-jobs-ocado-andover-amazon

[144] Mitchell, S (2021), *Woolworths to automate online grocery orders*, Australian Financial Review. Available at: https://www.afr.com/companies/retail/woolworths-to-automate-online-grocery-orders-20210427-p57moc

[145] Coles (2019), *Coles enters partnership with Ocado,* Coles Media Releases. Available at: https://www.colesgroup.com.au/media-releases/?page=coles-enters-partnership-with-ocado

[146] Redman, R (2021), *Kroger debuts first Ocado automated fulfillment centre*, Supermarket News. Available at: https://www.supermarketnews.com/technology/kroger-debuts-first-ocado-automated-fulfillment-center

Retailers have realized this, opting to use these warehouses in conjunction with smaller fulfilment options closer to their end shoppers.

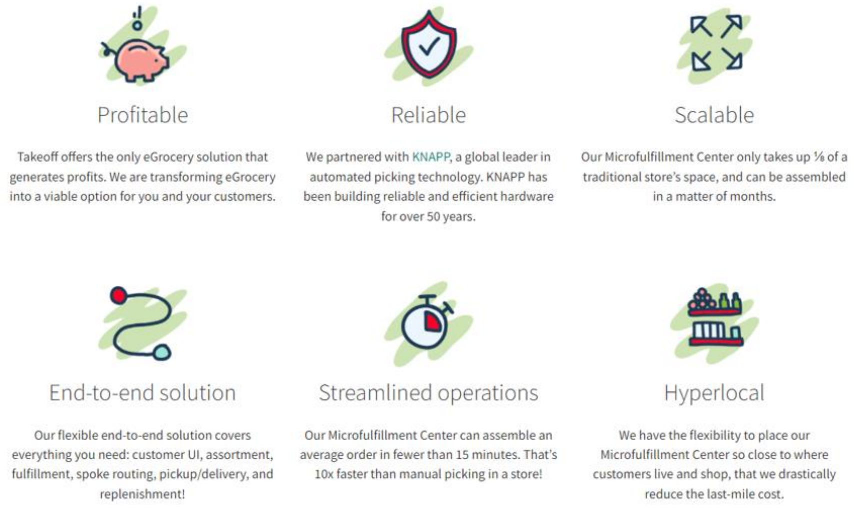
- Sobeys in Canada, despite highlighting they expect to be able to serve approximately 75% of all Canadian households from just 4 large scale CFC's[147], have also diversified their pick and delivery options. They have introduced manual in-store picking and click and collect services, expecting to expand this to hundreds of stores in the future. This smaller scale, manual process is designed to support shoppers where CFC's are not currently operating, or will never service[148]
- Tellingly, Morrisons in the UK, Ocado's longest standing partnership (commencing in 2013) also recently loosened its ties to the fulfilment provider, allowing the retailer to work with the likes of Amazon, Deliveroo, and other partners. This opens "new opportunities such as ultra-fast deliveries"[149] and is said to be necessary in finding new growth opportunities in the more mature online grocery market"[150].

Micro fulfilment centres

On face value, micro automated fulfilment centres solve these key issues faced by larger scale fulfilment options – namely, proximity to shoppers (and therefore delivery speed and cost), cost and time to establish, and space footprint. Takeoff (partnering with Knapp), one of the leading providers of micro fulfilment centres and technology, boasts the below - a seemingly perfect solution.

[147] Empire Company Limited Annual Report 2021. Available at: https://www.empireco.ca/wp-content/uploads/2021/07/2021-Empire-AR-English-SEDAR.pdf
[148] Ibid
[149] Butler, S (2019), *Morrisons free to use Amazon and Deliveroo in looser Ocado deal*, The Guardian. Available at: https://www.theguardian.com/business/2019/may/09/morrisons-free-to-use-amazon-and-deliveroo-in-looser-ocado-deal
[150] Quinn, I (2019), *Can the Morrisons-Ocado split really be a win-win?* The Grocer. Available at: https://www.thegrocer.co.uk/online/can-the-morrisons-ocado-split-really-be-a-win-win/593434.article

Figure 1[151]



But, like larger-scale automated fulfilment options, this solution also has its drawbacks.

While cheaper to establish per centre compared to larger scale alternatives there are still significant build costs – estimated to range from a few million to $10m[152]

Marc Wulfraat, president of MWPVL International, frequently consults with retailers on MFC technology and says the micro fulfilment solutions

> *"require a higher volume of incoming orders than many grocers realize to justify their hefty price tags… grocers are struggling to come out ahead financially in the face of ongoing costs, like transaction fees of up to several cents per unit shipped, and system maintenance"*[153]

In addition, the smaller size of these warehouses mean it is not always possible to maintain 100% of a physical store's assortment. This can necessitate separate picking in nearby stores to supplement orders – adding cost, complexity and time[154].

In areas of high population density, it's feasible micro fulfilment centres would have the economies of scale to provide low-cost fulfilment of shopper orders, with fast pick and delivery. But, like macro fulfilment, this won't be a solve-all solution. Manual picking from stores or dark stores will be required to supplement where demand does not justify establishment and ongoing costs.

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[151] Takeoff.com, *Why Takeoff*

[152] Wells, J (2021), *Is micro-fulfillment tech living up to the hype?* Supply Chain Dive. Available at: https://www.supplychaindive.com/news/micro-fulfillment-tech-cost-hype-grocery-supply-chain/602523/
[153] Ibid
[154] Ibid

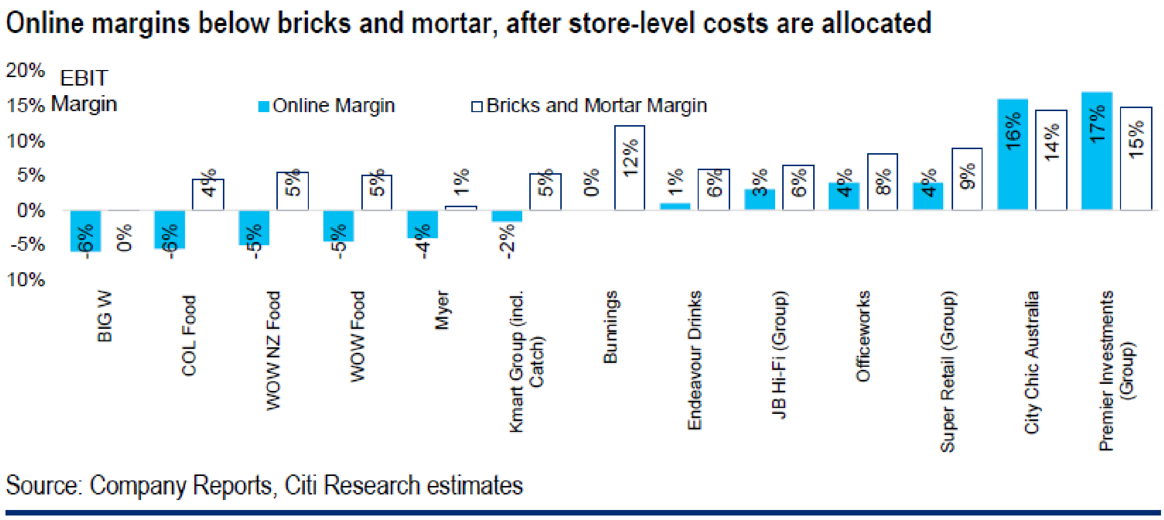
Manual in-store picking

Manual in-store picking is currently the most wide-spread online order fulfilment method in Australia. It eliminates the establishment cost of both automated models discussed and, high demand is not required to provide the service - staff required to fulfil orders can be flexed as demand builds. Our major retailers have established store networks and 80% of Australian shoppers on average live within 1.8kms of a major supermarket chain[155]. This makes same day delivery feasible to high numbers of shoppers (albeit still at a cost to either retailer or shopper). Click and collect options are also easily provided.

But, while cheap to establish, this method has high ongoing costs due to the manual handling. Each order takes on average 30 minutes to pick by a dedicated staff member[156]. With labour one of the two main costs of doing business in Australian retail[157] (along with occupancy costs), further adding to the manual handling of product prior to it reaching the shopper increases this expense.

Online profitability claims vary. City Bank estimates show negative online profit margins for our key supermarket retailers, after allocating store level costs[158].

Figure 2[159]



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[155] Doherty, S (2019), *How many supermarkets are too many?,* Market Grunt. Available at: https://www.marketgrunt.com.au/post/how-many-supermarkets-are-too-many

[156] Mitchell, S (2020), *Woolworths speeds online orders with micro-fulfilment*, Australian Financial Review. Available at: https://www.afr.com/companies/retail/woolworths-speeds-online-orders-with-micro-fulfilment-20201007-p56309

[157] Australian Government Productivity Commission (2014), *Relative costs of doing business in Australian Retail Trade*, Productivity Commission Research report. Available at: https://www.pc.gov.au/inquiries/completed/retail-trade/report/retail-trade.pdf

[158] Citi Research (2020), *Australian Retail: Retail's eCommerce Renaissance* (17/09/2020)

[159] ibid

But in 2019, Coles and Woolworths did announce profitable online sales (after 20 years' operating in the red)[160]. However, we can agree online sales are at least dilutive to in-store profit margins[161].

Despite its easy establishment, the high cost of labour per order will remain the key limiting factor for manual order fulfilment.

Manual dark stores

Manual dark stores are used by traditional retailers, like Tesco, Sainsbury and Woolworths[162], as well as speedy delivery, online-only newcomers like Zapp (UK) and Milk Run (Australia)[163].

Short turn-around times are possible, despite still requiring manual labour for picking orders. Without the need to service traditional in-store demand, SKUs in a dark store can be arranged according to a "typical" online grocery order. Products with high demand (relative to an in-store shop) like toilet paper, nappies and bottled water can also be held in larger volumes[164].

These changes, along with eliminating the added obstacle of shoppers, allows an employee to pick an order reportedly up to 3x faster than one working in a traditional store[165].

These stores are viable for areas where demand does not meet the necessary levels to warrant investment or does not meet the space requirements of an automated warehouse. As with all solutions discussed, they are best used in an overall fulfilment strategy, not simply as a standalone solution.

Summary

The below table highlights pros and cons of the online fulfilment options discussed. This view uses generalities and averages – an automated large scale fulfilment centre may be the closest fulfilment option to some shoppers for example, just not for the majority.

Proximity to shoppers is also used as a proxy for delivery speed which, depending on how each provider choses to manage order dispatch, may not always be the best measure.

Finally, some measures are harder to quantify. Customer experience involves more than just timely and convenient delivery. The shopper-facing system is crucial to shopper experience and repeat use of an ordering platform.

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[160] Bajkowski, J (2019), *Woolworths follows Coles, says online sales profitable, now 4.2%,* itnews. Available at: https://www.itnews.com.au/news/woolworths-follows-coles-to-claim-online-sales-profitable-now-42-percent-530328
[161] ibid
[162] Mitchell, S (2014), *Woolworths opens first online-only 'dark' store,* Australian Financial Review. Available at: https://www.afr.com/companies/retail/woolworths-opens-first-online-only-dark-store-20140811-jkeic
[163] SEND, https://www.sendapp.com.au/. & Milkrun, https://www.milk.run/
[164] [164] Mitchell, S (2014), *Woolworths opens first online-only 'dark' store,* Australian Financial Review. Available at: https://www.afr.com/companies/retail/woolworths-opens-first-online-only-dark-store-20140811-jkeic
[165] ibid

Cost of delivery to retailers is also tricky to compare across fulfilment options. One may assume the closer proximity to shoppers of smaller scale options would lessen delivery fees but, on the flip side, the high volume of orders going through a larger scale facility can enable efficient route mapping, reducing cost per delivery.

Figure 3

	Automated Large Scale Fulfilment Centres	Automated Micro Fulfillment Centres	Manual in-store	Manual Dark Stores
Examples of Global FMCG Retailers using/investing in	Sobeys, Kroger, Ocado,	Kroger, Wholefoods	Sobeys, Kroger, Wholefoods	Tesco, Sainsbury
Aus FMCG Retailers using/investing in	Coles	Woolworths	Coles, Woolworths	Woolworths, Milk Run, Send
Ease of shopper experience	?	?	?	?
Ongoing cost per pick	1	2	4	3
Efficiency/speed of order picking	1	2	4	3
Proximity to end shopper / speed of delivery	4	3	1	2
Cost of delivery	?	?	?	?
Cost of implementation	4	3	1	2
Pace of implementation	4	3	1	2

1 being the best performer of the four options, 4 being the poorest performer of the four options

Conclusion

As we are learning from supermarket retailers around the globe, the best online fulfilment method is a diverse one. Densely populated cities will be better served by automated fulfilment scaled according to population density and space available. The ongoing lower cost of serving these shoppers will, over time, negate the high initial investment required. The fast pick and delivery speeds (to the area it services) will also provide increasingly demanding shoppers with the ease and convenience they crave.

But, these facilities are not suited everywhere. Manual dark stores, and manual in-store picking will be required to supplement automation in areas where economies of scale are not sufficient to justify the upfront investment, and ongoing running costs. Despite taking longer to pick an order, the close proximity to shoppers has the potential to still enable flexible and speedy delivery, albeit at a higher cost to serve.

While each individual order from a manual site will be more costly to the retailer on an ongoing basis, savings from using automation in appropriate areas will enable progress towards closing the gap to in-store profitability. As online penetration grows (or retailers succeed in growing market share), feasibility of automated solutions in more regions increases, particularly as the technology price comes down.

There is no silver bullet. We must diversify fulfilment options to balance profitability and shopper experience. The retailer who is able to seamlessly connect this complex back-end fulfilment structure with a user-friendly customer-facing system will take the spoils.