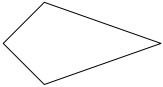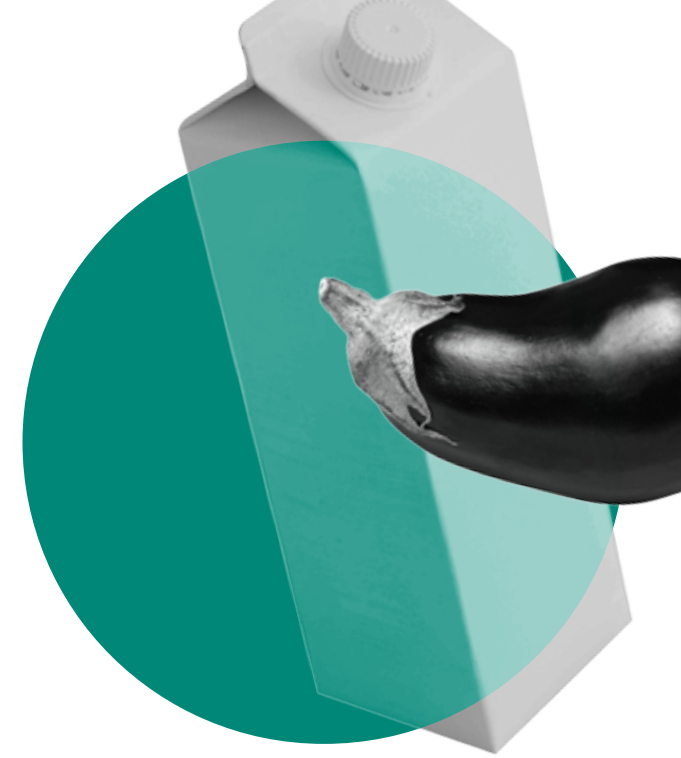# Future of Retail 2030

We crowdsourced ideas from **100 Futurice professionals** and worked closely with **seven groundbreaking companies** and **one university** to create this vision about retail in 2030.

Visit **futureofretail.io** for the full experience!

CONTENTS

Welcome to our carefully researched projection of what retail and grocery shopping might look like in 2030. We aim to provide inspiration and insights instead of probabilistic forecasts. This material will help you investigate emerging opportunity areas and learn about the strategic risks involved.

We live with constant change in a VUCA world: Volatility, Uncertainty, Complexity and Ambiguity are the keywords defining our everyday operational environment. At the same time, technical tools advance at high speed. The retail industry is massive in size and impact. Its ability to reimagine itself and develop new sustainable ways to serve global populations is vital to our overall societal development and essential in the ecological restructuring we need.

At its best, retail stands for enjoyable shopping experiences, plenty of cool jobs, clever use of data and technologies throughout the value chain. It plays an integral part in our livelihoods, nutrition and general human flourishing. While it has an exciting role in the overall renewal of our societies, it will hopefully still offer stable structures for our everyday life, too: familiarity and a source of belonging – a historical continuation for our consuming bodies to the future. The makers of this vision wish to contribute to the discussion around this transformation.
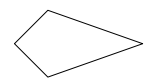
7 opportunity areas

We processed our findings into 23 trends and four different future worlds. We identified seven opportunity areas for the retail domain. Here is what we recommend for study and action.
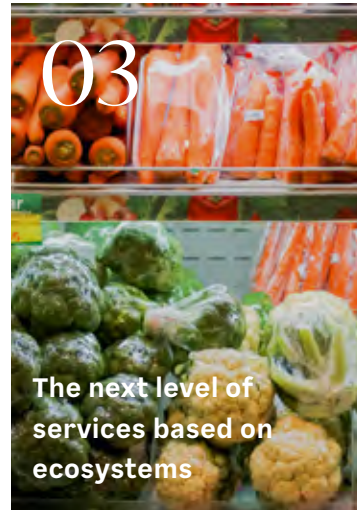
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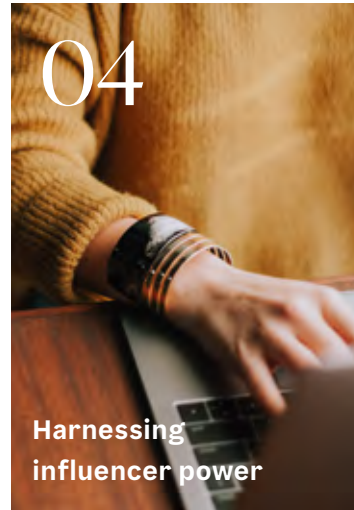
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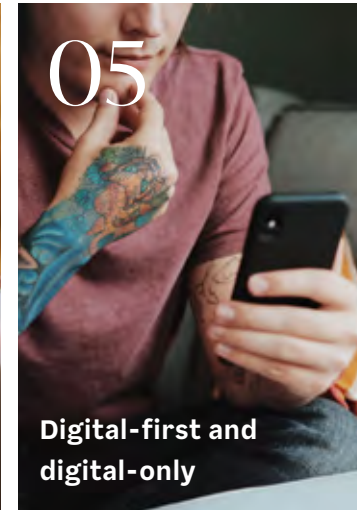
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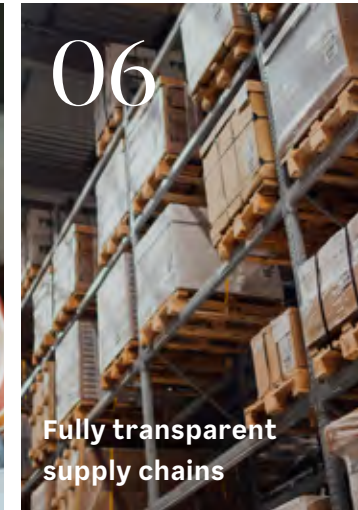
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Reach consumers on social media by collaborating with influencers and building platforms for managing micro-influencer power.

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Everyone is designing digital-first shopping experiences. You should aim to provide seamless last-mile delivery and keep designing relevance for physical store visits.

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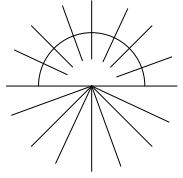
Scenarios

Let's explore the worlds of retail ecosystems and how customer experience will change over the next ten years in the grocery business. In these co-created scenarios, we will present four alternative futures, describing the changing roles of consumers, merchants, brands, and logistics. We will explore the critical technologies behind future worlds and, finally, break the stories down into winning and losing strategies.

SCENARIO 1

Creating live shopping experiences with influencers

Would you have guessed that the future of shopping was a hybrid of TV-shop and TikTok? In this future world, retailers and brands have harnessed the full power of influencer collaboration and see physical shops as a source of content.

My name is Abdi. I'm 23 years old, studying to be a cook. I'm also a successful social media merchant and have my own product portfolio on Pingstargram, promoting cooking-related products. Currently, I promote 23 different products that I have found from online shops around the world. I add one product every year because I want to grow slowly and only promote products that I love. I have meat products on my counter, and one of my products contains alcohol, limiting my audience.

Meet Adbi
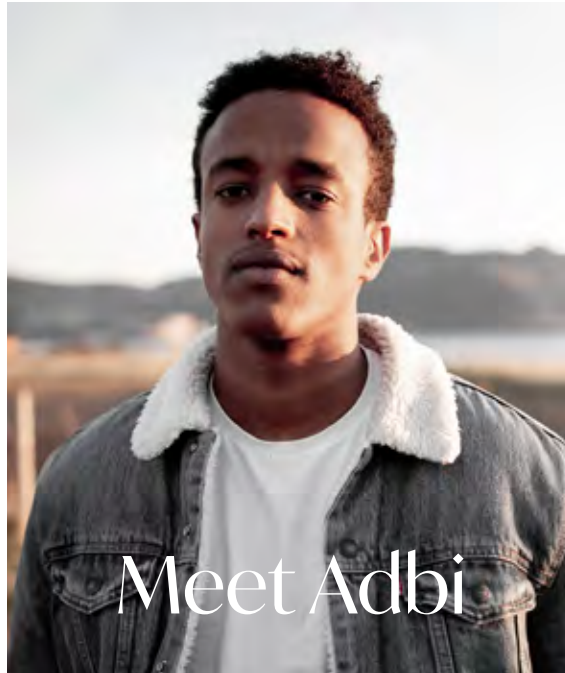
I can't get over how much I love shopping for groceries in an actual store. When we were kids, my mom and dad made me and my sister visit a supermarket every Saturday. They had this great idea of saving money by doing proper planning and buying food and necessities for the whole week at once. It was horrible, but it was also kind of wonderful! We were tasting bread in the supermarket. We were smelling the cheeses. We had discussions about sustainability, calories, chemistry, fairness, money and politics. We were in the supermarket together, kind of hating how dull it was and kind of enjoying making decisions together. ☛

No wonder I'm a big fan of supermarket streams. Annual shopping spectacles are sometimes a bit too hectic for me, but I totally get that people can't imagine holidays without them. I love slow content, like cooking streams, product intels and explorative shopping. If the presenter is good, I can watch hours of someone going through the cookie shelf, opening packages and seeing what's inside. I don't know what the deal is with me and the jam section - last time I watched a stream, I bought three jars - and cheese to go with them.
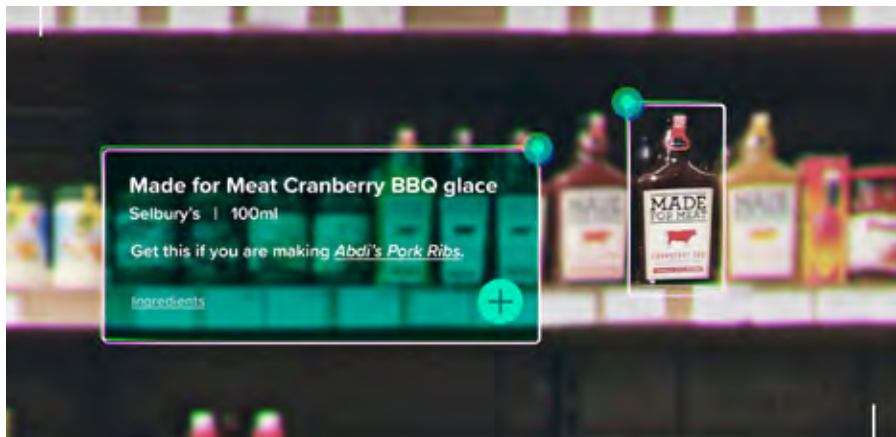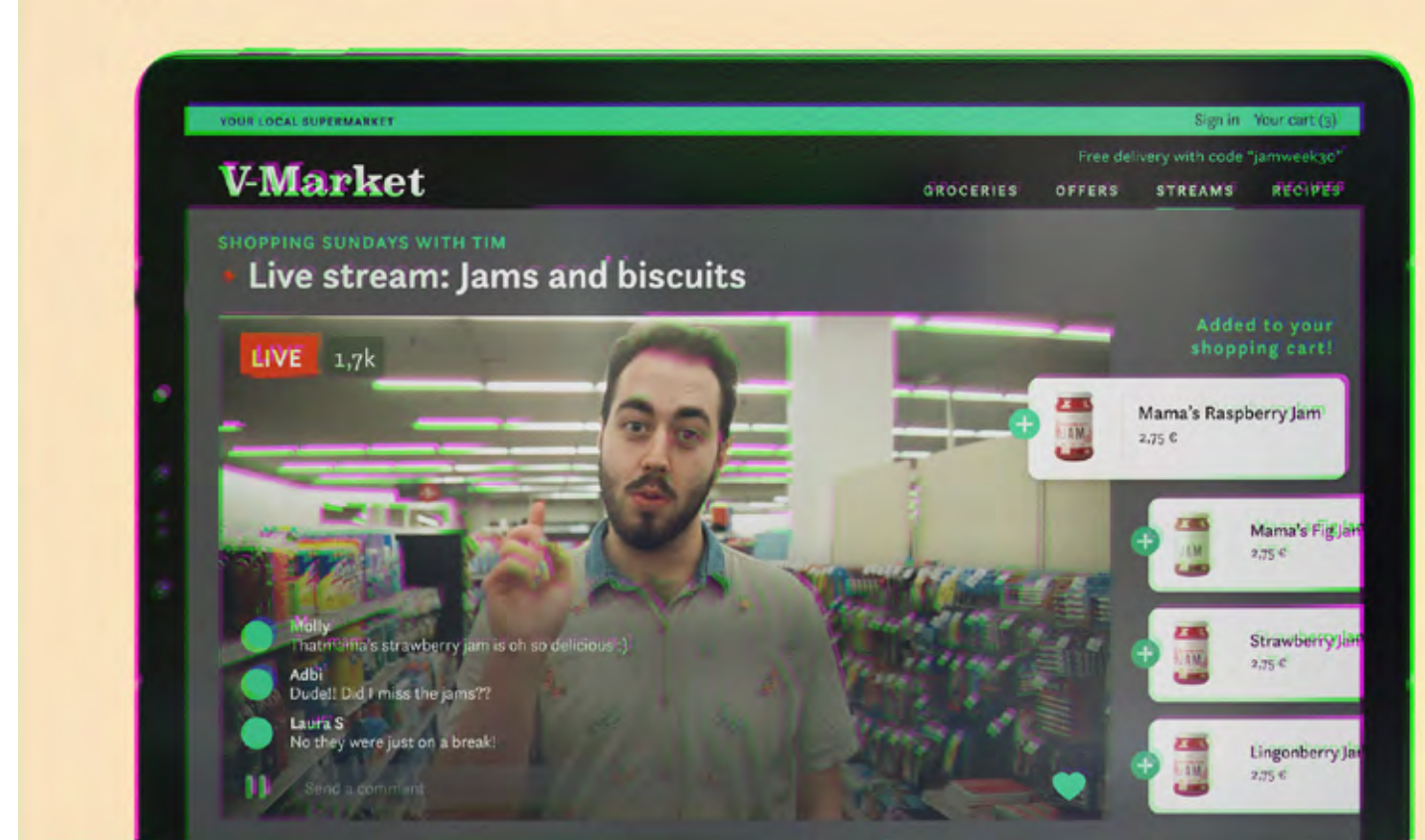
I buy groceries online, but I also regularly visit physical shops. It helps me calm down, and the inspirational stuff, like ghost kitchen demonstrations, help me imagine new kinds of food art. I remember my mom getting frustrated when she couldn't find the right products in the store fast enough. No more of that. The supermarket AR app makes the products I want pop out from the shelves, and visual cues and a voice assistant help me navigate through my shopping list. If I want to see my mom's notes on what she recommends, I just switch on the social comments, where I'll see my peers' and other streamers' intel on the products. So hey - subscribe to my product portfolio and experience the Abdi-way-of-shopping, cooking and loving life with good food! ◼

Consumers

Much like today, consumers in this scenario rely on their peers, micro-influencers and social media stars for guidance on what to consume. Many have published their portfolio of favourite products on social media for others to purchase. Their selections may contain products from almost anywhere around the world. The promotions are not only about commissions: products and personal brands live in a creative symbiosis where they collect and share data to help each other stand out. Customers buy seamlessly via mobile, online stores, social media and streams, and it only takes one click to purchase the product. Consumers can specify their preferences and needs, such as special diets, brand loyalties or ethical considerations. People shop for their groceries online but also like to watch live streams from shopping events and buy the products on the spot. Stores are seen as happy places that bring feelings of continuity, sociality and security in a fast-paced world. AR helps them navigate the store and get personal advice from their peers in the store.

Retailers

Retail chains have become vital nodes in a global superstore network that brokers local products to international customers hungry for exotic experiences. Their platforms harbour data on brands, products, user segment behaviours and sales times. This data is shared with all partners on the platform, who use it for forecasting and making better decisions on products and services. Partners have developed business models around different data packages.

The network of platforms links influencers and products, emphasising customer-centricity because the relationship between the product and consumer is where the magic happens. Influencers allow platforms to monitor the traffic of recommendations and resulting orders and receive provisions in return. Retailers who invest in experimental content productions with influencers, shopping events and live shopping streams are starting to see the returns on their investments.

Brands

In this scenario, any small brand could gain the attention of a rising social media star and be launched to greatness. Data platforms make anticipating changes in demand easier - if an influencer is trending, sales of their favourite products will follow. The scenario assumes that platforms and systems (e.g. e-commerce and product data platforms) could easily connect and integrate to other platforms (e.g. social media and supply chains) to deliver the products they want to international customers. Import and export imbalances between markets are a risk, and local brands could suffer. Licensed production closer to the markets should be implemented in an agile manner when demand stabilises. In this scenario, securing the trade secrets of original manufacturers is vital.

Logistics

Stores are pick-up hubs, and retailers pre-order popular products in advance. Fresh food is still mainly produced and consumed locally, whereas jams, cheeses, wines, spices, sauces, beverages, snacks, candies and canned goods travel. The story is about a culinarian, but influencers could also be cross-selling appliances, apparel and textiles. This kind of global superstore fantasy would be environmentally challenging as products would be travelling in various directions at the consumers' whims. On the other hand, if the total consumption stays the same and the CO_2 keeps rising, we can imagine where it takes us…

On the other hand, this is already the case, except that global retail giants and international couriers manage the flows of products and money. In our scenario, more local players are involved. The flows of goods become more diverse with an AI that optimises routes and deliveries. A lot also depends on the kinds of products consumers prefer.

Key technologies

This story highlights social media shopping where some individuals promote products from near and far, and others purchase them effortlessly. Sophisticated platforms for harbouring, processing, sharing and handling data about the (possibly hyperlocal) products and their availability are needed.

As personalisation increases, easier service integration is required to create synergies. Standardisation and transparency of how services interact with each other help bring this about. For influencers and customers, an increase in personalisation also brings the need for an exceptional level of security and privacy. Here, technologies like zero trust architecture, edge computing and self-sovereign identity play an essential part. In zero trust architecture authentication is done for every step in the background and it does not allow access to the whole system at once. Edge computing brings computation and data handling close to the end-user. In practise this means mobile devices or computers that perform computation tasks earlier done in the cloud. Bringing computation closer to the

actual source improves performance and privacy. Self-sovereign identity gives individual ownership over their identity, as opposed to technology companies or other institutions.

The platform's user experience needs to be intuitive and enabling, without becoming a tracking nightmare, regardless of device. Zero trust system architecture answers these kinds of demands. In many cases, this sort of added security will not be visible to the user.

Technological enablers

- Data platforms
- Machine learning
- Edge computing
- Zero trust architecture
- Self-sovereign identity

Winning strategies and risks

The winners in this world maintain information about local brands, look after their immaterial properties or make global shopping more environmentally sustainable. Retailers who have found ways to make shopping entertaining to consumers win; retailers who build their systems that are easily adaptable to new situations, with high-quality data and rapid integrations, win pole position in the race for success. For example, retailers that provide vendors with better product and sales information have the edge over the competition. Retailers who help customers realise their fantasies of global shopping will thrive.

Top 5 trends supporting this scenario

Gen Z power

Social commerce

IRL shopping

Brand fandoms

AR shopping

Developing optimised groceries-as-a-service systems

Would you provide access to your personal data to receive custom grocery deliveries that keep you healthy and happy? In this version of the future, most consumers order their groceries as a data-based service. Whoever gets last-mile delivery right will rule the ecosystem.

Hello, nice to meet you; my name is Laura.
For 17 years, I've worked as a growth consultant for an international NGO. It's challenging work with long hours. Five years ago, I survived breast cancer that left me feeling kind of vulnerable. I had always been interested in health tech, but now I wanted to get my s**t together, so I chose a health partner and gave them access to my data. My sensor, medical, genome and social media and location data are connected to my food-as-a-service solution. It means that I get a weekly package of whatever my body and mind need, and I don't have to give shopping a second thought.
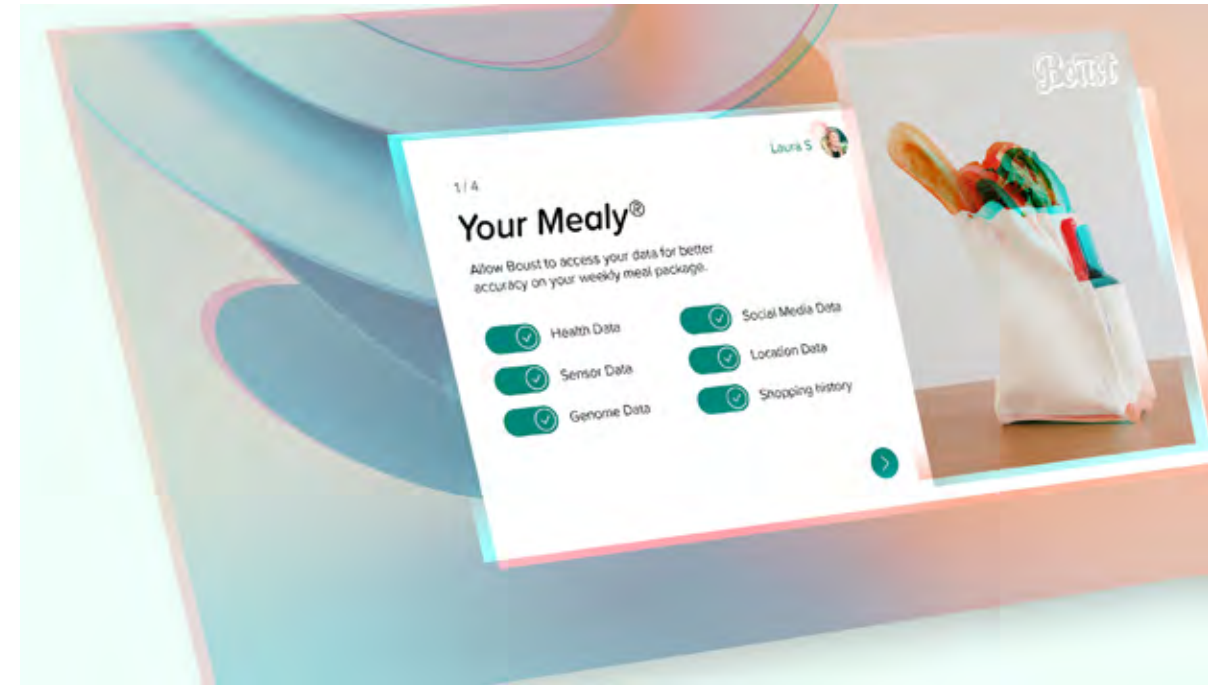
As a person interested in business and technology development, I've paid close attention to the changes in the European retail industry. The first time I heard about the small Estonian company called Boust was about seven years ago. They were not interested in shopkeeping but focused on getting groceries to people ASAP. They came to our markets, building a network of warehouses, communal fridge hubs and robotic delivery systems, trying to crack the problem of last-mile delivery in cities. At first, their app was quite crappy, with a minimal product selection, but the service was a hit. It became pretty apparent that many of us would select a limited weekly delivery that we could pick up from the downstairs fridge in our apartment building rather than spend even half an hour choosing stuff online. ☛

Boust is now huge. It delivers food in 31 countries with 75 million customers. It uses local supplier platforms to connect with manufacturers and has an excellent overview of how people's tastes and preferences change in different cultures and subcultures. It was a big decision for me to trust Boust with my data, and I'm still not sure about it. I just got tired of managing my diet and health issues alone and decided to take the easy option, for once. In a way, I'm glad the Netflix of groceries came from Estonia, not the tech giants of the 2020s.

So what about my health, you might ask. I'm better, thank you. I'm on a FemiDiet version tailored for breast cancer survivors. I get a reduction from my health insurance because my diet keeps me healthy. I don't like cooking for myself, so I order a lot of ghost kitchen food. As a child, I wouldn't have guessed that vegetarian food could be this tasty and fresh. Come to think of it; I think I deserve some cake to boost my metabolism! If I order now, it'll be here in 10 minutes. ∎

Consumers

Consumers have gone all-in with data-driven personalised services. The widespread use of groceries-as-a-service is based on measurable personal health and well-being benefits for users. In addition to shopping data, the service can connect sensor, medical, genome, social media and location data to build a personalised grocery package. Shopping data is used to analyse consumption patterns (historical data) and brand preferences, whereas other data sources are essential for understanding the consumers´ general health, activities and lifestyle. Each household member can also provide the service with input about their food preferences and values: plant-based, ecological, wholesome, home-cooked, weight loss, bodybuilding, etc. It helps them reach important life goals.

In the scenario, data access authorisation is based on the MyData -approach, so we are not dealing with a dystopia here. The user makes an informed decision to trust the systems and permits each individual data stream for use in the service. There are, however, obvious risks for consumers. When they, for instance, receive reductions on their insurance fees based on diet, can they change their diet again without direct financial consequences?

Retailers

In this scenario, we play with the idea of an agile and disruptive new player entering the playground. We introduce an imaginary startup from Estonia that has disrupted retail by focusing on a punctual delivery of groceries-as-a-service to keep the household running for a week. The "Netflix of groceries" entered the field with a delivery-first approach, trusting that the customers will value quick delivery of a smaller set of products over a clumsier process with a large and varied product base. The development of the subscription model, concept, and logistics chain innovations were backed up with sizable investments. Local retail operators faced a choice: fight back and develop similar services or partner up with the newcomer. For both strategies, the best asset would have been well-organized data on local brands, logistics chains, customer segments and consumption patterns. Building a solid data strategy and model for monetising data helps companies succeed in the race. One thing is sure: there is a whole new market for data-inspired services, collecting, managing and massaging the data into a format that allows the creation of highly personalised services.

Brands

Product and service innovations are data-inspired and enhanced with machine learning. Our character, Laura, has suffered breast cancer and has a customised FemiDiet -subscription, based on her health status. The package is also built based on the newest medical insights and the general preferences of people with similar backgrounds. Although this service is tailor-made for people with a female hormonal profile, the packaging is gender-neutral and discreet. Brands no longer base their customer approach on age-old cultural tropes, such as ideas about "feminine", "masculine", "young", or "mature".

Brands no longer can afford to only compete with each other. They have become cogs in bigger systems geared to help customers reach their goals and ideas of a good lifestyle. To do this, brands have to co-create and collaborate across product categories. Products are connectible modules, and their packages provide information about the systems they belong to. Data is used to tailor offerings for overlooked customer needs or trending life philosophies.

Logistics

Handling last-mile delivery is widely considered the key to winning the hearts and minds of consumers. Boust has managed to create clever solutions for urban settings to get the groceries to the customer during the same day – or even in a couple of hours. The solution combines smart warehouses, AI aided robotics, and collaboration with construction companies to push new infrastructure, such as smart fridge hubs and railings for robots of food elevators. Humans are needed throughout the logistics chain. Crowdsourcing non-professional couriers is a must in areas where the infrastructure does not allow hi-tech solutions.

Agility turns into customer loyalty, further solidified by offering effortless subscription-based services. Subscription data gives Boust a lot of visibility into and control of their logistics. Boust may know exactly what needs to be delivered and where next Christmas, though issues with product availability and customers changing their minds will interfere. Boust fights back by improving the collaboration between data ecosystem partners and offering the whole ecosystem transparency into their actions.

Key technologies

In this story, we have progressed from collecting data from various data points and associated apps to connected data, i.e. combining several service modules that contain different data. Social media, shopping and location data, connected sensor and wearables-generated data, medical data, or even genome data can all be a part of a food-as-a-service solution.

Partnerships must be created faster than ever, so companies' systems must share and digest information faster than ever. The number of partners might skyrocket and systems must adapt. To be seen as valuable partners, players central to the whole ecosystem must prepare to share the data they collect in a usable format. In practice, this means data platforms that can collect, digest and share data in an accessible format, e.g. dashboards, APIs or batches.

We'll likely see significant breakthroughs in health data analysis. Algorithms are being perfected, and Laura's data can be interpreted or combined in previously unavailable ways. It is critical to ensure that this sensitive personal data is appropriately handled and cannot be leveraged in malicious ways. Laura needs to feel that she has control of her data with the help of GDPR, MyData and self-sovereign identity. Sharing data is also a business-critical component.

To come first in the last-mile delivery game, both the physical and digital delivery infrastructure need to be top-notch – from delivery robots, storage and app end-user experience to concepts like supply chain optimisation, transparency and data partnerships.

In addition to the last-mile delivery hardware and software, the increased amount of data collected requires further development of edge computing solutions so that more of the processing happens in the device and less raw data is distributed over the network. To save costs, only the most relevant data is sent to the cloud for processing. Other benefits include decreased dependency on network connections and lower latency.

Technological enablers

- Connected sensors
- Data platforms
- Machine learning
- Zero trust architecture
- Self-sovereign identity

Winning strategies and risks

It has been said that getting last-mile delivery right is the key to success in retail in the 2020s. For this reason, our story revolves around a player who has managed to restructure retail starting with logistics. But the winner in this scenario has accomplished so much more - to get people to trust them with their data and create customised grocery subscriptions based on that trust. This has led to highly predictable and manageable operations for the whole value chain. To make this scenario work, you need a platform that combines data from local supply chains, subscriptions management and delivery tier into a highly usable whole. The capabilities of combining and distributing data are crucial for obtaining maximum value and making fast decisions. No matter who aims to disrupt the market, they would have to create middleware for collecting, digesting, and sharing data first and come up with business models for all partners.

Top 5 trends supporting this scenario

Single households

Health and beauty optimisation

Last-mile delivery

Groceries-as-a-service

Data sovereignty

SCENARIO 3

Managing a politically polarised consumer base

SCENARIO 3

Do you see yourself going all political over food? In this scenario, players in the retail industry have to carefully navigate a landscape of heated opinions and polarised value systems.

Hi, my name is Maija-Liisa. I live in Eastern Finland with my two cows and boyfriend, Aapo. I'm 65, and Aapo is two years younger. I work as a nurse giving remote consultations and like to visit the gym twice a week. Aapo manages a construction site remotely and goes to the pub to play darts. We always imagined we would feel pretty tired and worn at this point in our lives, but thanks to proper food and exercise, we are doing well.

Meet Maija-Liisa

Our cows do not have a website like many other cows. People want to understand where their milk, meat and eggs come from – if they even dare eat them during this climate crisis. I'm always telling my kids that they can always move here, to Joroinen, if it gets too restless in the city, but they say, "no thanks, mom, I'm 45, and I don't want to live with my parents".

If somebody had described society as it is today to me ten years ago, I wouldn't have believed them. It's not that we don't have resources - it's just that we are panicking over the strange weather, throwing stones at each other for our lifestyle choices and are generally grumpy and ready to fight. There are food panics, where a product or how it is made is picked up and criticised for its water footprint, climate impact, tone-deaf branding or other controversies. Or just because people think that it causes asthma, autism, Alzheimers, alopecia... well, you get the picture. ☜

SCENARIO 3

Eating has become political. Many other necessities have, too. As people became used to quasi-meats, there was no longer a need to kill farm animals. But we still do. The youth organisation of one of our political parties uses the age-old metaphor of sharp fangs to represent masculinity, power and our alpha-predator status in nature. They are surprisingly popular. I guess the majority of people are now fighting over eggs. Eggs seem to be a political watershed. I do love eggs.
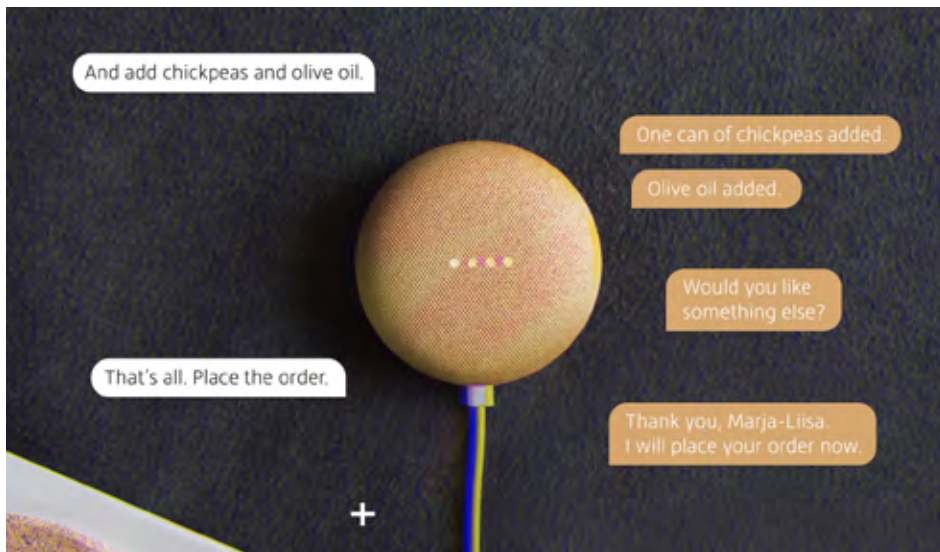
So how do I and Aapo shop? Just like most people, we order our groceries online using voice UI. We talk to our devices about what we need and most often skip the annoying questions about the brands we prefer. I have some products that I need to have from a specific brand – my coffee and my hand lotion – but for other groceries, I'm happy to go with the mid-price default brand the service suggests. Looking at how controversial eating can be, I'm surprised at how many people go with the suggested products. Default products offer good value for money, and I get to skip the process of pondering which low-fat milk, oat cereals, salad or meatless sausages I should choose. If I wanted to, I could check the route of each product from the very beginning to my home, but I have never done that. If the origins weren't in order, it would be noticed. In case you wondered, we don't milk our cows but keep them for company. They burp a lot, which is not good for the environment, so let's keep this between us. ■

Consumers

Worsening climate change and other distressing environmental phenomena have caused a feeling of panic in society and pitted consumers against each other. There is a great deal of hostility between environmentalists and traditionalists. Environmentalists have been able to push plant-based options and cruelty-free eating, which has caused a political backlash from people who want things to go on as they always have. It's likely that the divide is related to deeply felt values rather than the spending power of the consumers. The growing demand for sustainable options has brought the prices of flex meat and other more sustainable products down.

It is also said that many customers are happy with store suggestions for what to buy. This could be an outcome from moving to voice UIs in shopping, but also because consumers are glad to get rid of the tensions and cognitive load of trying to select products that tick all the right boxes in all areas.

Retailers

In this world, retail industry players have to manage somehow the widening gaps between various politicised and polarised consumer bases. Online shopping makes it easier to keep the audiences physically separate. Store spaces could have seen demonstrations, confrontations and even fistfights between radicalised consumers. Shopping has gone online and is assisted by voice UI. Voice UI as technology has given the retailers a chance to push their selection of default products, and they now seem to have greater power to restructure demand. The risks, however, are high. People ask retail companies hard questions about their stance in the great divide, and they have to stand behind each default product. The retail industry has established new roles, such as content creators able to tailor diverse and inclusive politically correct ads and messages. Consumers spot greenwashing right away, which often leads to boycotts of entire brands.

Brands

Brands have become tokens, and in a way, hostages in a political struggle between traditionalists and environmentalists. There are risks in trying to cater to both sides of the political field, and some brands manage it better than others. Product panics are common. False information can be reduced by algorithmic analysis on social media, but the willingness to believe odd stories is very deep-rooted in humans. Broad use of voice UI has resulted in new business models related to the idea of a "default product". People receive small benefits by settling for the midprice, good value-for-money and end-to-end traceable products pre-selected by the retailer. Selecting default products frees consumers of the cognitive load of decision-making and increases earnings for the retailer. The default brand could be an in-house brand or the brand willing to pay the most for its default status. In this scenario, brands would most likely build their own channels for selling directly to specific consumer bases.

Logistics

Consumers speak their orders to mobile phones, wearables, home voice assistants, cars or smart fridges. They pick up their orders from the store or get them delivered at home. A part of the population displays their values and politics openly and with pride through their consumer choices, and others want to keep such information private. Data related to purchases and deliveries has become even more sensitive. Discretion is required to keep the customers' business private, leading to some products being delivered in non-descriptive packages.

In this future world, sparsely populated areas also enjoy a working solution for last-mile delivery. Home delivery service is provided mainly by trusted retailers. In some cases, retailers have partnered up with local healthcare authorities and social services, who are delivering the goods. Groceries-with-care services have grown in popularity, especially in the countryside where distances can be long.

Key technologies

When consumption becomes politicised, designing and building secure and robust systems to create value chains that deliver food on our plates is more critical than ever. The grocery industry plays a significant role in making citizens feel safe in society and could easily become a key target for bad actors who want to shake its foundations.

It is not all doom and gloom, though. Technology has helped make food production and value chains more sustainable and transparent. Technology enables the scaling of traceable origins, authenticity and sustainability via blockchain or other secure-by-design methods.

Data-driven platforms and social media require a better understanding and leveraging of value chain data to enable users to make more informed decisions about their consumer habits. Companies must be able to provide new and unbiased information about products to consumers when they want it. Data platforms need to be able to cater to growing needs and flexibility requirements.

Voice assistants provide a key endpoint for shopping for food online. Thanks to their general ease-of-use, voice UIs are becoming more commonplace. But issues remain, including privacy, and voice UI is not a usability silver bullet for. It also places new kinds of demands on the products being sold since a visible representation of the product is not necessarily present in the interaction. What makes a service stand out are the sophisticated, connected data systems under the hood. In addition to providing an optimised, secure and effortless shopping experience, services must be able to mine vast amounts of customer data to create accurate recommendations and consumer profiles for the default product paradigm to work.

Technological enablers

• Data platforms
• Blockchain
• Machine learning
• Voice UI

Winning strategies and risks

In this scenario, brands need to be savvy in messaging, action and "supply chain aesthetics". However, customers' trust could be lost overnight as there are a lot of impulses and misinformation disturbing consuming patterns. In the story, online stores with voice assisting technologies make brands compete over and pay for their default status. It's unlikely that brands would settle for this arrangement. They would attempt to reach consumers directly, especially if they have a clear audience politically inclined to buy their products. Whoever builds the most robust and secure systems and best end-to-end visibility over the supply chains in this volatile environment is the most likely winner. Transparent systems may make the brand feel neutral, attracting even more trust.

Top 5 trends supporting this scenario

Groceries as politics

Voice shopping

Circular design

Flawless supply chains

Groceries with care

Restructuring services through digital twins

SCENARIO 4

Do you have a digital twin? Me, too. Scenario 4 is a world where a digital replica of everything exists, and all significant changes can be tried out virtually before their implementation.

Hi, my name is Omppu. Ever since I was a child, I've loved digital twins. I loved the 1:1 version of the world they built in Minecraft. I adored SIMS 6, where I could create a SIM based on my social media feeds and see how it behaves based on an analysis of my postings. I also like to watch movies with me starring as the lead character and order shampoos branded with my name and face. I just find it all very entertaining.

Meet Omppu

I work as a data scientist/post-doctoral researcher in a project making a digital twin of a brand experience centre. My work is almost too overwhelming but very satisfying. I analyse and reformulate the flow of materials and where people direct their attention. The amount of data we deal with is incredible. When my people tease me, saying that I enjoy playing god, I tell them that I feel insignificant compared to the masses of data I face. I also get a lot of questions about face recognition, hinting that I can tell if their girlfriend went shopping for cosmetics in town last Saturday. No matter how specific I try to be about our approach to digital twins as ethical twins, people don't believe me. I talk about data masking and video blurring, but they're not convinced. I have no access to real-life identities, only to the replicas of their consuming bodies. To the untrained, it all seems the same. "Keep your hat white", they say. "Don't go evil on us." ➤

SCENARIO 4

Building a virtual duplicate is expensive, but we have also gained savings by providing customers with better service, managing energy consumption and waste, improving mobility and infrastructure. I know my shopping mall through and through and in a way, when you play with it, it's a bit like SIMS. I know the materials, I know what maintenance it needs… I know its customer segments and the number of platinum customers in our online store at any given time. I know the water footprints of individual products and their lifecycle from design to recycling. I see our combined inventory and can track the logistical route of each item. I can calculate the monetary, ecological and customer satisfaction effects of most potential changes.

Name Anna Jay // Age 38 // Gender Female // Occupation HR manager // Location Shelstedt // Education level Master's Degree // Income level 55 900 // Relationship status Married // Household size 5 // Main decision-maker in household No // Preferred channel Online // Average consumption on groceries per month 590 // Allergies nut, fish // Health risks None // Shopping history Available //

One thing I love about my work is that despite all this, we still can't prepare for everything. I don't know about you guys, but to me, it is a great relief. Like last year, when people worked up huge crushes on products like Vilao buttermilk shampoo, Interblossom rose petal flour or the hair-loss reducing Anthrofix water, we saw on social media that demand will skyrocket but could do little to accommodate it. The same goes for product panics. Last holiday season, the sales of a well-known washing powder fell 42% because people were convinced that it contained

Chinese nanosensors for tracking people. Funnily enough, when I walked to a 24/7 shop for my late-night snack, my Face did not work, and I had to use my card for paying. As stupid as it was, I thought - yes, I know, it's the washing powder on my hoodie, it's killing the circuit, this is the end. I think my reaction was very telling. When you are dealing with systems inside systems that are inside a system, you can be quite sure that there are even more meta-level systems above that you have no idea about. ■

Consumers

In this world, there is a digital twin of every consumer. Some of the twins are very close to perfect, as the persons themselves are cultivating them purposefully, feeding them through sensors and live connections. People do this to run tests and try different scenarios on themselves: playing with appearances, dietary changes, and use of time and money. Some citizens would not even want to have a digital twin but cannot escape different public and private organisations making replicas for better planning and optimisation of services. This creates a tension where free will and systemic control have penetrated all conversations, culture and politics. Omppu talks about Digital twins as Ethical twins, which refers to fair and transparent use of data. People get scared easily, as innocent glitches can make them suspect the benevolence of the system. In the story, Omppu has to clear off such suspicions to his peers, but at the same time, he needs assurance himself.

Retailers

All retailers have digital twins of their customer base and can run tests and simulations that show how their customer segments would behave in different scenarios. They are also reaching for the perfect control of their facilities, processes, and products through simulations and virtual testing. Omppu is not building digital twins to have cool interfaces. He is just trying to manage a massive amount of big data that is growing every minute and massaging it into a form that is understandable, workable and connectable. The push comes from the sheer amount of data, the pull from the opportunity to gain predictability, adaptability, optimisation and personalisation – i.e., more efficient business models for basically all parts of the ecosystem. Full potential can only be reached with data partnerships. The sharing and openness in the retail ecosystem allow Omppu to build meta-level structures to analyse and optimise the value creation network in a systematic way.

Brands

Companies have collected customer data to gain insights on the kinds of products and services the customers might enjoy, value and buy almost as long as there has been commerce. In a sense, the digital twin as a concept is just an enhancement to this tradition. With digital twins, we have brought real-time data to a format that simulates how different customer segments would react to different brand strategies, narratives, or product lines. Behavioural modelling is essential to brands as their value is directly linked to the intangible and sometimes almost magical qualities people attach to them. However, the story implies that these processes can't, after all, be controlled because consumers disseminate stories very efficiently through digital channels and change their minds about products overnight. If the human-brand relationship stays enigmatic, digital twins will provide some control over supply chains, manufacturing processes and maintenance of the facilities. They can be convenient in change management.

Logistics

Logistics companies have been forerunners in using sensory technologies, IoT and AI to optimise packaging, shipping, warehousing and last-mile delivery of goods processes. Omppu's digital twin of a brand experience centre has a real-time connection to a multitude of other digital twins inside and outside the centre. Digital twins of the products tell where they are, what or who is handling them and where they are on their way. Through their twins, the products indicate if they are approaching their expiry date or are broken. Omppu sees if a customer has picked one off the shelf and is leaving the physical store, using facial recognition to pay for it. In the larger scheme of things, the systemic orchestration of the multi-stakeholder logistics environment, with various systems for inventory management, cargo handling between ships, cranes, trucks and planes, order and information systems, as well as workforce needed in all parts of the value chain, is a big deal – both from the economic and environmental point of view. A digital twin can be a valuable paradigm to help reach sustainability goals in logistics.

Key technologies

People are a collection of their digital twins – not one, but many smaller ones: one for personal data, one for health data, one for purchase data, and another for gaming data, etc. The twins interact seamlessly with each other based on the privileges provided by the real person. Despite the fact that digital twins interact with each other and create a holistic picture of their source, it is highly unlikely that one entity would own the whole digital twin for a person - there will be privacy concerns and questions around ownership to be solved.

Creating and maintaining digital twins requires collecting and processing data on the real-life counterpart. Building efficient digital ecosystems that support various digital twins of grocery stores or the people who frequent them is no easy feat. There are countless hardware and software-related questions to answer, including "what ways of collecting data are available?", "how is the data analysed?", etc.

The more data is collected and analysed, the more raw computing power and physical storage is required to enable sophisticated simulation and prediction. Some of that computing is done on the edge and IoT devices and interconnected sensors that help collect and analyse the data. They will continue to grow more capable.

Data analysis and organisation methods will continue to evolve. In addition to the ownership of digital twin data, the consumer perspective must always include privacy and security - especially with solutions such as face recognition. And the data needs to be verifiable.

Developing digital twins is not cheap, and the story tells us that the return on investment (ROI) is expected in due time. It is likely that Omppu, as a postdoctoral researcher, is creating more of an approach than a bespoke system. With shared data structures and standardised ways of sharing and storing data, creating a digital twin of a singular entity or even an IoT system is relatively easy. Omppu is trying to establish fundamentally different kinds of processes that create various forms of data that then interact with each other - a task that requires outside help in the form of standardisations and shared data management rules. In large quantities of data, data science also helps detect things that humans miss. The EU is currently trying to create tools to help businesses collaborate and create new kinds of business models.

Technological enablers

- Digital twins
- Edge computing
- IoT devices
- Interconnected sensors
- Face recognition

Winning strategies and risks

If Omppu gets his project documented and his dissertation done, he wins. The investments in digital twins are likely to pay off, and we will probably witness something like this scenario over the next decade. The world portrayed in this story allows a considerable degree of surveillance and segmentation of the population. It is our duty to keep the most Orwellian impulses of our societies at bay: be vigilant with privacy issues and always produce an unbiased analysis of what the data is being used for. Cases where user privacy is maintained and the user gains added value simultaneously are winners.

Top 5 trends supporting this scenario

Digital Twins

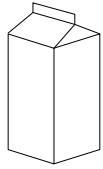High-value customers

Frictionless payments

Water footprint calculations

Data sovereignty

Trends

Welcome to explore 23 political, economical, societal, legal, technology and environmental trends which are driving the change of how shopping is going to be in 2030. These trends explore the drivers of change behind our 4 scenarios from the customer perspective as well as retailer and suppliers.

Single households

Single households are here to stay. The traditional "plan" for a good life is changing, as young consumers turn critical towards the narrative of adulthood as a time of working hard to sustain a family. Singles might identify themselves as asexuals, orient their romantic feelings into cultural products, value platonic love or prefer polyamory over monogamous relationships. On top of that, a growing senior population is living alone and they are not your stereotypical grandparents either – 70 is the new 50. People in their third age have resources, free time and a growing need for new kinds of products, services and experiences. It is time to meet consumers as diverse individuals, not as members of your average family.

NEXT STEPS IN SINGLE HOUSEHOLDS

The growing purchase power of single people will transform the housing, hospitality, entertainment and retail industries. Singles could be buying for 1 , 2, 3 or 15 – only for themselves, but at times for their kids, extended family or peer group. They will most definitely be annoyed by normative assumptions about their societal patterns and turn their backs on simplistic brands. Annual marketing plans and holiday season messaging needs to be revised to celebrate the joys of singledom.

OPPORTUNITIES FOR RETAIL OPERATORS

- Ideate new products and services around food, wellness, health, home deliveries etc. with single households in mind
- Rethink luxury services and "bubbles and roses" to fit the needs of a health-conscious singles.
- Be prepared to transform your holiday messaging and ideate campaigns and sales events for different kinds of needs

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DRIVERS OF CHANGE

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Gen Z power

Generation Z, young people between the ages of 15–25, are globally the biggest consumer group since 2020 (40% of consumers). They are also considered more ecological and ethical as consumers than older generations. In declining European populations they are also valued just for being young. On top of their personal purchase power and special relationship to affluent Gen X, they have almost innate digital capabilities. The rest of us have to follow them to grasp the forms, genres and subcultures of the future.

Teenage social media stars with huge follower bases have the kind of commercial power businesses simply cannot overlook. Most members of Gen Z follow influencers - Youtube preferred - and trust them over celebrities. The most followed influencers are peers of their age. They don't need face-to-face relationships to feel connected with someone. They are incredibly collaborative, managing their interactions preferably privately through snapping, memes and private conversations.

Studies show that Zoomers are willing to rebuild society from the ground up. They are stubborn about their ideas regarding diversity, inclusivity and ethical consumption in a way that has driven the body politic to listen to their views.

NEXT STEPS IN GEN Z POWER

Retailers must build a mobile first approach to branding and marketing. Transparency and sustainable consumption should be central to everything. Social media and influencers as a sales channel should be studied and utilised. Branding should take into account the changing narratives of adulthood and gender-neutrality should be studied in product design.

OPPORTUNITIES FOR RETAIL OPERATORS

- Partner up with young influencers, build effective campaigns and learn from their target audience
- Utilize the power of nano- and micro-influencers, there is an audience for every product

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DRIVERS OF CHANGE

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Safe shopping

For retailers, the global pandemic created an impetus to invest big on their online shopping platforms. Some businesses have gone digital first or even digital only. Many continue to develop their hybrid retail models where the shopping experience flows seamlessly between the digital and the real. Hybrid retail is all about flexibility. It allows consumers to get informed service when they want to visit physical shops, or just use stores as a pick-up points in times of pandemic outbreaks. Health security procedures will remain a permanent part of the in-store shopping experience. Layouts, ventilation systems and people flows will be designed to serve new hygiene-conscious customers. The touchless economy will bloom. Health-security has a profound effect on product design. New products will help keep ourselves virus-free and provide spa, gym and restaurant level utilities at home.

NEXT STEPS IN SAFE SHOPPING

From retail to public transportation and placements of gym lockers, people seek more health-secured ways to exercise, shop and travel. Stores are used largely pick-up points for online orders. People want to go there whenever they want and whatever time they want - safely. New booking systems, and hybrid models are needed.

OPPORTUNITIES FOR RETAIL OPERATORS

- Design digital-first in mind. Think of every action, from trying out makeup on to fitting clothes, and make it digital first.
- Keep hygienic factors in mind. Ideate new ways of using space, with a special focus on people flows.
- Innovate new products and services that help the conscious consumer navigate an era of uncertainty
- Utilize the power of pop-ups in large, extremely modular and modifiable spaces

DRIVERS OF CHANGE

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Health and beauty optimization

The healthy lifestyle trend continues. Mobile devices are important tools for personal healthcare and self-help. The surge of mobile apps that help users stay young and vital, manage medical conditions, optimize beauty routines as well as achieve set goals in sports and mindfulness will continue. Helping us redesign the way we consume, based on the data collected from our always-on wearables and laboratories-in-pocket is a natural next step. We need services that smooth our health journey by selling us groceries we need to get better. Personalized packages of food, cosmetics, apparels, devices and services to help consumers attain their goals will be offered. Data breaches and careless use of data could enforce a counter-trend, where customers could become critical about creative data combinations and deep AI analysis.

models. Building commercial offerings on the MyData philosophy is wise, because customers will want to select and, at times, switch ecosystem they share data on. At some point they could be backed-up by legislation.

OPPORTUNITIES FOR RETAIL OPERATORS

- Build goal-oriented products and services and focus on accurate recommendations and service packages
- Investigate potential partnerships to build data ecosystems and new kinds of business models.

NEXT STEPS IN HEALTH AND BEAUTY OPTIMIZATION

The winners will be businesses that are able to help customers optimize their spending habits to reach their lifestyle goals. Most often this requires building up new ecosystems and partnerships as well as new business

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DRIVERS OF CHANGE

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Prepping aesthetics

Disaster prepping used to be considered a tin-foil-hat activity and done in secret. Pandemics and extreme weather conditions have made it natural to have an emergency storage of necessities and even normalized the hoarding of key products. The need to prepare for hardships will gradually reform home floor plans, as big refrigerators, pantries, wine cellars and breakfast cabinets take up space. We want our houses fully equipped. We continue to prep our bathroom to resemble a spa, stock our kitchen with restaurant-grade utilities, fix the bedroom to be as comfortable as a hotel room and try to fit a small gym somewhere in the mix. All this preparedness indicates a society that is ready to stay indoors and able to skip the buzz of consuming in social contexts at will. When spaces for extra products have been arranged in households, sharing them with your neighbours and peers in times of need becomes an interesting option. Residential shops or private homes as product hubs for the neighbourhood are an interesting signal to follow up.

NEXT STEPS IN PREPPING AESTHETICS

Prepping for lockdowns, quarantine and other possible isolation periods could continue. People might want to buy basic products in larger quantities to have their shelfs at home reassuringly full to create a sense of security. People are also strengthening their relationships to local suppliers and producers to bypass stores. This trend could result in private homes as pick-up points to help the local dealer and home residential shops/hubs.

OPPORTUNITIES FOR RETAIL OPERATORS

- Focus on multipurpose products and create new product bundles that make sense in the case of emergency
- Provide convenient home delivery of larger prepping packages. Think about the last mile delivery.

DRIVERS OF CHANGE

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Sober curious

Many of us avoid alcohol for health or other personal reasons. This cultural trend is also about investigating about the role alcohol and other intoxicants play in our societies. On a personal level, we might be curious about our own need to get drunk, and to see what kinds of emotions are buried under this behavior. Or, as in many cases, those emotions can be better managed with other chemicals and intoxicants than alcohol. This change is putting retail industry in an interesting situation. Aisles that are now reserved for beers and soft alcoholic drinks could in the future be filled with other kinds of liquids. People definitely want to drink - they want their kombucha, their green tea, their tea bubbled, their yoghurt drinkable... Drinking liquids is still connected to a quest for potent experiences: being relaxed, energized, beautiful, focused, or connected to various kinds of histories, cultures and traditions.

NEXT STEPS IN SOBER CURIOUS

The consumption of non-alcoholic drinks is growing and big new product categories could emerge virtually overnight. Mocktails, wine-inspired cordials, alcohol-free wines and botanical tinctures have a growing fanbase. In this sphere, branding is everything. The aesthetics of what is consumed, how it looks and what it promises, are increasingly important. It's also advisable to keep an eye on what happens with other intoxicants and the way they are worked into our diets and fulfill our need for relaxation. Eco-friendly bottles, boxes and packages seal the deal.

OPPORTUNITIES FOR RETAIL OPERATORS

- Innovate new products and services with a health approach in mind
- Think over industry silos: Health, beauty and food & beverages collide to offer new cross-industry opportunities

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DRIVERS OF CHANGE

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Groceries as politics

What we consume and especially what we eat has become a divisive political topic. Many see consuming as a more important way of changing the world than voting. Vegetarianism and veganism are ways of promoting animal rights, but also acts against climate change. Similarly, meat, milk, butter and cotton are the cornerstones of conservative lifestyle and a desire for life to continue as is – or even going back to "the good old times". Product boycotts are common weapons against many kinds of harmful practices against workers, communities, ecosystems, and consumers' health or identity. In this situation, the retail industry and manufacturers cannot overlook the need of the people to identify through their consumption. Future consumers will expect their shopping to be meaningful and constructive when thinking of the kind of society they want to promote. They will expect retail industry to serve their individual diets and answer their ethical needs.

and detailed information on ingredients, origins and the impacts of the product. That is why buying directly from the producer or through a very short supply chain will be tempting in the future. Consumers will turn away from brands, products and stores that have normative assumptions about who they are. More and more consumers will be willing to pay extra to be approached cleverly or given an opportunity to have a positive societal impact.

OPPORTUNITIES FOR RETAIL OPERATORS

- Be transparent and open about the products, ingredients and how they are made and distributed.
- Be mindful about the marketing messages: consumers will want to know about real actions and facts over green washing and brand polishing.

NEXT STEPS IN GROCERIES AS POLITICS

Consumers will want to understand how their consumption contributes to the things they believe in. They will need more accurate, transparent

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DRIVERS OF CHANGE

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IRL shopping

According to Walmart, Best Buy and various statistics, ordering online has become the new normal. Many believe that pick-up centers are all that is needed, but there are more interesting futures ahead for in-real-life shopping. Stores continue to offer an important platform for everyday conviviality and togetherness, just with fewer frustrating steps. Seamless shopping from digital to real means that service can be informed and personalized. We will still visit shops in search of random chats, smells and sounds, and just to experience the shelf full of jams first hand. However, when we want to find that special product, we get immediate digital guidance and can leave with the product without waiting in line or card waving.

NEXT STEPS IN IRL SHOPPING

The shop is an optimal place to wait for our electric car to charge and many will want to pick-up deliveries personally for lower cost. The layout and navigation of a supermarket will be influenced by the way digital experiences are designed. Expect more communal favorites, peer-to-peer

recommendations and personalized marketing in the physical marketplace. Stores will also function as entertainment hubs, where people can experience key brands in person. Digital apps will be more connected with the physical space, bridging the customer journey between online and offline. Walk-in-walk-out (WIWO) technologies will become more common, as a touchless economy becomes more widespread. Live streaming from shops and shopping events will cater to different kinds of audiences.

OPPORTUNITIES FOR RETAIL OPERATORS

- Automate commerce - build health-secure WIWO stores
- Rethink consumers as an audience - Do live commerce - Use the store as a hub for information and entertainment
- Build new partnerships that combine digital and physical - sell online, provide offline pick up services in store

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DRIVERS OF CHANGE

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Groceries-as-a-service

We have gotten used to the idea of being able to order everything as a service for a regular monthly fee. It is likely that this will happen to food and groceries, too. Based on our accumulated shopping data, predictive algorithms can automatically construct weekly grocery packages. With some additional information on the needs and likes of household members, the service is set to go. Groceries-as-a-service would take care into consideration, consider our changing appetites during different seasons and know exactly what we want to serve our guests during holidays. Family birthdays and other user-specific occasions are easy to add to the groceries-as-a-service programme. Subscribers could allow the use of their health data to get the service support them with lifestyle changes and help consume in a way more in line with their value system. For the retailer it would make sense to be generous and flexible with the package, as it provides very steady income and offers great visibility on demand.

NEXT STEPS IN GROCERIES-AS-A-SERVICE

It's thrilling to think of grocery bags as something that could be ordered as a data-based service. It could be a major customer experience breakthrough. Anticipatory systems that already know what the consumer needs would be the starting point of a next-level membership or loyalty program, leading to new kinds of partnerships, business and pricing models.

OPPORTUNITIES FOR RETAIL OPERATORS

- Design product and service packages for various different types of households and household sizes.
- Ideate around the maturity level of the meal, what items customers consume as such, what are they willing to cook themselves
- Help your customers optimise their consumption and reduce waste.

DRIVERS OF CHANGE

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Voice shopping

The use of voice-based user interfaces in grocery shopping could increase in the near future. Speaking one's commands is a very different experience from seeing and tapping objects on a screen. Voice is linear and time-based. If you know exactly what you want, voice UI can be as quick as a thought, and when it matures, it becomes more frictionless. Making choices from a list is less so. Listening to a machine voice going through the items of a product category is simply not fun. Herein lies an opportunity. If a customer wants to be specific about the product they want, there are no problems - the voice UI delivers exactly that. It can, however, be just as quick when the customer doesn't have a clear brand preference – if they are willing to let the algorithm decide. In this case the customer would get the product that is most convenient and cheap for the retailer to deliver, or the product that the retailer is promoting as a "default product". This spot would be on sale much like shelf space in the shop or a campaign highlight spot in a web store. Customers that are willing to settle with the recommended "default product" should be offered savings in return for their flexibility.

NEXT STEPS IN VOICE SHOPPING

Voice UIs will only find their place if they are super simple and reliable. Brands will most likely have to compete for the status of "the default product". The marketplace can also choose to prioritize their inhouse products or use AI to calculate the current best price for them. All this could lead to brands finding direct routes to customers. Close collaboration and openness is needed between retailers and manufacturers.

OPPORTUNITIES FOR RETAIL OPERATORS

- For brands: Establish a marketplace or join one
- Engage your customers and think about the whole experience: transparency, brand values, social impact, other value in exchange
- Optimise the service for the customer but provide a way to give a feedback - let your service learn from customers.

DRIVERS OF CHANGE

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Last mile delivery

Last mile delivery is considered the most important factor of making it in e-commerce and there is no one-size-fits-all solution. Densely populated urban areas can approach the challenge as a part of smart city development and reconstruction. They can create warehousing systems, locker hubs, common fridges, smart elevators and courier robots. In rural areas with long distances and poor infrastructure, we need very different kinds of solutions: robust autonomous vans, drones and their support systems, etc. The cellular connectivity and battery duration of vehicles are still main obstacles for getting the last mile right. It is also likely that all scenarios will involve a human workforce that will need to find the work meaningful and financially feasible.

Although we can imagine the parts of the solutions, many details need to be designed. How to get automated vehicles and robots to deliver groceries as close to home as possible? How to keep the cold chain intact? How to recharge batteries in rural settings? How to create a livelihood for people needed as a part of the delivery chain? Which business models will survive: those of the retail companies, courier managers or technology companies? What will premium services look like?

NEXT STEPS IN LAST MILE DELIVERY

Customers want their products ASAP. The logistics game is more and more a network-of-networks game - best courier managers (Uber, Wolt, Zalando, etc.) and/or technology companies (independent trucking, drones) will prevail. Current incumbents (Posti, DHL, FedEx) will have a hard time staying relevant.

OPPORTUNITIES FOR RETAIL OPERATORS

- Build new ecosystems and partnerships to provide a holistic customer experience
- Build new business models and consider how might all the ecosystem partners get the best out of the collaboration.

DRIVERS OF CHANGE

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Social commerce

We are in the middle of a social commerce revolution, and social commerce is expected to rise by 30% in the next four years. The increasing demand is based on the convenience of shopping. Contributing factors include: social media as an ideal place to closely follow how others consume, which feeds both the need to belong, and more negative feelings of envy and fear of missing out; the masters of addictive user flows – Facebook, Instagram, Pinterest and TikTok – have created almost frictionless transactions; and brands collaborate with armies on nano and micro influencers, social media stars and celebrities to guide our attention. Orchestrating the influencer collaborations will call for new kinds of (AI-assisted) tools. However, the influencers will be compromised and lose their market value if they cannot act freely and use their original ways of telling stories to their followers. Agile small brands often manage this better than older and more established houses, so we may see disruption in many product areas.

NEXT STEPS IN SOCIAL COMMERCE

When you see your peer cook something exciting in their social media stream, you should be able to add the needed ingredients to your grocery delivery with a single click. Buy the headphones your favorite soap opera character wears directly via a streaming service. Everything will become instantaneous and quick. This is a huge opportunity to for smaller brands and a massive one for big companies.

OPPORTUNITIES FOR RETAIL OPERATORS

- Utilice the new marketplaces for brands and influencers
- Collaborate with micro/nano influencers
- Rethink your commercials: Build your brand story to fit the social media channel's characteristics and features. Utilise the full storytelling potential of the platforms.

DRIVERS OF CHANGE

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High-value customers

It is relatively easy to find customer profiles that generate a disproportionately big part of your bottom line, i.e. high-value customers. The natural next thing would be to gather deep sociological insights about their needs and motivations, to keep them happy and possibly recreate your success. To improve services offered to high-value customers, combine retail data with other kinds of big data (banking, health, mobility, insurance, real-estate, social media and media use, etc.). Creative cross-industry data combinations are a key to building lucrative, customized and seamless service packages that could offer high-value customers considerable savings.

A high-value customer is someone who spends a lot and has no qualms about sharing their data. People who have less to spend, have issues with sharing data or have problematic behavioral patterns (think health data, grocery data and insurance services) could end up with second-class service experiences and would also have to pay relatively higher fees. Personalized services based on consumer rankings will add to the overall polarization of people and further differentiate their everyday experiences.

Severe data breaches will likely make consumers rethink the benefits of allowing such deep cross-industrial analytics.

NEXT STEPS IN HIGH-VALUE CUSTOMERS

Data rules, but e-commerce platforms need to create clear guidelines for getting customer consent, processing data and ranking customers. EU-level regulation might motivate to manage and serve customers fairly.

OPPORTUNITIES FOR RETAIL OPERATORS

- Design data-driven products and services, with security and privacy in mind
- Rethink data ownership – how to share data in the new ecosystems and between partnerships and how can the customer be in control of their data.

DRIVERS OF CHANGE

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Brand fandoms

Energy drink, sausage, frozen pizza or candy bar – any product can become a major hit among a subculture that obsesses about it, Seriously or in an ironic manner. Especially Generation Z members love to love their brands and will continue to unpack, test, compare and promote products and services on social media. No brand can overlook the power of the fan community, as walking over the loyal consumers' preferences can abruptly shake the foundations of their business. Trying to harness the energy of a fanbase through co-creation and marketing might be a waste of time and resources. Fans have the ability to connect with the product and their peers directly through social media, bypassing patronising brand managers and salespeople.

Audiences can also show their loyalty and dedication by investing in the product they love. Usually this entails micro-funding or crowdfunding new products but in these times, gamified investment platforms also shake actual stock markets.

NEXT STEPS IN BRAND FANDOMS

Much like the alchemy of a hit song, how customer devotion is created is a bit of a mystery. When it happens, power shifts to the consumer and the brand has to cleverly navigate the situation. It is foreseeable that more and more products will have customer boards that communicate the needs of the community to the manufacturers and brand owners. This could mean that, for example, products that don't raise the interest of the fan base simply don't launch. Fans and communities become a decision-making entity for brands.

OPPORTUNITIES FOR RETAIL OPERATORS

- Consult your consumers when making decisions about your product and service offering - they will appreciate it
- Interact with your fan base, give attention to their ideas and initiatives and be less insistent about your own agenda

DRIVERS OF CHANGE

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Vertical farming

Our ability to reorganize the way we produce food will have a tremendous effect on how global warming, water scarcity and the looming hunger crises are solved. The agriculture business needs to feed a growing, increasingly urban population while dramatically decreasing its ecological footprint – in short, to grow more with less impact. Emerging technologies such as connected sensors, machine learning and automation accelerate the environment-independent agriculture. Soil-free vertical farms will soon be a familiar sight in urban environments, not because they are green and pretty, but because they are extremely efficient. Shorter supply chains equal better efficiency, lower costs and a more sustainable way of producing selected crops. When we all give in to new products that mix vegetables with meat or are completely plant-based, we have the key parts of an environmentally friendly solution within our reach. We'll get fresher food with increased urban availability, and a potentially huge cut in pollution and chemical use.

NEXT STEPS IN VERTICAL FARMING

Vertical farming promises shorter growing times and delivery distances while using a fraction of the land, water and soil of traditional farms. LED vertical farming units enable locally automated food preparation, impacting production value and shortening supply chains. Will portable farms remain a hobby for eco-conscious citizens and something that universities or housing companies build for their PR value to new habitats? Or will they break into the mainstream? Agriculture subsidy policies will have a major impact.

OPPORTUNITIES FOR RETAIL OPERATORS

- Consider redesigning your extra warm in-store spaces to create vertical farms for herbs and leafy greens
- Investigate vertical farming as an opportunity to offer your customers fresh vegetables with minimal "farm to fork" time, lower your carbon footprint and boost your eco credentials

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DRIVERS OF CHANGE

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TREND · TECHNOLOGIES

AR shopping

We've been expecting augmented and mixed reality to revolutionise our shopping experiences for well over a decade now. While there is some AR around, the key promises of how augmentation can help the customer are still very topical for the retail industry. Augmentation is about adding dynamic and interactive digital elements to real-life views. These elements can be viewed through mobile devices, smart glasses or even holographic displays. Voice assistance in the cityscape and store are of interest, too. The boundaries between digital and real worlds are dissolving. AR can really make a difference to the customer when used for something other than mindless advertising. It can help them find products that fit their dietary, ethical, economic or lifestyle needs. It allows them to "unbox products" in the store, examine the product's journey to the shop and really grasp what it's made of.

In addition to enriching the brick and mortar stores, augmentation helps online customers try out things at home: makeup, jewellery, accessories, and clothes, and to examine how textiles, objects and furniture would fit in their home.

NEXT STEPS IN AR SHOPPING

Augmentation is far too good an idea to waste on advertising and attention-seeking. It's an important opportunity to create services that make shopping more educational, entertaining and efficient.

OPPORTUNITIES FOR RETAIL OPERATORS

- See how AR can help in health, safety and a contactless economy
- Recognize AR also as a means of collecting data that can help you better understand your customers' preferences
- Consider AR in customer-facing marketing, education and support for enriched services and experiences, both individual and social
- Look for examples how AR has been used in store design and enhancement, in loyalty programs and gamification

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DRIVERS OF CHANGE

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Digital twins

Digital twinning has been dubbed the most transformative technological trend of our time. It refers to software models of real-world items that can be used to run simulations before making costly changes in real-life solutions. As such, talk about digital twins is only a way to concretize the promises of IoT and multifaceted data usage in a situation where data would be ample and well organized enough to allow realistic experimentation with people, things, spaces and systems. By running simulations, issues in production or logistics can be spotted well in advance and expensive downtime minimized. Imaginary new offerings can be tested with a digital twin customer base, and customer buying behavior mimicked in different future scenarios. This is especially helpful when adjusting pricing and client-specific opportunities for maximum results.

The age of digital twins will truly be upon us when we have enough data points of the physical and virtual objects that are interacting in the ecosystem.

NEXT STEPS FOR DIGITAL TWINS

Digital twin data will be used in simulation, analysis, forecasting, decision-making and optimization - and to make retail smoother for both vendors and customers. It's also cheaper and takes less time than experimenting with real-life counterparts.

OPPORTUNITIES FOR RETAIL OPERATORS

- Explore what kinds of digital twins you already have of customers, employees, machines, spaces, systems, supply chains and logistics processes
- Investigate how the data could help simulate, anticipate and optimize your most business critical flows
- Understand that creating digital twins places a lot of demands on data processing, such as being able to transform different datasets into a workable, compatible whole

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Frictionless payments

The retail industry wants to be rid of all speed bumps when it comes to paying. Frictionless payment refers to reducing steps in both online and offline buying to minimise churn and shopping cart abandonment. Wait times need to be short, checkouts fast, transaction processes effortless. The key tools for frictionless purchasing include mobile and digital wallets, contactless card payments, auto-renewing subscriptions, device-initiated payments, invisible payments, contextual online payments, in-app payments, and one-click payments. In physical stores, many consumers will be able to just pick stuff up and leave without any scanning of products or showing their cards, devices or wearables. The most trusting technology buffs will pay through face or palm recognition. Troubling mass-surveillance developments in e.g. China might however keep part of the shopping population hesitant to trust biometric payment systems. In comparison to cards and virtual wallets, biometrics cannot be revoked – shopping history is always tied to a face or fingerprint.

NEXT STEPS IN FRICTIONLESS PAYMENTS

Unmanned shopping stations will attract tech-aware customers and make shopping smoother in a 24/7 society. Your self-service corner store will feel cosy due to personalization resulting from the analysis of neighbourhood shopping patterns and instant recognition of your individual needs.

OPPORTUNITIES FOR RETAIL OPERATORS

- Develop your bundle pricing strategies and subscription packages, and make it easy for your customer to opt in
- Use self-scan technologies to cut costs
- Investigate and imagine the possibilities brought by precise localization techniques such as Ultra-Wideband technology (UWB) to your business in terms of hyperpersonal services and secure handsfree payments

DRIVERS OF CHANGE

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Circular design

The need for circular business models and sustainable technologies will intensify. There will be more ESG (environmental, social and governance) investments, with a particular focus on impact investing. To gain measurable impact, sustainability must not be as an afterthought. It has to be the starting point of all (re)design of products, services and processes in retail. In a circular economy, we design products and packages that are easy to dismantle, clean, sort and reprocess for further use. Currently, a significant portion of valuable nutrients are lost in waste and manure and end up burdening our water and soil. Solutions for retaining nitrogen and phosphorus inside the production cycle will be in high demand. Policy challenges are complex, and there are massive commercial interests involved. There is a risk that climate change alone dominates the green debate and action, and the less glamorous challenge of soil management, sustainable farming systems and the treatment of sewage sludge will be overlooked. Retail has the power to direct consumer attention and give space to new innovations that help close the cycle.

NEXT STEPS IN CIRCULAR DESIGN

Together with the questions of energy and water, nutrition cycles will become a key retail theme over the next decade. The retail industry will rise to the occasion and participate in the circular economy beyond questions of packages and plastics. Most likely there will be EU-level regulatory schemes to boost the reuse and recycling of things.

OPPORTUNITIES FOR RETAIL OPERATORS

- Prioritize closed-loop products and circularity-first services
- Participate in programs and networks that try to make nutrient cycling a profitable business
- Engage your customers and stakeholders in your quest to make your business more circular

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Water footprints calculations

Much of the global population already experiences severe water scarcity, and things will only get worse. The retail ecosystem and connected industries use a lot of water and have a major impact on the pollution of oceans and freshwater sources. In the future, consumers will start to notice how unfair it is to import juicy and watery products from water poor countries. Water footprint calculations will become a must-have, like CO2 footprints already are. This presents an opportunity for countries with vast water resources. We also need to take a giant leap in manufacturing processes to create less water-intensive products. The infrastructural changes needed in the production and recycling will be costly. The rising costs may be reflected in consumer price tags. Here, too, the retail industry needs to lead the way.

NEXT STEPS IN WATER FOOTPRINT CALCULATIONS

Many global brands worry about their water supply and struggle to find more sustainable ways to use this precious resource. Consumers will start to look for products with a smaller water-footprint. Reliable information will be sought after. Importing water from water-poor countries will be considered a faux pas, possibly even illegitimized. This opens possibilities for products from water-rich countries.

OPPORTUNITIES FOR RETAIL OPERATORS

- Prepare to provide information on the water consumption of your products, services and processes
- Investigate ways to make your processes less water-intensive and make changes in processes (CO2 and) water first
- Try to get rid of plastics in water packaging
- Opt for solutions that minimise microplastic pollution in bodies of water
- Give your support to soil-free portable farms and other closed systems, that recycle water and use space cleverly

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DRIVERS OF CHANGE

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Data sovereignty

The digital economy is growing and is expected to boost EU's GDP by over 14 percent by 2030. EU will try to ensure that big part of this growth will boost European companies instead of overseas tech giants. EU-level data sovereignty programmes will become prominent with strategic alignment, directives and interventions on foreign enterprises. There will be also practical solutions for identification, giving consent and linked-data to ease the development of a cross-industry data-economy. If the quest for data sovereignty succeeds, companies will be better prepared to share data and build new meaningful business models and concepts based on creative data combinations.

EU bases its actions on a MyData philosophy, which is based on users giving consent to use their data, as well as transparency and fair play on how it's used. In the end, it's not only about finances and profits but our European civil rights as well. In ten years, we might see problems in the collaboration between European countries. This is a threat to us as citizens because platform giants seldom listen to singular countries' worries about data policies. Together we are stronger.

NEXT STEPS IN DATA SOVEREIGNTY

A significant effort will be take place to make data-sharing and the invention of new data-based business models easier for European companies. It is also important to ease data sharing between different industries, as new ideas are often born from unexpected data combinations. There will be new roles, such as data brokers and cleaners to help out businesses in the new data economy.

OPPORTUNITIES FOR RETAIL OPERATORS

- Start with MyData; you cannot implement it later
- Imagine partnerships beyond the retail value chain
- Draft concepts based on creative data combinations
- Clarify business benefits for each data partner – and the user!
- Build services using responsible technologies

DRIVERS OF CHANGE

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Flawless supply chains

Affluent and educated consumers will continue to push for greater brand transparency. They are cleaning their diets and cupboards of products with no clear purpose, preferring clean labels products with simple and understandable ingredients. The green customer wants to understand the impact of the product to human and animal welfare – all the way from raw materials to manufacturing, packaging, distribution and sales channels. A good product is good inside out, with a flawless supply chain that can be validated with sensors, IoT and blockchains. Many less affluent or more careless consumers, however, will continue to buy the cheaper and more opaque products. In many cases, outspoken value sets do not map with the real-life purchases. Brands need to decide what kind of world they want to promote.

NEXT STEPS IN FLAWLESS SUPPLY CHAINS

Retail has a massive power to promote brands that are less harmful to ecosystems. There is real growth in demand for products with transparent supply chains, but an economic downturn could hinder this development.

OPPORTUNITIES FOR RETAIL OPERATORS

- Get positive attention by pushing sustainable agenda throughout the supply chain
- Tap into the needs of your sustainability-oriented customers to trust that their products and services are flawless inside out
- Use sensors, IoT and blockchains to validate claims of sustainability and circularity
- Find ways to help suffering ecosystems!

DRIVERS OF CHANGE

Ecological reconstruction is a matter of urgency
https://www.sitra.fi/en/articles/megatrend-1-ecological-reconstruction-is-a-matter-of-urgency/

The Global Goals for sustainability
https://www.globalgoals.org/

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Global cumulative production of plastic 1950-2050
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Walmart: Product supply chains: sustainability overview
https://corporate.walmart.com/esgreport/esg-issues/product-supply-chain-sustainability

How To Prepare Your Business For The CMA's Investigation Into Greenwashing
https://compareethics.com/greenwashing-investigation-cma/

READ MORE

Top Trends Driving Change In The Food Industry
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Consumer sustainability trends 2021: What trends to watch
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The Elusive Green Consumer
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State of Supply Chain Sustainability 2021
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Sustainable Business: Why Visibility Into Demand Is Key To Success
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https://www.olvi.fi/yhtio/vastuullisuus/yleista/

Groceries with care

Retail businesses will need to arrange prompt last mile deliveries of groceries in varied settings. Solutions will have to fit densely populated urban settings as well as rural areas with poor connections. In addition to serving the digitally capable, often younger customers, they will need to consider consumers who prefer or cannot function without personal service.

At the same time, social and health care providers are trying to solve a very similar kind of challenge – how to cost-efficiently sustain and care for the ageing population living alone and often outside cities. Looking at these challenges in parallel is advisable. In the future, the logistics of care may intertwine with retail deliveries, and the combined service could be paid for directly from public social and health budgets. For retailers, a "groceries with care" service could be the starting point for a whole portfolio of home delivered services to customers from all age groups. Old age isn't even the primary key factor, as anyone of us could require extra care at various points of our lives.

NEXT STEPS IN GROCERIES WITH CARE

Illness and old age come to mind first when we look at the times when a person might need more care, but people could need groceries with care when they have, for example, just had a baby; broken their arm; need to host a big party or transform their diet. Or are just overwhelmed with work. Traditionally, we've assumed that people have families to offer assistance and care but that just isn't always the case anymore.

OPPORTUNITIES FOR RETAIL OPERATORS

- Create new product and service ideas at the intersection of groceries and care, targeted to those in need of extra attention
- Look at your services from a senior POV
- Map out possibilities for services and collaborations with social and health services

DRIVERS OF CHANGE

Ageing Europe - statistics on population developments
https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Ageing_Europe_-_statistics_on_population_developments

Living alone has become more common especially in the age groups of young and elderly people 2019
http://www.stat.fi/til/asas/2019/asas_2019_2020-05-20_tie_001_fi.html

MEGATREND 2: The population is ageing and diversifying
https://www.sitra.fi/en/articles/megatrend-2-the-population-is-ageing-and-diversifying/

Seniors in Emerging Markets Represent Huge Opportunity for Innovative Entrepreneurs
https://www.entrepreneur.com/article/300752

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Qualitative Study on Factors Influencing Aging Population's Online Grocery Shopping and Mode Choice When Grocery Shopping in Person
https://journals.sagepub.com/doi/full/10.1177/0361198120964790

READ MORE

Global Age-friendly Cities: A Guide - WHO
https://www.who.int/ageing/age_friendly_cities_guide/en/

Getting to know urban elderly consumers
https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/getting-to-know-urban-elderly-consumers#

9 Meal & Grocery Delivery Apps for Seniors
https://www.seniorly.com/resource-center/health-and-lifestyle/9-meal-and-grocery-delivery-apps-for-seniors

Are You Ready for Baby Boomers and the Age of Longevity Marketing?
https://boomerbuyerguides.com/boomers-age-of-longevity-marketing/

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About

We hope you enjoyed our speculations on how the future of retail might look like!

This work has been created in collaboration with Aalto University School of Business, Berner, Futurice, Kesko, Olvi and Valio and many more. We at Futurice, engaged our hundreds of experts in-house into the project and collected signals from the different countries we operate in. We used the hundred ideas generated this way as a prism through which to create a more comprehensive analysis of the world to look at what the political, economical, societal, technical, legal and environmental drivers of change are. We identified approximately 23 trends for how the world and retail might change. Based on trends, we explored 4 alternative directions of what the future might look like. The building blocks for the 4 directions were co-created in the workshop together with our collaborators.

What you are looking at here is the result of that work. Exploring the world of retail inside out from societal phenomenons such as the rise of single households and the power of generation z, to the recycling of the products by brands and consumers.

The next 10 years will be a time of massive changes coming both within the industry and driven by external forces. However; the future does not happen; we actively build it with our actions today.

Let's make it a good one!

**Yours truly,
Futurice team**

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