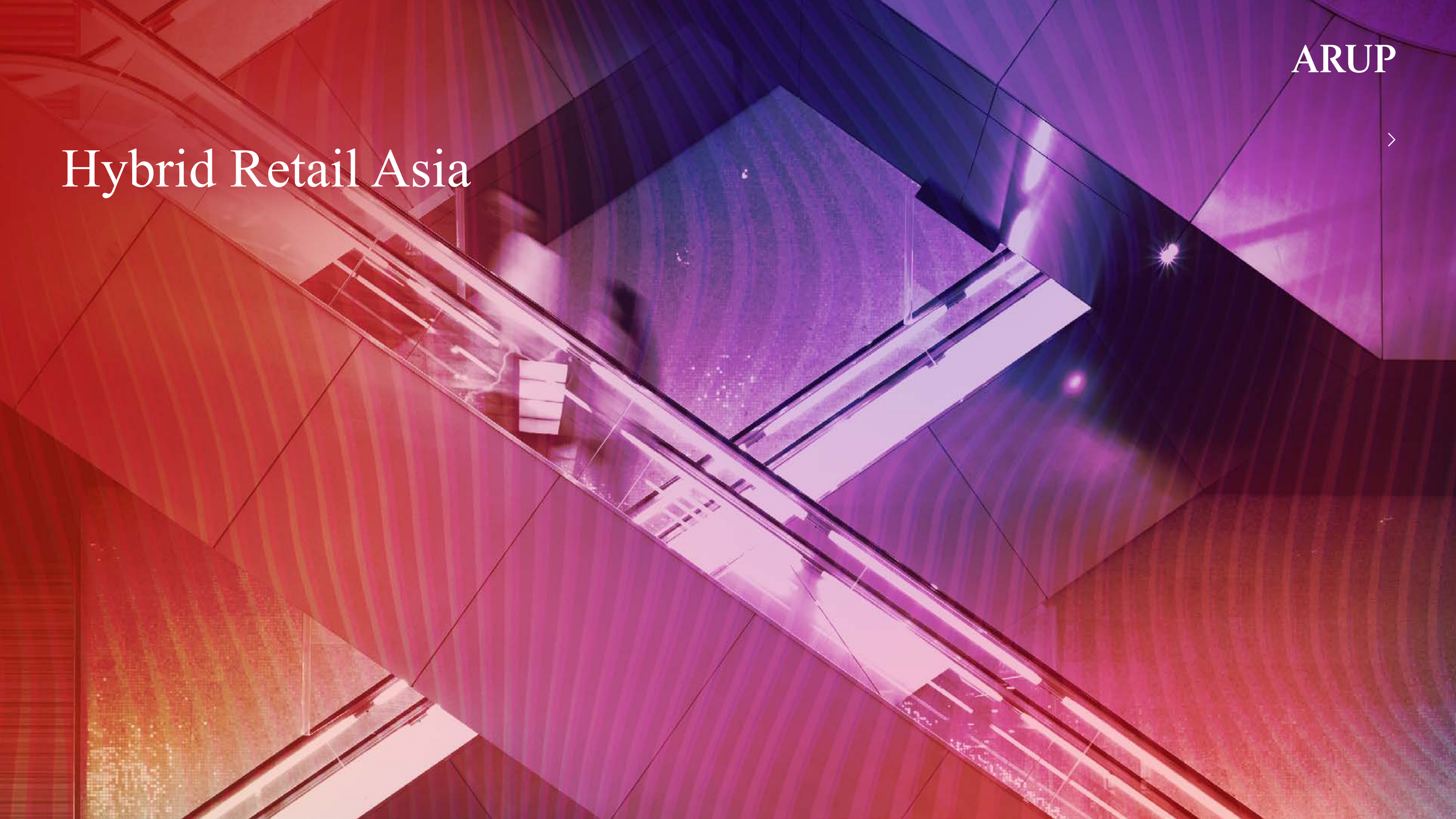

ARUP

Hybrid Retail Asia

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Introduction

This report considers the near to mid-term future of physical retail under the influence of technological innovations – one that extends far beyond brick-and-mortar stores such as malls to include multi-modal transport networks, public spaces, residential and commercial design, urban planning and more. It is intended for developers, architects, and designers as much as policymakers, brands and retail operators in order for all to capture the opportunities that lie ahead.

This work is the result of a collaboration between Arup University, Arup teams across the East Asia region and external contributors. We would like to thank all for their input and advice.

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Executive summary

Organisations around the world have learned important lessons from the COVID-19 pandemic about resilience. They need to be resilient so that they can recover and revive quickly in the face of disruptive changes.

To fully understand the behaviours of consumers and their implications for the markets in the post-COVID-19 era, a good understanding of key drivers, such as demographics, the level of urbanisation in Asian countries and emerging technologies, is crucial to staying competitive in retail in an ever-changing world.

Not only are consumer behaviours different in different communities, but they also vary across demographic sectors within the same country. While malls are reaching saturation points in large cities, more opportunities can now be found, for example, in lower-tier cities in China. The emergence of smaller shopping malls is a general trend across Asian cities.

Retailers are combining mobile, brick-and-mortar and e-commerce to form a single, consistent experience across all channels. E-commerce is increasingly being accepted worldwide while new digital retail models are emerging quickly. Physical retailers need to compete with digital retailers by giving consumers a reason to shop in person through tailored and engaging experiences that are fit for purpose.

They can leverage various online channels to bring customers back to brick-and-mortar shops to create a seamless digital experience before, during and after purchase. Throughout different processes, effective deployment of the latest technology is critical. New technologies improve customer satisfaction in logistics and delivery arrangement, enable smart retail for greater convenience and better experience and allow effective site selection, smart facility utilization and maintenance.

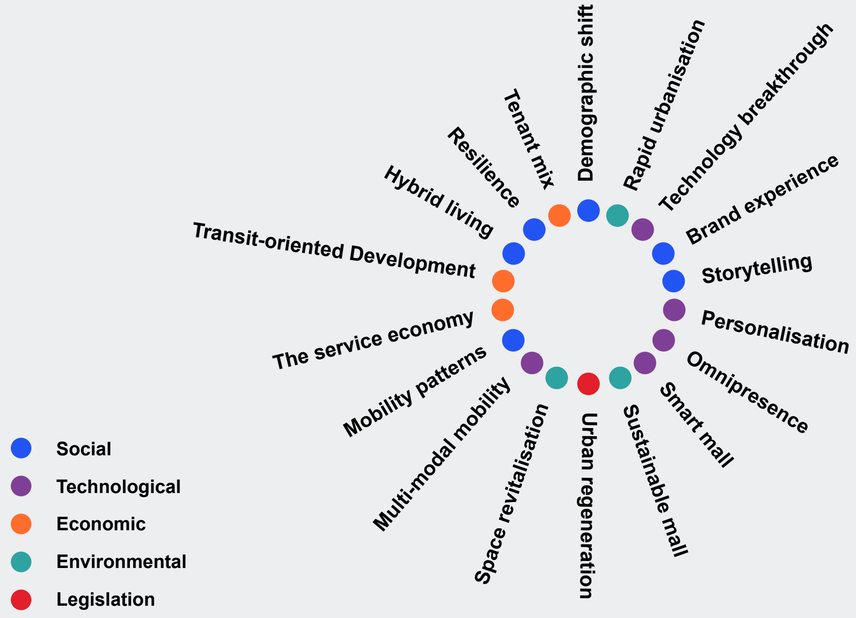
Brands will have to continuously realign their strategies and update their offerings with innovative solutions to deliver memorable user experiences, meet changing consumer needs and attract targeted customers.

Shopping malls have been greatly challenged to step out of the role of simply providing space to retailers and experience to customers. They are taking the initiatives to use various channels to help their tenants make sales, for example, by establishing a presence online as an e-commerce marketplace. They are changing the tenant mix to better position themselves and optimise sales performance.

Ultimately, it has to be acknowledged that effective mall design needs to consider proper spatial design to establish its own image as well as to blend well into its surroundings and serve local communities. Retail establishments should be well considered on a city-planning level and embedded seamlessly with the public.

Key Messages

1. Building resilience to face unforeseen disruption
2. Understand the key drivers of change in your sector
3. Understand demographics beyond the buzzwords
4. Omnichannel, consistent message and flexibility are key to success
5. Data-driven personalised experience
6. Malls' spatial design to offer more than retail



Key factors driving change in the retail landscape

1.1 Resilience to crises

Business resilience through the COVID-19 pandemic

The acceleration of change is a mark of our times and this pandemic acts as a booster. The outbreak has given rise to many new consumer habits, pushing forward new trends to further penetrate markets. Let's take an example – ordering food and fresh groceries online has become normal to consumers who were not tech-savvy before the crisis. Once consumers experience the convenience, the practice will develop into a habit.

A McKinsey report[1] shows an estimated leap forward of at least one year for omnichannel grocery services adoption in China. Brands should proactively identify changes that will settle after the crisis and anticipate how their business norms and assumptions will be challenged such that their strategic plans can be improved accordingly.

Mitigation implemented in operations is highly essential to keeping business alive. During the pandemic, many employers provided masks and hand sanitisers to staff members, performed temperature checks on customers, and closed some of their physical stores while shifting sales to online channels. They also reviewed logistic arrangements to weatherise their supply chains.

In response to the unprecedented change, fashion brands such as Bvlgari[2] and LVMH manufactured masks and hand sanitisers, from which the proceeds were donated to hospitals. These products were worlds apart from their usual product lines, but they were successful in showing their support to medical staff and ensuring that they will still be in business when the crisis is over. Tencent, the Chinese tech conglomerate, also responded by rolling out the 'Health Code' programme, with auto-generates a QR code for one-stop access and health update management.

Beyond brand building, this makes sense for brands to re-purpose their already strong capabilities, be that in sourcing, production or distribution network, as they show their commitment to overcoming the crisis and expediting recovery.

Distribution of products and services used to be highly sparse, typically taking place at stores. However, COVID-19 and the widespread lockdown have prompted a rise in community commerce — a term that refers to not only group purchase of products, such as groceries and daily necessities, but also a community-based marketing and distribution, to reduce risk and cost incurred by sparsely distributed points of sales.

JD.com staff spraying disinfectant on parcels at a smart delivery station in Yizhuang, near Beijing.

Caring to enhance customer loyalty

Brands communicated their values through actions to proactively show care for their customers. For example, Erdos, the world's largest manufacturer and retailer of cashmere apparel, converted its production line to make and donate masks and protective clothing to their customers through the 'Erdos Warmth Fund' as a gesture to fight the battle together. The brand also launched 'Love is the Cure' campaign on WeChat for its 2020 Valentine's Day sales[3].

'Animal Crossing', a Nintendo[4] Switch game, went viral in part of Asia during the lockdown. Net-a-Porter rode on the wave of the game's popularity and opened a shop in the virtual world to promote its fashion designers' apparel products by selling virtual skins for avatars to wear in the game.

Circular Economy towards long-term resilience

Waste and food problems

Rapid urbanisation and accelerating consumption have turned Asian cities into giant waste-producing machines. China, Indonesia, Philippines, Thailand and Vietnam contribute to 60% of the plastic waste in the oceans. While efforts are sporadically made, 75% of all the leaked waste remains uncollected. China's plastic waste import ban in 2017 will leave 111 million tons of trash by 2030 with nowhere to go[5].

According to a 2018 World Bank report[6] the world generated two billion tons of municipal solid waste (household and commercial rubbish) in 2016. This equates to a footprint of 0.74 kilograms per person per day. What's more, 359 million metric tons of plastics were produced in 2018[7]. If we do nothing, over the next 20 years the five countries will likely discharge 300 million metric tons of plastic into the ocean. We must produce less, generate less waste, and the retail industry must play its part.

A consumption lifestyle that is friendlier to the planet is coming to mainstream shoppers as well as guilt-free retail. The coming years will see a continued focus on the sustainability of our global food system. Research and communications on carbon emissions and water consumption associated with food production are leading to a noticeable shift in people understanding of the impact of food choices on the environment.

This trend will continue to grow, with more places and organisations actively encouraging people to eat healthier food with lower environmental impacts. This is coupled with advances in affordable and efficient technology for small-scale urban food production. In Hong Kong, new installations in underused urban spaces are used for vegetable production such as those on rooftops[8]. In the coming years more food production will take place inside cities, with the connection between food, energy and water becoming an increasingly urban issue.

JLL rooftop farm by Rooftop Republic in Hong Kong

The key question is whether emerging economies will follow this trend, or whether a continued increase in living standards and income will ultimately lead to more demand for meat and other high impact produce. As people grow richer, they consume and discard more.

Advanced economies make up 16% of the population but produce 34% of the world's waste. The World Bank predicts that by 2050 Europeans and North Americans will produce 25% more waste than they do now. In the same timeframe, waste volumes will grow by 50% in East Asia, 100% in South Asia and by 75% in sub-Saharan Africa. Overall, they expect the annual global total will reach 3.4 billion tons[9].

Enhance, restore and revive

Climate resilience

Climate related extreme events, such as flooding and super-typhoons, can affect the logistics chain, product manufacturing, production of raw materials such as fabric for garments as well as energy supply.

Every link in the supply chain needs to be reviewed on its vulnerability. In 2011, a worldwide business shockwave was felt as more than 14,500 companies relying on Thai suppliers were disrupted during a severe flooding event in Thailand[10]. For the case of Hurricane Harvey in 2017, the sectors with the highest revenue loss were (a) petroleum and coal products manufacturing (37%), (b) chemical manufacturing (13%), and (c) oil and gas extraction (12%). While the retail supply chain inherits vulnerability to climate changes, it also contributes a lot to it from energy consumption and waste creation[11].

How to mitigate these climate change effects? Retailers and developers should establish energy management systems as well as procure services from vendors that have such system to reduce energy consumption throughout the supply chain. Predictive production and inventory management also helps minimise excessive production, logistic demands and waste creation that comes with it. Climate resilience is built from the selection and design of warehouses. A clear definition of targets and criteria when selecting vendors should be in place.

Social unrest

Social unrest can be a major cause of disruption to the retail, F&B and hospitality industries. Rentals of shopping malls and street shops in Hong Kong fell by 14.1% and 20.1% respectively QoQ in the last quarter of 2019 during the social unrest. The shockwaves took the market back to 2004's levels even though mainland Chinese visitor numbers at the last quarter of 2019 remained well ahead of that period.

In 2020, anti-government protesters held a "lunch with you" demonstration at City Plaza in Tai Koo, a shopping mall in Hong Kong.

Compared to the post-SARS period in 2003, Hong Kong's retail businesses nowadays are much more reliant on mainland Chinese visitors' spending. As a result, the negative impact of social unrest was exacerbated by fewer tourists to Hong Kong due to travel and self-isolation rules.

Landlords did not take a unified approach to helping tenants get through the crisis. Some restructured leases or offered temporary discounts, while others maintained the same rental levels. Retailers assessed their viability and took steps to renegotiate leases or rationalise portfolios. Local restaurants businesses remained relatively healthy until the outbreak of early 2020 due to COVID-19. Prime street shop and shopping mall rentals fell sharply in the first quarter of 2020, down 44% and 31%, respectively, YoY.

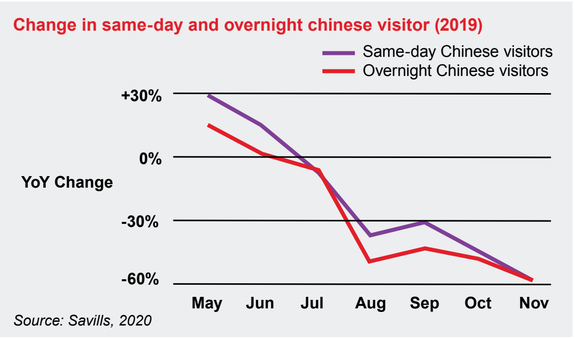


Fig 1 - The decrease in the number of Mainland visitors in Hong Kong from April to November 2019.

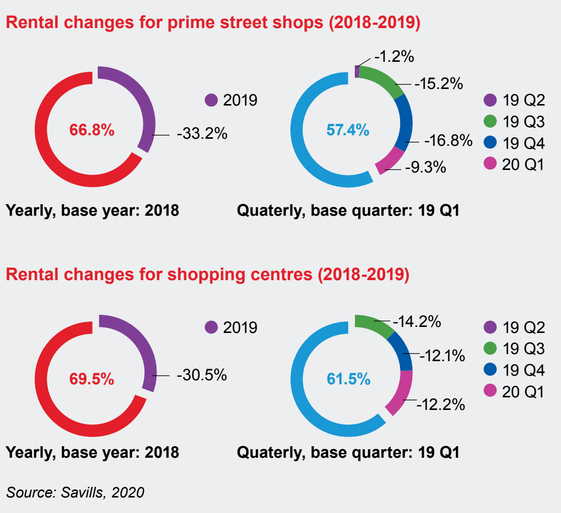


Fig 2 - Rental changes in core business areas and different districts in Hong Kong from 2018 to 2020.

1.2 Demographics

Rise of middle class in Asia

Affluent Chinese digital natives - GenZ and Millennials

About 50% of the world's millennials are in Asia, yet not all millennials are the same[12]. While the typical stereotypical image may not apply, Asian millennials are more likely to be mobile, social and borderless, whose digital consumption habits are different from those in Europe and the US.

In 2018, 60% of social commerce shoppers in China were below the age of 30 (nearly 80% were below 35 years old)[13]. They are heavier users of social media like WeChat, Weibo and TikTok. Despite their affinity for digital, nine out of ten young Chinese consumers are in favour of in-person experiences with sales staff and physical stores when they make a purchase decision.[14]

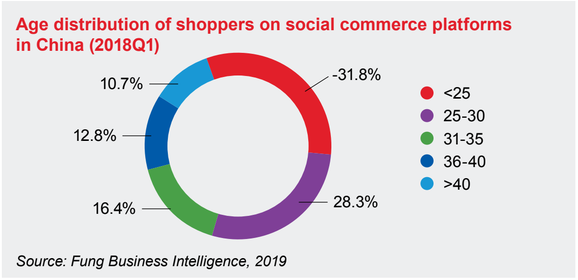
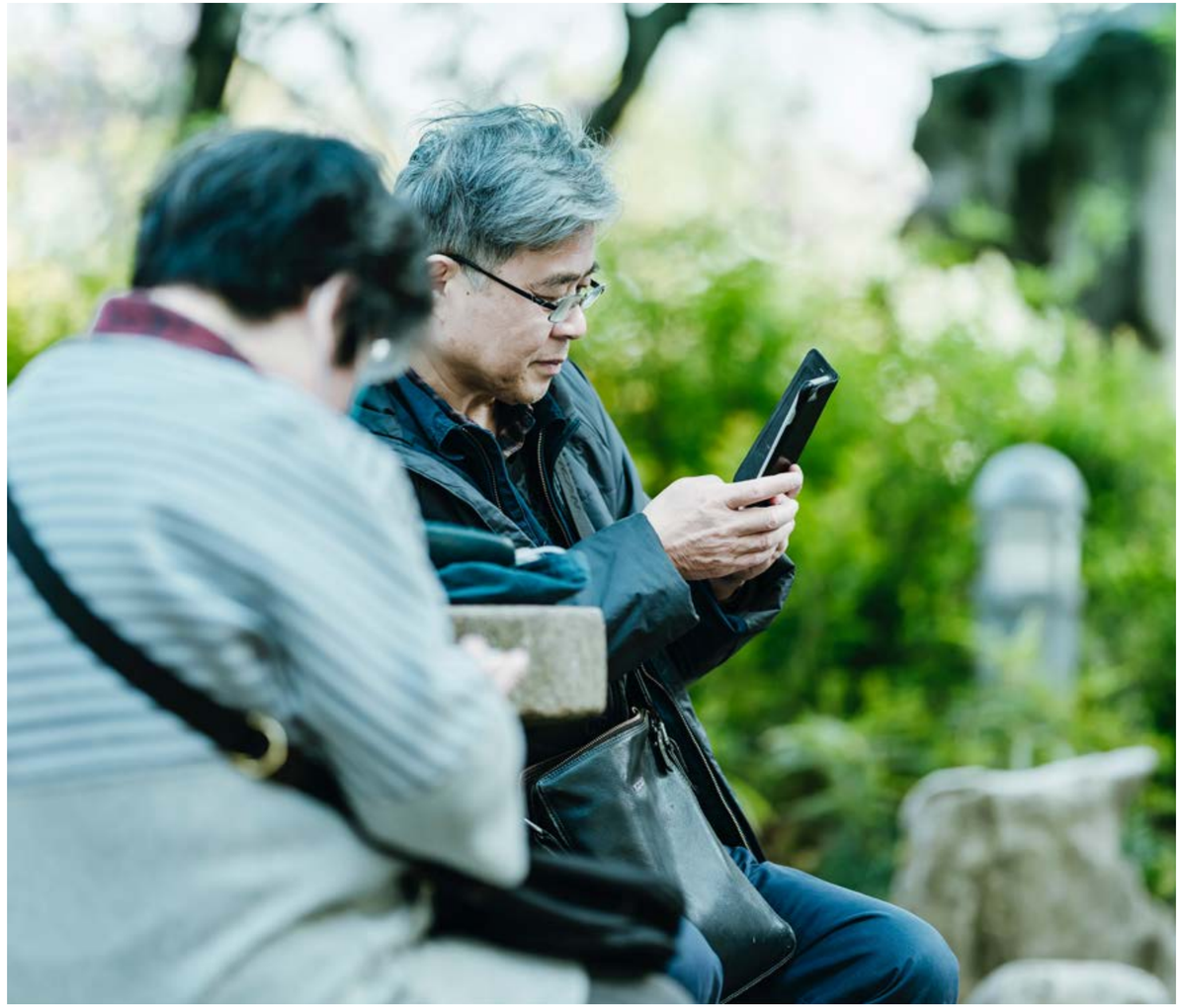


Fig 3 - Age distribution of shoppers on social commerce platforms in China, 1Q18.

The future retired: The silver Chinese

In the next two decades, China will be facing a bigger than ever retiring population. They are the middle-age major workforce today. These smart buyers look for functionality, efficiency, and value for money. They represent an approximately 200 million population, who are technologically at ease and are living in Tier 1 (such as Beijing, Shanghai and Shenzhen) and Tier 2 cities (such as Tianjin, Shenyang, Xiamen and Chengdu).



The tech-savvy Silver Chinese

The silver Chinese can create new demand[15]. They will spend more on health-related items such as dietary supplements, disease treatments and senior care, insurance products and favour goods supporting health that are optimally priced. As a result of the county's one-child policy, a major proportion of those ageing will not be able to rely on their children for care, driving demand for senior housing.

The unlikely baby booms

Despite China's efforts to combat an ageing population by relaxing its family planning policies, the birth rate has since remained relatively flat. Surveys have shown many one-child families in all major cities are not keen to have an additional child[16]. This phenomenon is observed across cities in Asia. South Korea's fertility rate, already the lowest in the developed world, has fallen to a new low, due to for example the high cost of private education, raising concerns about the country's demographic outlook.

However, an ageing population does not necessarily mean a shrinking market for children's products. Demanding more quality, parents are willing to give their single child the best option available. Luxury brands with kids' collections are tapping into the new market while more adult apparel brands are launching product lines for kids.

Net-a-porter entered the children's market in January 2019 with the launch of its first multi-brand kids' collection Casual Kid.[17] The frequent quality problems reported of fast-fashion brands have prompted parents to choose high-quality clothing made from fine fabrics free of hazardous chemicals. These customer demands are exactly what Design Orchard, an integrated retail and incubation space for Singapore's local designers, wants to address.

Consumption upgrade

Well-versed in the online shopping and e-commerce trends, China's millennials and GenZ are more informed than their parents – sometimes with better awareness of and knowledge about a foreign brand than people from the country where the brand originated. This is one of the driving forces that propels Chinese to seek better options when it comes to making purchasing decisions. They are actively participating in China's economic development and are part of the emerging middle class which is looking for better quality products at competitive prices.

At the same time, the Chinese are going through a major shift in eating habits. Fresh fruit, cheese, cream and tea are all among the food categories that have seen rapid growth, and this is likely related to the fast-paced lifestyle and westernisation of urban living. The Chinese

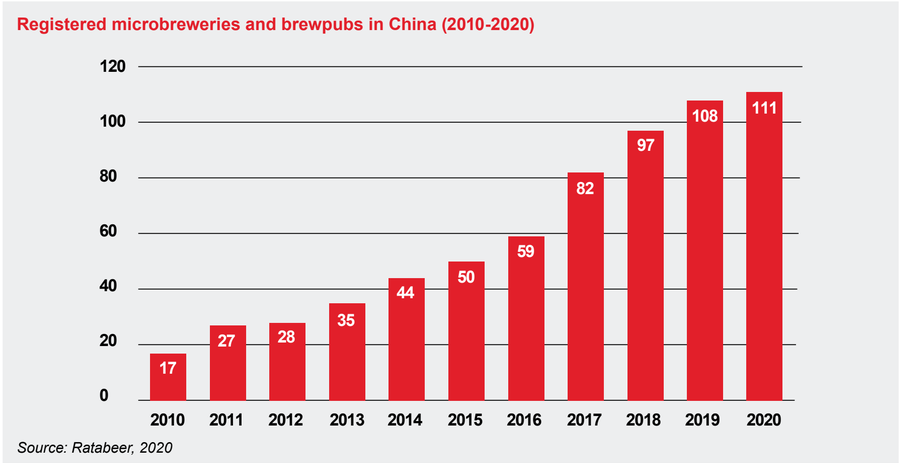


Fig 4 - Registered microbreweries and brewpubs in China.

consumers, especially the affluent ones, are becoming more selective: instead of chasing luxury brands, they are upgrading consumption quality and always looking for better (i.e. healthier, more special, more functional or durable) products with higher value-for-money. Also, they are spending more on services (e.g. travel and personal development) than on goods than before.[18]

One example is the growing number of pubs that serve craft beer, suggesting the megatrend of consumption upgrade for Chinese consumers.

They have huge consumption potential, and seek a lifestyle where shopping is an individualised, immediate and convenient experience. They have formed unique shopping habits online and via social media networks. Apart from young consumers in key cities, those residing in lower-tier cities and small towns have emerged as a major consumer group. Since living costs are lower, small town youth have strong spending power; additionally, they enjoy a more relaxed lifestyle and have more free time to spend as compared to their counterparts in tier-1 and tier-2 cities. Young consumers in key and smaller cities present excellent opportunities for brands and retailers.[19]

The Chinese traveller

Things have changed and now only one third of Chinese travellers prefer travelling in groups with a large preference for shopping at duty-free stores either downtown or at the airport. According to a JWT report[20] on Chinese travellers, China is a burgeoning market and spending is expected to double in 2025 from 2018. About 70% of these consumers will do luxury shopping overseas as a result of an increasing affinity for outbound travel.

Affluent post-1980s Chinese are fuelling luxury buying. They grew up as China emerged as an economic power and are now at the peak of their career and earnings, travel frequently, and spend to demonstrate their individualism and success. The post-1990s millennials are the emerging powerhouse. The vanguard of China's urban middle-class spenders, they're a dynamic and digitally engrossed cohort. It is predicted that the largest consumer body in China, which is upper aspirant in 2018, will shift to mass affluent by 2030[21] and that Chinese consumers, mostly the younger ones, are now the engine of worldwide growth in luxury spending.[22]

Youngsters from SEA

How do South East Asian consumers compare?

Case study 1: Customer behaviour in 3 different SEA countries

The Philippines

The Philippines is a rapidly growing consumer market. Well known mall chains include Robinsons, SM and Ayala. In addition to the actual need, Filipino consumers treat mall-going as a family or social activity. Being influenced by the Spanish culture, advertising by portraying physical attractiveness and material goods as a gateway to happiness and success normally works. Most Filipinos take good social responsibility and are willing to pay extra for products and services that come from companies committed to positive social and environmental impact.

Online shopping is becoming more and more popular among young Filipinos. They are in favour of in-person experiences with sales staff and physical stores when they make a purchase decision. The increasing number of singles and smaller households is boosting demand for compact household items. Low-income households tend to buy products in lower volumes or weights, even though these are more expensive than larger packs.

Vietnam

The Vietnamese consumer demographics offer a sizable and increasingly urbanised population in emerging Asia. The GDP increased by at least 5% each year throughout the past 20 years. Consumer expenditure has been growing steadily in Vietnam, thanks to rising incomes amid strengthening economic activity. Consumer expenditure grew at a pace faster than income. Vietnam's positive economic outlook and low jobless rates have contributed to a strong consumer confidence in the country.

Reputable brands not only appeal to consumers due to their design or functionality, but also because they are often promoted as being of international quality. Office workers and younger professionals with higher salaries often look for branded products and are used to comparing local and imported items. A distinctive feature of Vietnam is that it has the highest level of female labour participation in the region, offering a larger consumer base for retailers to target.

We expect to see a steady shift in consumer purchasing preferences over the long term as the Vietnamese population is ageing while the younger population declines as a proportion of the total. Thus, considerable opportunities lie ahead for retailers operating in the health and convenience segments.

Thailand

Thai consumers are the most brand-conscious and brand-loyal in Southeast Asia. They also spend more than their neighbours, which is reflected in their higher debt levels. They are willing to pay more for their favourite brands and it is not common for them to switch brands. Like their neighbours, consumer expenditure is growing as the steady rise in income is generating optimism among consumers.

While advertising through traditional communication channels, such as Television and In-Store Promotions, is effective, word of mouth recommendations have a big impact on a brand's reputation, which consequently can boost sales. Consumers also expect high-quality customer support and after-sales service, both of which are considered when deciding whether to make a purchase.

The younger generations are more health conscious, so they spend more on healthy food options and supplements. Influenced by social media, they are also appearance conscious, so they spend more on gyms, cosmetic procedures and plastic surgery. Online and digital channels continue to grow as the preferred source of information. These channels have a greater impact on younger respondents aged 20-29.

The night economy

The night economy is a growing trend driven by demographic shifts and the entry of Gen Z into the consumer market. It is also emerging as an area of focus for the government. The term describes consumer activities, leisure, travel, retail, F&B, etc., that are taking place from 6pm to 6am.

Data from DiDi, the Chinese transportation service company, show that night-time orders for drivers saw a YoY 20% increase in Beijing's central business district in 2019. In other cities like Dongguan, Changsha and Zhengzhou, orders jumped even more, as much as 50%[23]. Retail sales in night-time takes up 60% of the total, increasing at 17%, with sales made at large shopping malls during 6-10pm taking up over half of sales for the whole day[24]. Leisure activities increasingly popular among night-time consumers such as live bands, beer-brewing restaurants, escape rooms, interactive events, theatres and e-sports halls, are held in the evening or late-night hours[25]. For example, after launching the "Happy Hour 2.0" programme, Taikoo Li Sanlitun extended its business hours to 23:30.[26]

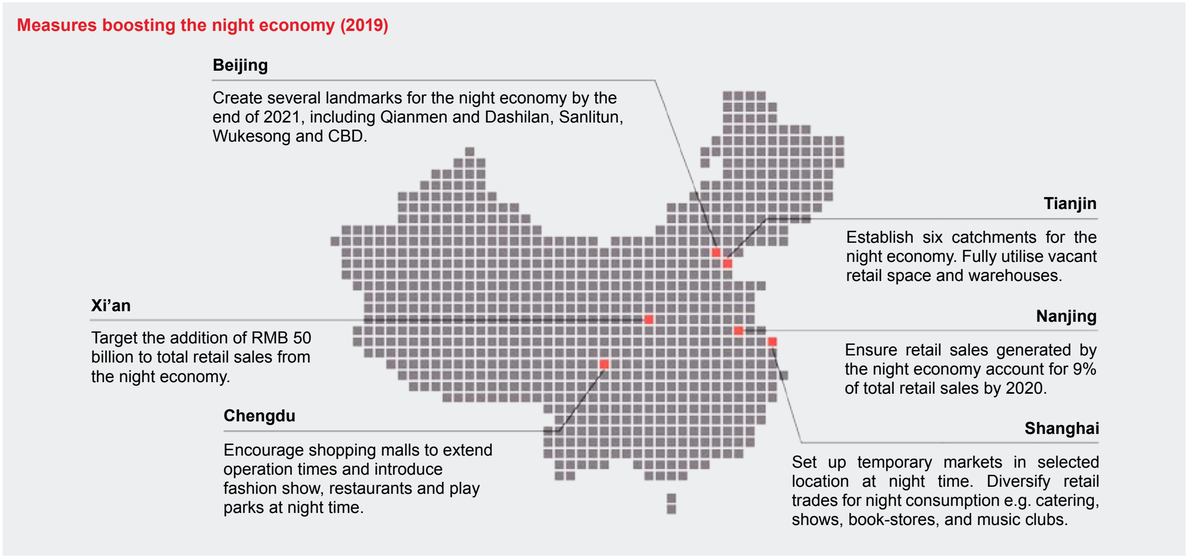


Fig 5 - Cities' steps to boost the night economy.

1.3 Urbanisation

Shopping mall saturation in top tier cities

With the rapid economy growth in the past two decades, the number of shopping malls in China is starting to reach saturation, especially in Tier 1 and top Tier 2 cities. In the past 10 years, the average annual growth of shopping malls has been around 24%, aggregating to a total area of 680 million square metres of retail space.

In the first two quarters of 2019, it was observed that only 194 new shopping malls were launched, indicating an approximately 40% decrease in new launch rate for first two quarters from 2018, reaching the lowest in the past five years.[27] [28] A new low is predicted for 2020.[29] In Shanghai, around 1.28 million square metres of retail space underwent revamp in 2017, with 57 in core CBD areas.[30]

This trend is fiercely driving existing shopping malls to transform. Introducing more experiential services, implementing digital technologies to reduce friction in customer services, upgrading management and operation from tenant selection stage are some of the major measures taken to revitalise shopping malls.

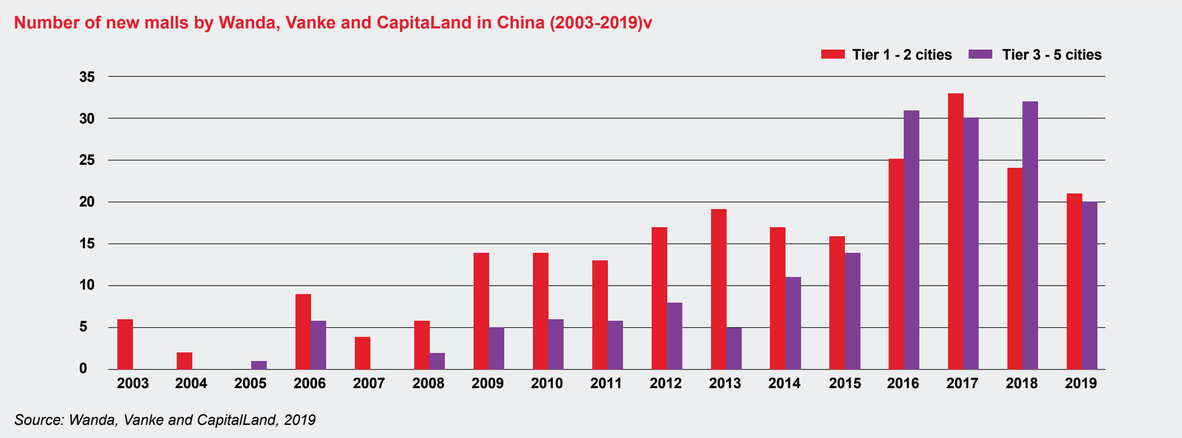
Fig 6 - Number of new shopping malls in China.

Lower tier cities in China

Chinese businesses have turned their attention to markets in Tier 3 and below cities in China, as they embody a major population with huge buying potential. They are a major spending force not to be overlooked, now and in the future:

- Young free spenders in Tier 2 or below cities constitute 25% of the population but 60% of the spending growth from 2017 to 2018[31].
- Number of middle-class increasing rapidly in tier 3 and 4 cities.
- Leading growth of disposable income and spending ahead of city population in the past five years[32].
- Over 70% of new active users come from this market in TMall in 2018 and 2019.
- Spending on Taobao's travel app increased by over 60%, compared to the 30% overall increase from whole nation.

Fig 7 - Number of new malls in China cities



Key reasons of the bloom in lower tier cities:

- Higher ratio of disposable income due to lower housing expense than Tier 1 & 2 cities.[33] [34]
- Increasing internet and e-commerce penetration to release buying potential from the originally under-tapped market (i.e. not necessarily tier 3 or below, but originally not easily accessible, such as suburbs, new blue collars in cities, etc.)
- Over 1000 counties don't have shopping malls / mixed development facilities, while over 600 of them bear the population amount and economic indicators to support shopping mall business[35], i.e. still under-tapped.

Are shopping malls going smaller?

It is observed in South East Asia that while developers are building more malls, the malls are going smaller.

In China, it is observed that shopping malls built by the three mall giants, Vanke, Wanda and CapitaLand, have decreased in size from an average of 150,000m^2 in 2011 to 110,000m^2 in 2021.

South East Asia countries

While occupying 2.6% of the world's land area, South East Asia countries are the homes to 8.6% of the global population. This is an interesting and worthwhile market to study due to the following additional reasons:

a. tropical climates result in similar mall-goer preference
b. similar e-commerce market potential
c. all witnessing increase in consumer confidence

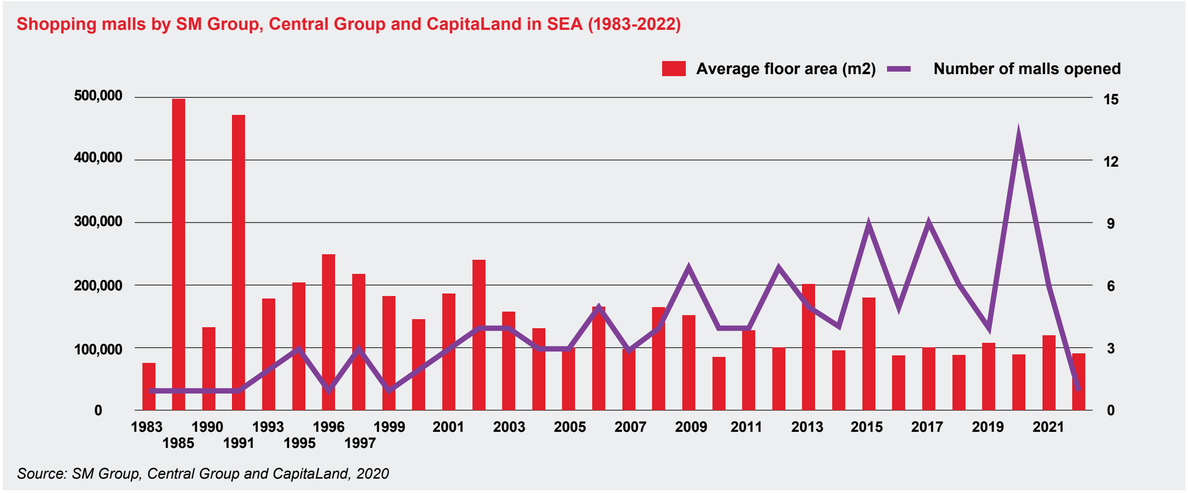


Fig 8 - Average floor area of shopping malls by SM Group, Central Group and CapitaLand in SEA

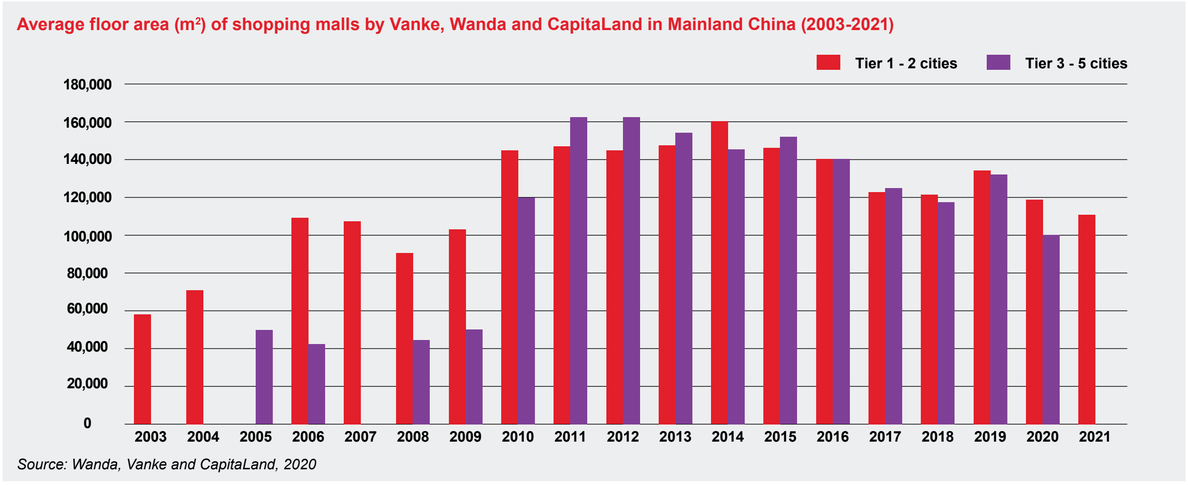


Fig 9 - Average floor area of shopping malls by Vanke, Wanda and CapitaLand in Mainland China

d. all showing strong GDP growth that is above world average
e. different development / urbanisation level but all increasing - Singapore and Malaysia taking the lead with 100% and 76% respectively in terms of urbanization level, others are comparable with values ranging between 35% and 55%
f. other differences that affect consumer behaviours include religion, culture and ageing level

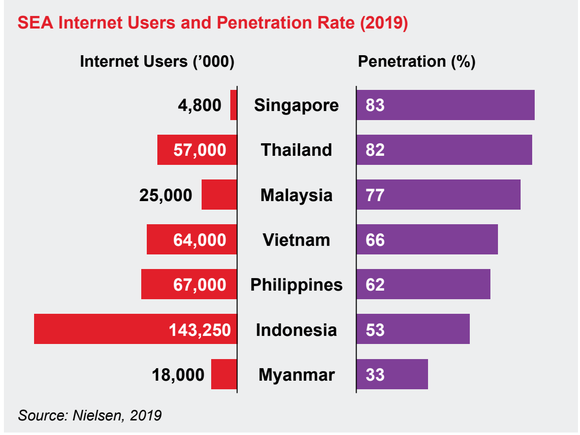


Fig 10 - Internet penetration for e-commerce readiness[36].

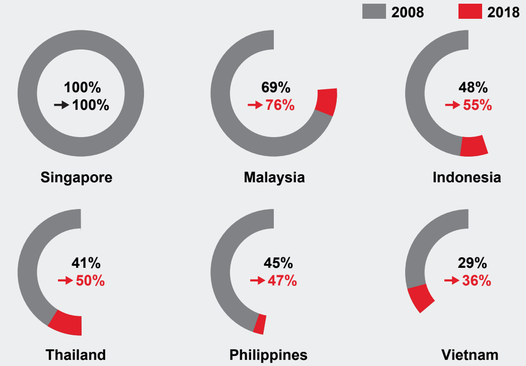


Fig 11 - Urbanization level in SEA countries[37]

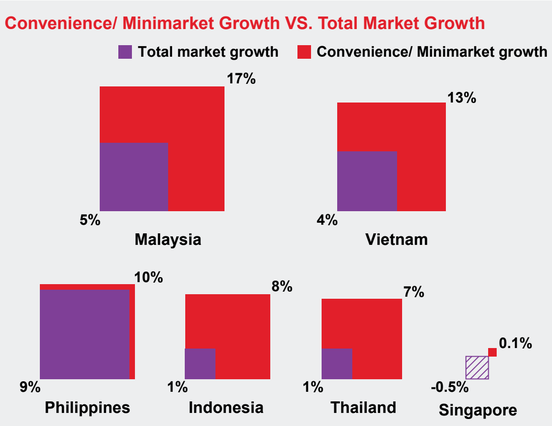


Fig 12 - Growth of convenience store / minimarkets compared to growth of the total market

As South East Asian countries continue to urbanise, not only have new shopping malls become smaller, there are also more convenience stores and minimarkets.

1.4 Technology

Technology is driving changes as always, but this has been happening much quicker in recent years. Several key drivers that have profound impact include:

- A digital society requires digitally enabled daily processes
- Digital and physical environments are merging to form hybrid spaces
- User experience and predictive consumer analytics are becoming critical differentiators
- Ubiquitous availability and falling price of technologies are providing their numerous deployment opportunities in retail
- Environmental regulation and optimising efficiency will drive demand for improved asset performance

In this publication, you will find the applications of many emerging technologies to drive the advancement of retail business as well as upgrading the user experience, including cloud computing, E-payment, Machine Learning (ML) and Artificial Intelligence (AI), IOT and sensors, big data, VR/IR/MR, RFID, BIM, 3D printing, live streaming, social media, drones, etc.

Fig 13 - E-commerce revenue in China and worldwide from 2017 to 2024

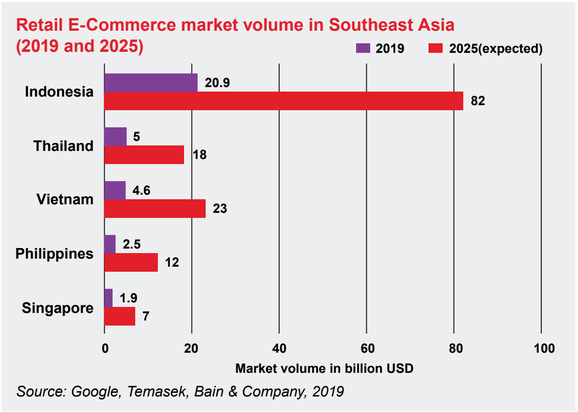


Fig 14 - Projected retail e-commerce market volume in Southeast Asia in 2019 and 2025

Comparison of technology acceptance levels in China and Thailand (2019Q3)

Digital payments overview

Financial inclusion factors

	Annual value of digital payments	People making digitally payment transactions	Average value of digital payments per users	Annual change in the value of digital payments	Has an account with a financial institution	Percentage of women with a credit card	Percentage of men with a credit card	Percentage of women making online transactions	Percentage of men making online transactions
China	$1.57 trillion	835.00 million	$1881	23%	80%	18%	23%	48%	49%
Thailand	$13.21 billion	39.80 million	$332	23%	81%	9.5%	10%	19%	19%

Adoption of digital innovations

Mobile actions

	Use voice search or commands monthly	Watch TV content via a streaming service monthly	Own some form of smart home device	Own some form of cryptocurrency	Watch mobile content through a TV	Use or scan QR codes	Use an image search tool or service	Use a mobile phone as a ticket or boarding pass	Transfer money to friends or family
China	55%	74%	15%	7.2%	33%	42%	46%	26%	60%
Thailand	47%	54%	3.7%	12%	27%	54%	60%	15%	69%

Source: Global Web Index, 2020

Fig 15 - Comparison of technology acceptance levels in China and Thailand

Digital payment

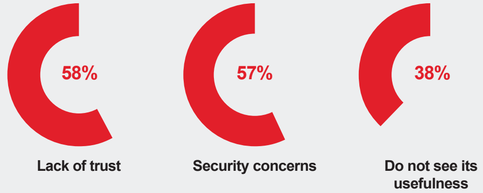
Advancement in digital payments plays a crucial role in driving e-commerce growth and improving user experience. With more and more payment methods (online and offline) available, two major challenges the payment industry faces are (1) security and (2) seamless payment experience.

- In terms of security, tokenization is one measure the industry has implemented. When paying online, e.g. Netflix, the merchant does not store the exact card number but will be assigned a token number associating with the card.

- The China market has been, and now Thailand market is interested in, using biometrics such as facial recognition for payment, but it is not a widely accepted method in Singapore due to issues such as privacy and security. This is not a technology problem – even if privacy can be safely guarded, people still do not prefer giving out biometric information. Contactless payments are widely accepted. For example, people can tap visa card to pay for public transport now instead of having a separate card. However, social acceptance is still the key issue in some countries.

Despite the increasing uptake of online shopping, citing a lack of trust in product authenticity and security concerns as two of the top deterrents in Thailand. In addition, a significant 38% do not see the usefulness of online shopping, implying that opportunities exist to win over such consumers through better engagement and communication. Ultimately, trust is an underlying issue that remains to be addressed.

Top three deterrents for online shopping in Thailand



Source: Deloitte, 2018

Fig 16 - Top three deterrents for online shopping in Thailand.

To strengthen its competitiveness, the digital payment industry utilises the latest technologies to provide different added-value services:

- Visa provides analytics services to merchants. For example, if a merchant wants to open a new branch, Visa can use their data to analyse and suggest locations. Another one is marketing consultancy service. Visa can advise

what kind of demographics to target and build collaboration among merchants for cross-selling.

- Another innovation from Mastercard is on 'order-on-table' solution that uses a projector to project menu on a restaurant table, so that people can read the menu and order together, and pay on the table too. This is like scanning the QR code and get menu solution that is well adopted in China, but much better because the interface is more friendly when used by a group of people.

COVID-19 – The accelerator

COVID-19 has pushed malls and shops to go much more online. After Chinese New Year public holidays in 2020, more than 60% physical shops were closed in shopping malls and over 60% retailers had operation reserves that could last no more than three months.

New retail models

UGC (User Generated Content) social commerce

Social media is now an integral part of consumers' daily lives and is becoming a popular marketing and sales channel. Social commerce is gaining widespread popularity, especially in China. Its GMV (gloss merchandise value), or total volume of gross sales, is expected to keep growing at a fast pace to reach 1.3 trillion yuan (US$185 billion) in 2020 and more than double to reach 2.86 trillion yuan in 2021, according to a report released by China Internet Watch (CIW). Three major key social commerce platforms exist in China and their representative companies are shown below:

Consumers use social media as a platform to look for product information, compare products, place orders, share usage experiences and recommendations. Young consumers are particularly likely to buy on social commerce sites based on the recommendations from friends and KOLs (Key Opinion Leaders). In China, user-generated content is one of the most effective ways to increase engagement and customer reach. Interactive elements such as live streaming, short videos, VR/AR are also essential to improving customer experience.

Key social commerce platform in China.

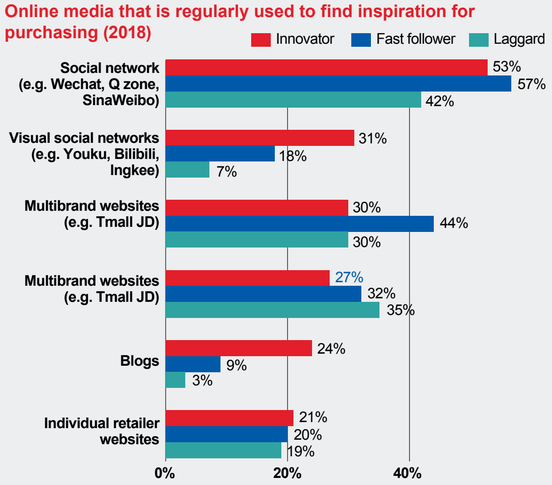


Fig 17 - Innovators look for inspiration across a wide variety of social platforms

Fig 18 - Market size of social commerce in China, 2015 – 2022E

Live-streaming commerce

The live-streaming shopping medium is a great way for brands and retailers to interact with customers, especially the young ones, and drive sales. Influencer marketing via live streaming has gained huge popularity in the past five years:

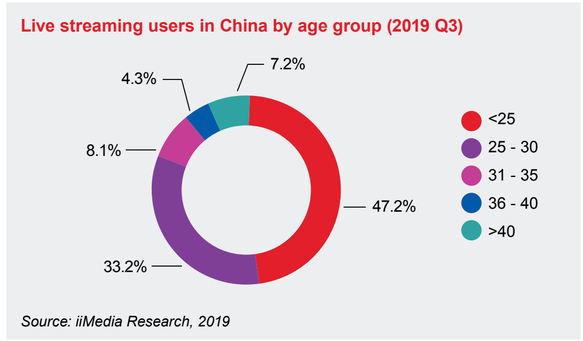


Fig 19 - Shape of live streaming users in China, as of 3rd quarter of 2019, by Age Group

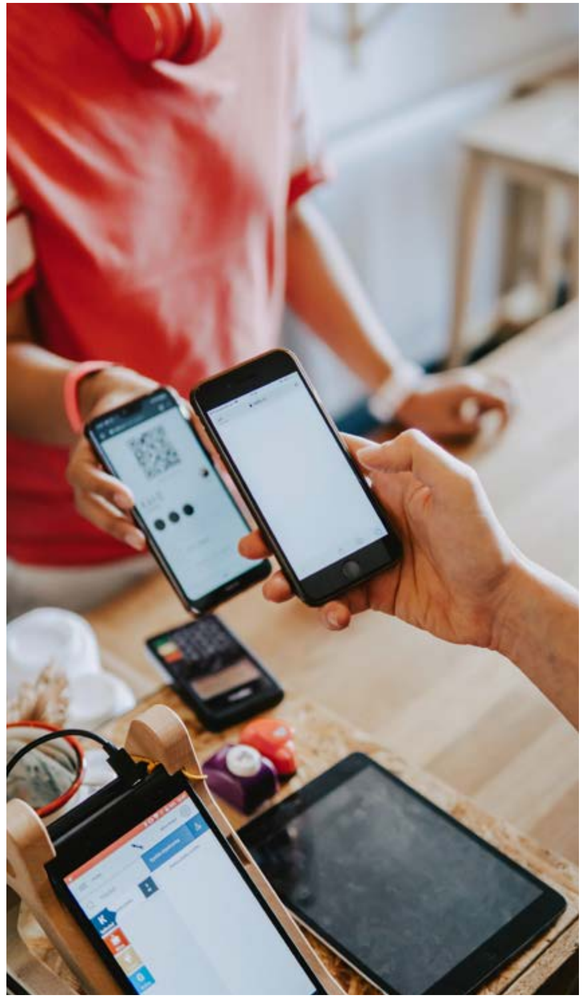
Taobao[39] publishes an annual report dedicated to this live-streaming retail ecosystem. The 2019 report shows that it has already developed into a RMB100 billion business with 400% growth rate. Total fan base of internet influencers has increased to 588 million, signifying a 25% YoY growth in China. In the Single's Day Sales event in 2019, video commerce used only 63 minutes to make sales more than it did the same day in 2017 and reached a RMB20 billion sales for the whole day. The number of hosts and live-streaming sessions doubled those in 2017. While 16% of all the sales in cosmetics came from video commerce, one interesting point to note is sales made from this channel in home decoration/renovation and consumer electronics had increased 400% from 2017.[40]

Facebook Inc acquired a small video-shopping start-up in early 2020 to help build a live shopping feature inside the company's Marketplace product. They are exploring ways to let buyers easily ask questions and place orders in a live broadcast set-up

Mobile and automated commerce

Mobile payments will continue while cashless stores will spread, driven by consumer demand for speed and convenience, enabling new configurations in retail spaces. Global retail patterns will continue to increase mobile purchases and mobile payments. The percentage of digital commerce made via mobile has already surpassed 50% worldwide.

This is coupled with a desire for convenience, where consumers expect to receive their goods within a highly specified window of time and space. The consequence will be a significant global and local increase in the demand for and movement of small- to medium-sized parcels[41]. This will put growing pressure on companies, cities and districts to rethink how goods can



Mobile payment has replaced other means of payments in Chinese large cities

be moved in a more efficient and sustainable manner. In turn, this will open the door for greater automation, consolidation, and more direct incentives for consumers to sacrifice speed and convenience for lower carbon and less congestion.

From discovery to delivery, retail brands are automating the customer journey. Tencent[42] showcased some unmanned retail concepts in convenience stores, or vending machines, including EasyGo, Miss Fresh, and CityBox. The three companies were using WeChat payment and mini programme to operate their businesses. Currently, 95% of e-commerce companies in China are integrating mini programmes.

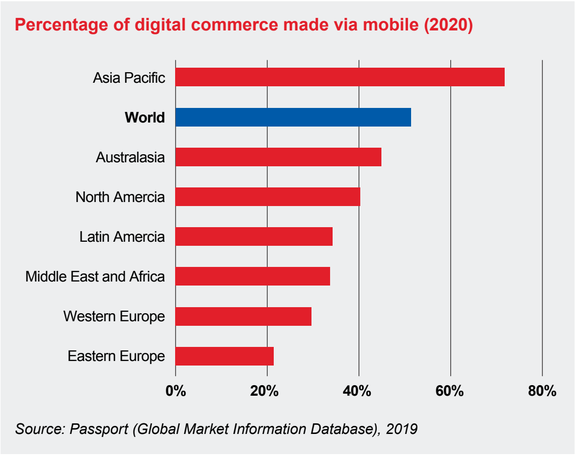


Fig 20 - % of digital commerce made via mobile 2020.

Direct-to-customers (DTC)

The emergence of direct-to-consumer (DTC) brands is one of the new retailing methods. Independent brands, especially new ones, from around the world are selling products to consumers via Instagram and Facebook directly, without a physical presence nor a middle-man e-commerce-specific platform like Taobao or Amazon (since technically, Instagram is a social media platform instead of an e-commerce one). This is also a well-accepted trend on consumers' side. In 2018, 81% of consumers plan to shop direct-to-consumer brands within the next five years[43]. Examples of these brands include Glossier, Everlane and Allbirds.

DTC[44] does not only mean that brands market to consumers directly, they also handle their own inventory, shipping and returns, as well as after-sales customer services and loyalty programmes. Usually, they sell exclusively through their own online channels, but some of them also work with online and offline stockists. DTC brands[45] are aiming for simplicity instead of comprehensiveness. Some well-known DTC brands, unlike conventional brands, offer just several choices of products and while allowing a low degree of personalisation, such as engraving initials on the product from Undone, a watch brand.

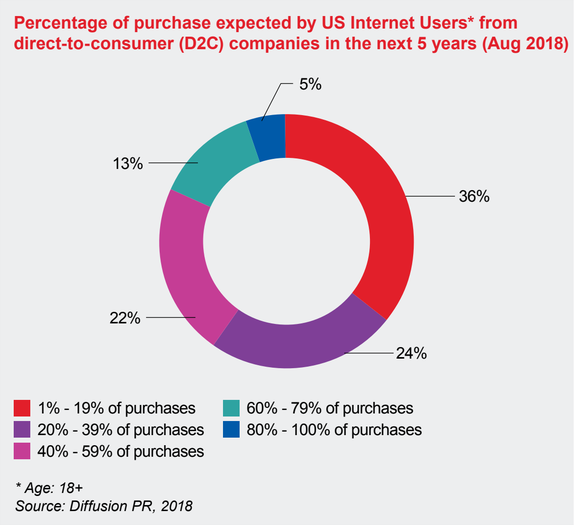


Fig 21 - US internet users expect to purchase from Direct-to-customer companies in the next 5 years.

Evolving logistics capabilities

Online shopping delivery experience

To provide seamless user experience to customers, effective delivery after online purchase is key. JD.com has opened its logistics network to consumers to send parcels around China. JD's new parcel delivery service[46] enables users of the company's app in Beijing, Shanghai and Guangzhou to send items intracity and throughout mainland China, using the same fast and reliable delivery service they get when making purchases. It has also started operations at the world's first unmanned smart delivery terminal in Xi'an[47].

The centre will enable them to provide last-mile logistics services to customers in urban and rural areas. It also gained approval from China's aviation regulator for the world's first national pilot program to test delivery drones on a large scale, also in Shaanxi province, making it the first company certified to deliver products using drones on a provincial level.

Neolix[48] started using autonomous vehicles in 2018 to cater for the last mile delivery and its mobile service network has covered over 10 cities in China. There was great attention paid to it, rapid increase in usage during the lock-down period of COVID-19.

The expectation of customers on delivery is very high. Around one third will never shop with that brand again if they have one bad experience. There are other detrimental effects affecting the image of that brand, as shown below.

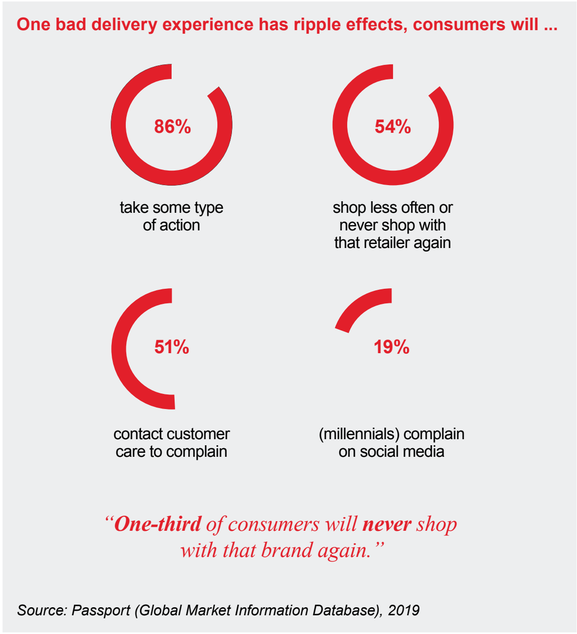


Fig 22 - One bad delivery experience has ripple effects

While consumers are shopping online more often, they become more disappointed with delivery. Complaints about shipping costs and time of delivery are the most common reason for the dissatisfaction.

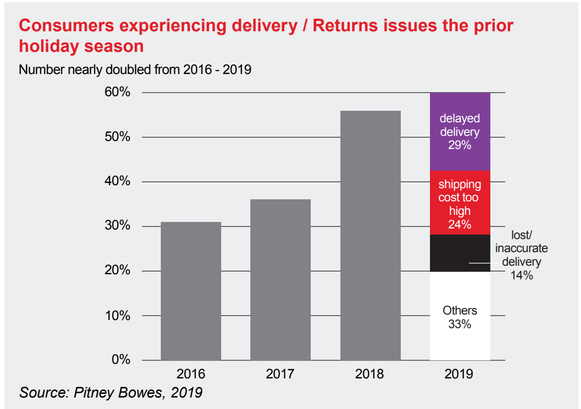


Fig 23 - Delayed delivery is the most complained about online shoppers.

Free vs fast shipping

Free shipping is becoming a norm for the current retail practice (especially online). This is the top driver for repeat purchases. Customers also expect their goods to be delivered within an acceptable time frame. The tipping point would usually be around 3-5 days in the US and 0-1 day in China. Apart from free and fast shipment, customers would look for other options on how they receive their goods. A robust and efficient logistics system with latest technologies such as RFID, AI, big data, etc is now of paramount importance to retailers.

Fig 24 - Free shipping is the number one drive of repeat purchases

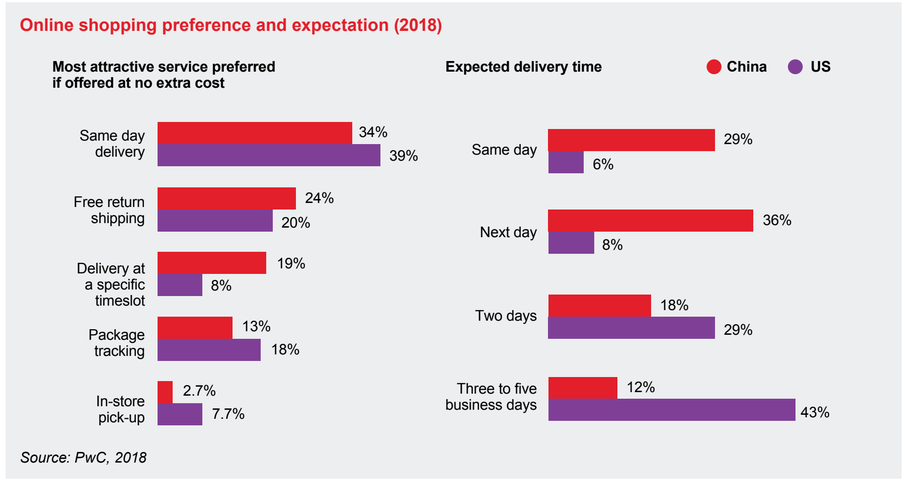


Fig 25 - Supply chain: minimizing costs while maximizing flexibility and value.

New and value-added services

Smart retail for greater convenience and experience

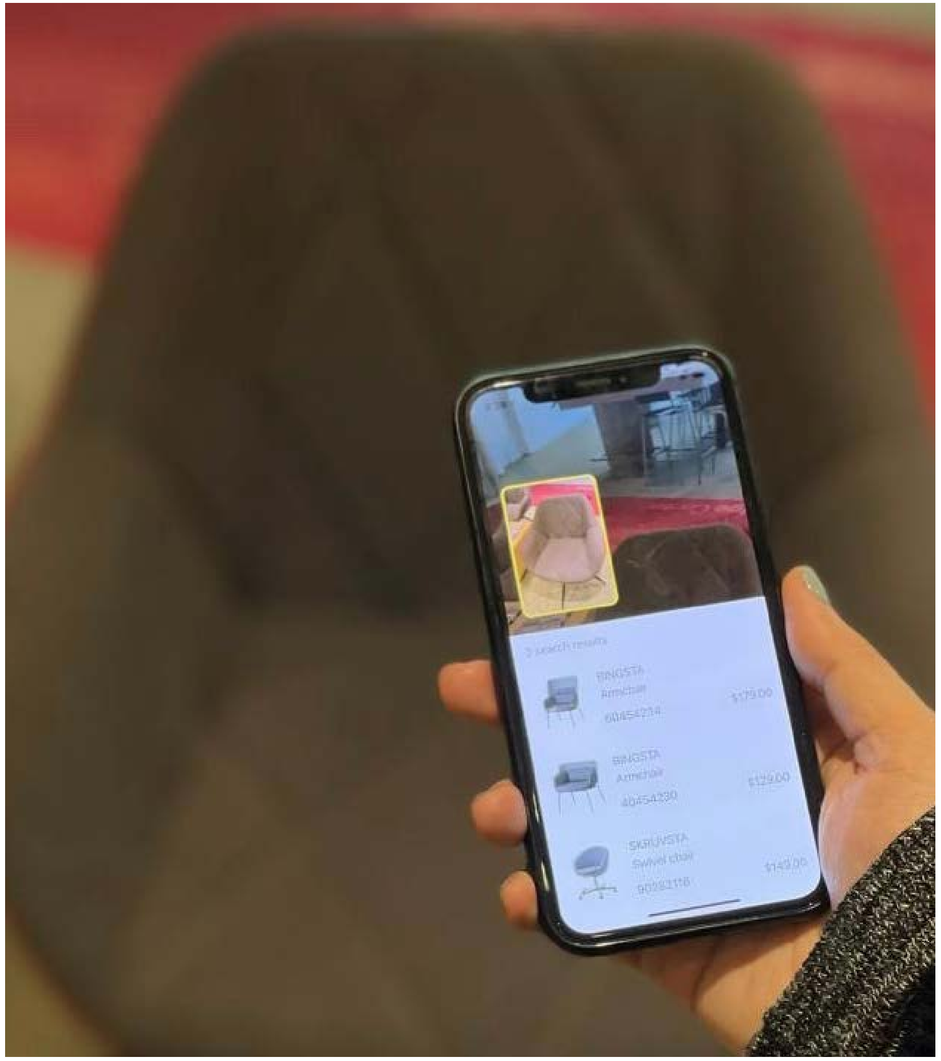
Artificial Intelligence

Human interaction with AI is transforming the customer experience. While faster delivery and service can be offered through automation, personalisation is still highly desirable among most customers.

Human interaction remains a key factor in cultivating customer loyalty and creating repeat business, and many shoppers still prefer interacting with a sales associate when visiting a store to buying online. Retailers aim at creating more human interactions between automated processes and customers through highly connected sales professionals. Many retailers[49] have acquired AI start-ups through M&As and these acquisitions have added AI-driven customer analytics, in-store inventory management, and personalised e-commerce experiences to the retailer's capabilities.

Google uses AI to detect objects and find matching products from IKEA.[50] This enables the customer to shop based on visual information, helps reduce friction with product search and purchase. This can be further extended to help enhance recommendation based on visual similarity, analyse style trends and competitive pricing. In Hong Kong, Google is working with New World Development on K11 Musea to perform consumer sentiment analysis through social media on their customers' response to different displays and facilities within the Shopping Mall. In the UK, Google worked with Ocado to deploy their AI platform for email classification with tags and categories, and thus enables agents to efficiently respond by level of urgency.

Real-time analytics provide actionable intelligence that can drive bottom-line sales. In-store facial recognition technology means access to a goldmine of consumer data. Information on customer journeys around the store, shopping behaviours and emotional state will allow retailers to build detailed models of individual customers they serve. These retailers will start to know customers and their deep, often unconscious preferences better than customers know themselves.



Deploying artificial intelligence in IKEA.

Case study 2: Taobao Buy, China

Alibaba Taobao Buy allows customers to place 3D holograms of selected products from their online store into users' own environment to see how they might look in a room. A customer can look at, for example, the virtual dishware and see how it looks in front of him before making the final decision to purchase. Using basic hand gestures, he can move and place items around the shopping floor or the demo kitchen counter. The AR shopping experience will give him access to information such as item specifications, customer ratings and comments via a digital display.

Smart facility utilization

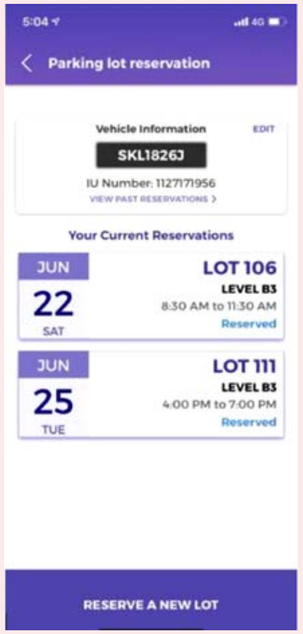
Wayfinding and smart parking

Hong Kong Airport Authority utilises their HKG My Flight Mobile App to provide passengers with useful information around the airport. Users can check car parking availability in real time and even book a parking space in advance. With iBeacon technology and AR technology, passengers can easily navigate within terminals to find, for example a coffee shop, and translate the airport signage into nine popular languages.

Some apps deployed by shopping malls allow retailers to push out their promotions and display advertisement for a fee, or as part of a lease package. Mall app wayfinding features are a great way to navigate malls, especially for those who don't go there often or are on a tight timeline. They show shoppers where they are in the mall and can generate a shopping route based on what they want to buy. The app can be configured, for example, to allow a shopper to pick retailers who have sales on the items on her list. It will also indicate the closest exit in case of emergency.

Case study 3: CapitaLand, Singapore

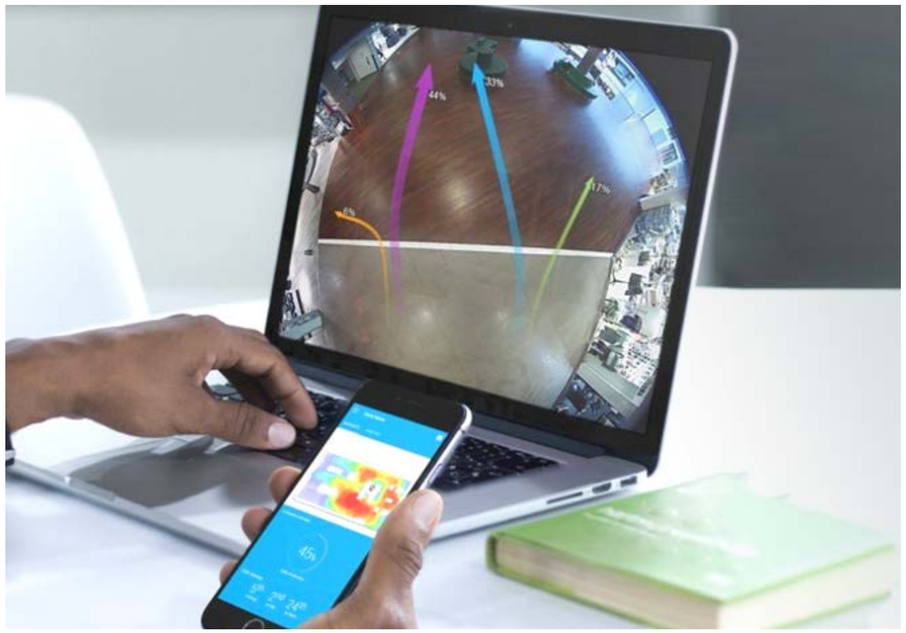
CapitaLand in Singapore provides the CapitaStar App that allows drivers to book their slots in advance when customers reach malls such as New Funan or Jewel Changi Airport. They will be guided to the exact location lot by the video based smart car parking facility. Customers can also use their CapitaStar loyalty points for payment.



Customer flow
In addition to the application in smart car parking, through leveraging existing video surveillance infrastructure, video analytics are a highly cost-effective means to augment security in stores and malls with new detection capabilities, reduce staffing requirements by directing attention to key events, automate access control and other facility functions, and collect data on customer behaviour.

Video analytics have been deployed for customer demographic and sentiment analysis to provide a better understanding of consumer preferences. It helps understand visitor flow rate, sentiment, flow and dwell time. This can also be used to gauge staff's performance, providing KPIs to monitor customer service quality. Heat mapping is a powerful tool to learn where in the store customers are most likely to buy products and shows how customers move around a store. Accurate, consistent customer traffic analytics not only can help the retailer reconfigure the store's layout to maximise revenue but also the mall owner to optimise the mall's layout and store locations and thereby maximise rental returns.

Responsive smart mall
Apart from car parking, wayfinding, shopper movement tracking and surveillance, with the use of RFID, IOT and advanced sensors, facility managers would be able to locate various assets and to obtain their operating conditions and status to help with maintenance issues.

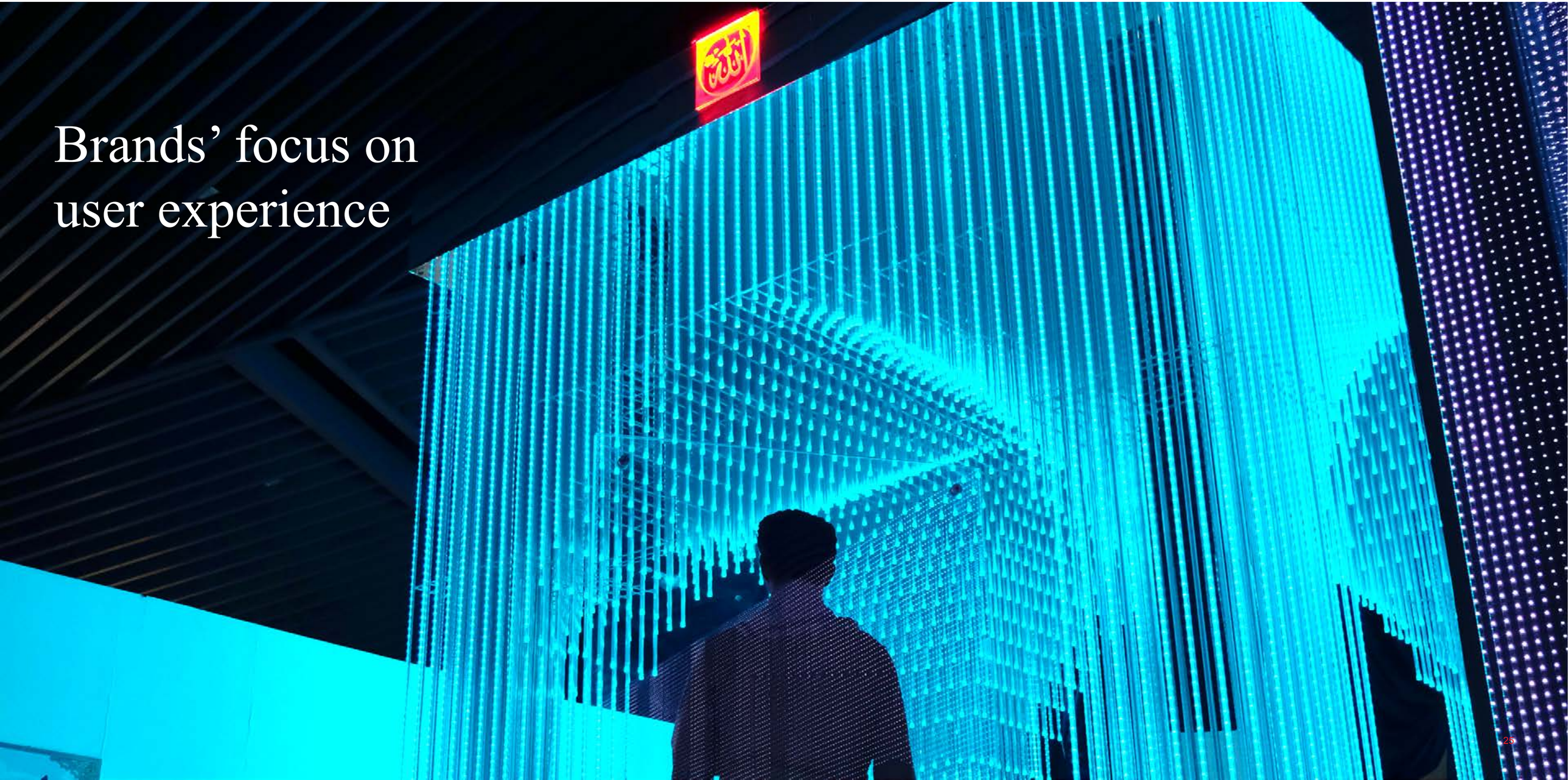


Video analytics to augment security in stores and malls.

Sensors can be used to measure and automatically adjust temperature, air quality, humidity, ambient light, surface cleanliness and other environmental factors. HVAC, lighting and other systems can be configured to react automatically to sensor data. Developed Arup, Neuron is a total solution taking the concept of smart buildings to a new level and changing the way buildings are designed, constructed, managed, operated and maintained. It not only helps buildings achieve energy savings, but also creates a better indoor environment that focuses on the health and wellbeing of the occupants.

Site selection
Big data can help a retailer select the right retail location. Various platforms exist that allow retailers to make data-driven decisions when selecting retail locations. These platforms can classify every neighbourhood across a country based on a range of characteristics, demographics and accessibility. This enables retailers to determine the optimum number of businesses the area can support and revealing potential commercial opportunities. Maptitude[51] is one of these tools which is based on GIS that can perform site selection. It is therefore clear that the success of retail business can be influenced significantly by how we deploy these emerging technologies in innovative ways to address customers' needs and improve the user experience.

Brands' focus on user experience



2.1 From curation to personalisation

As the world is experiencing unprecedented changes, brands and retailers are being challenged to meet a set of rapidly evolving consumer needs and demands. Brands will need to continuously adapt their strategies and update their offerings to (1) meet consumers' needs for safety and reassurance, (2) reach out proactively to potential customers and (3) create service-oriented offerings, in line with the ongoing shift in retail as we move into an era of hyper-personalised and hyper-local curation.

Consumer preference

The pandemic has already made, for example, thousands of retailers from Bangkok to Singapore set up shop on big e-commerce platforms in order to remain competitive; with many shopping malls across the South East Asia region going virtual for the first time. Having said that, physical stores remain appealing to consumers. There certainly exists certainly a desire for them to visit physical stores, particularly when it comes to shopping for apparels, mobile phones and domestic appliances. The pandemic has pushed retailers to re-think whether physical locations are primarily for in-store customer engagement, leading to the formation of new business models.[52]

Consumers will look for the right balance between indoor and outdoor spaces, between simply shopping for the best deal, dining with friends, seeking entertainment or a place to do

Fig 26 - Reasons not to purchase online in HK and SEA countries (May 2020)

work. And, technology will enhance convenience, such as indoor navigation or cashless payment systems, all being done in a safe and hygienic environment under the same roof. As the boundary between work and entertainment is becoming blurred, consumers will need to navigate through and utilise places with great connectivity and comfortable environments equipped with quiet, Wi-Fi-connected zones, natural light, clean air and good thermal comfort in order to rest, rejuvenate and focus.

Curated onsite customer environment

Mall owners and operators have been looking for ways to engage shoppers in order to understand patterns, demographics and preferences. The answer lies in 'personalisation at scale'. With IoT

Use of AI in shopping malls

networks and GPS signal reception deployed across geographically distributed malls, aggregated and anonymised data about shoppers' behaviour and preferences can provide insightful intelligence.

By monitoring Wi-Fi and Bluetooth signals from smart devices, not only can mall operators track the user's location within a range of seven to eight metres, but they can also perform customer profiling analysis such as checking whether the phone is an expensive or a humble one. Such data can be logged every three or four minutes. They are then processed and integrated with CRM to enable smart decisions to be made and to send personalised marketing promotion back to the visitor's smartphone via the mall app.

With AI increasingly being deployed in e-commerce, on-site personalisation uses insights to create individualised experiences. AI can be used to gather information about visitors and thereby help adjust the site according to their needs. Consumers value experiences and products that have been tailored to them. This is something that is often lost in switching to online, self-service shopping. Implementing personalised experiences on-site or in marketing efforts have a strong effect on revenue. A study shows a 25% revenue lift. Recent data also shows personalisation efforts can reduce bounce rates by 45%.[53]

The increased threat from tech-enabled online shopping pushes high street retailers to respond with a move towards curated, 'special' customer environments beyond just clothes rails, mirrors and pop music. Working with their strengths to provide consumers with a memorable, shareable in-person experience is something that website, no matter how sophisticated, can never match.[54]

A new rise of national brands

While quality and luxury foreign brands are still conventionally sought after by consumers, there is a growing presence of 'national brands' in the market. Many of them have become popular and trendy brands, well accepted by young consumers, not by changing their design, but rather reserving its heritage to distinguish themselves from others.

Feiyu, a Chinese sneaker brand founded in the 1960s, is a good example. Sales first peaked at 1.4 million pairs in the 1980s and its customers were mainly from the working class. Sales dropped to less than 0.5 million pairs in 1998. The brand was sold to a French businessman in 2006 and then regained its popularity, with sales picking up to 6-7 million pairs. Physical stores have popped up in popular sightseeing spots in major cities in China, as well as online stores on Taobao. The brand's fans now include not only young people but also the new super rich.[55] White Rabbit, a traditional Chinese sweet brand,

Feiyue regains its popularity in China's sneaker market.

has created very popular cross-over products with a range of diverse western brands, such as limited edition sweet with agnes b[56] and White Rabbit flavoured ice-cream with Godiva.[57] When its pop-up store selling White Rabbit flavoured milk tea was opened in LuOne Shanghai, some customers queued for hours to get a cup and its price skyrocketed from RMB25 to RMB480.[58]

Circular and responsible retail

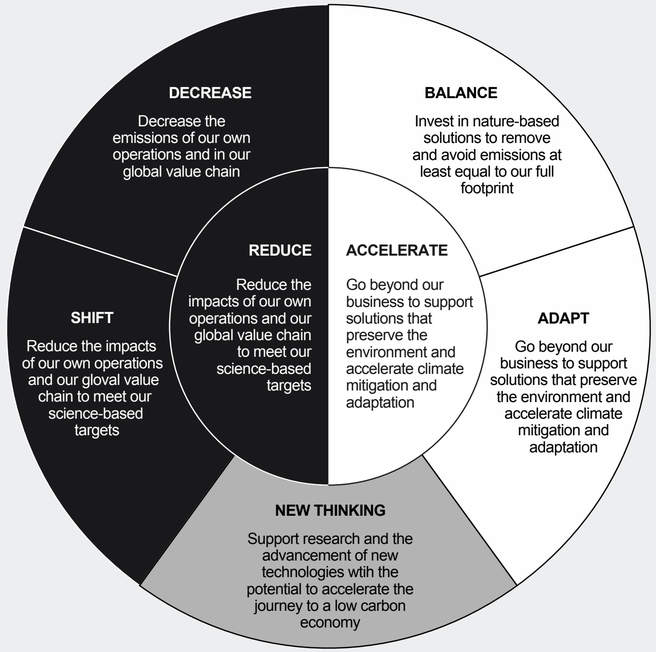
The ecological, climatic and social crisis we are going through make us question our ways of working, consuming, and more broadly, living. Now is the time for a paradigm shift. Civil society, more and more alert and demanding, demands companies to follow the movement, to get involved and to contribute to a desirable future. To the point of pushing companies - large and small - to look for a purpose for themselves in a hurry, on the possibility of being reduced to the status of economic agents for low mercantile ends. Can a business still exist without purpose?

Fashion brands are responding with action plans to the rising concerns on climate change, loss of biodiversity, ocean pollution and social destruction that retail brings. Increasingly, more customers are looking into brands with appropriate responses. Over 65 brands, from high-end premium brands such as Hermes and Chanel, to high street affordable brands such as Decathlon, Zara and H&M, as well as key players in the global retail supply chain such as the Fung Group, joined the global coalition, The Fashion Pact, to commit to tasks that can hopefully ease the imminent threats to climate, biodiversity and ocean. Tasks set so far include using 100% renewable energy in operation and extending the initiative along the supply chain, eliminating use of plastic bags by 2030, and eliminating sourcing from unsustainable farming.[59]

In early 2020, Chanel published a report that explains what they would do to live up to their commitment to this pact. Called Mission 1.5°, Chanel's action plan aims to help limit average increase in global temperature to 1.5°. It sheds light more specifically on how these tasks can be achieved. For example, giving the Gabrielle Chanel perfume bottle with cleaner and thinner design reduced carbon footprint by 40% compared to typical 50ml perfume bottle, investing in local projects and businesses in low income countries that Chanel sources from, and equipping local workers with knowledge on climate-resilient farming and ecosystem management practices.[60]

In the process of recycling, we should not stop at recycling the product only, but also consider recycling of the package, which seems trivial individually but aggregates to a major problem in recycling.

CHANEL MISSION 1.5°



Source: Chanel, 2020

Fig 27 - Chanel Mission 1.5°

Case study 4: Slowood, Hong Kong

"Live clean, use less, make lifestyle choices consciously", says the company owners. Looking more like a Scandinavian minimalist showroom than the city's newest sustainable grocery destination, the concept behind Slowood is as beautiful as the store itself. From bulk bins to refill stations, biodegradable daily essentials to natural beauty, zero waste essentials to a slow food cafe in the back corner, this spatial Kennedy Town natural food and package-free market is designed to help conscious consumers achieve a sustainable lifestyle.

The 3,000 square feet Kennedy Town store, with airy ceilings and natural light going through street facing steel-framed windows, muted colour tones, uncluttered interiors aesthetic allows for the carefully curated FSC, compostable and handmade products to practically advertise themselves.

In many cases, recycling or related efforts don't make business sense; for example, it costs more to recycle a piece of garment than making a new one. Key incentive for businesses to do so, apart from their consciousness in sustainability, is the value from increasing environmental conscious investors and customers. ESG can be a good approach to evaluate benefits.

Case study 5: Inditex and Zara

Inditex, the world's largest apparel retailer, which is the mother company of Zara, announced its eco-efficiency plan, setting a target that all its collections will be made 100% from sustainable fabrics by 2025.[61] This entails a thorough system thinking process towards the long supply journey as sustainable fabrics are not only sourced eco-friendly from the very origin, for example, from sustainably grown fibre cops or recycled materials, but are also made sustainably during processing.[62] The group also pledged to achieve an 80% usage of renewable energy in the stores, logistics centres and offices.[63]

Case study 6: Smart garment sampling - 22 Factor

22 Factor is a tech start-up, supported by the largest knitwear specialist in the textile industry, Cobalt Fashion, to provide on-demand 3D knitting service to designers. Traditionally, when a designer realises a design from paper to an actual garment, many pieces of the same design will be made. This creates a lot of waste, especially in the ever fast changing fashion industry (e.g. Zara's 21-day policy) and that several rounds of modification are needed for one design. High-precision virtual sampling with on-demand whole-garment 3D stitching reduces production lead time, excessive stock and production cost.[64]

Shima Seiki's wholegarment knitting technology

2.2 Omnichannel storytelling

In the future, the value of a brand will be determined by the "experience" it provides on top of the identity or image it projects. This shift in brand awareness is accelerating. While household-name brands can still stay relevant as long as they adapt to meet consumers' evolving demands, to succeed brands must engage their customers with authentic conversations in order to build deeper, long-lasting relationships.

That means that for the brands of tomorrow, customer experience will outweigh price and product as the key brand differentiator. As retailers seek to develop a more fluid brand identity, the overarching principle is to allow for maximum flexibility, going for more agility at the expense of some control.

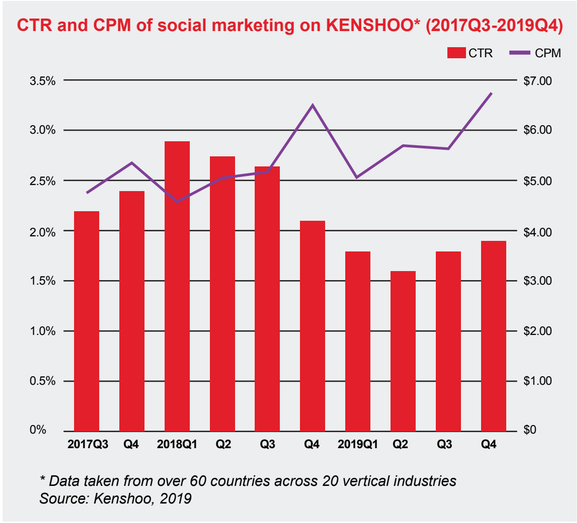
Decreasing effectiveness of social media marketing

While social media marketing now accounts for a substantial proportion of any major retailer's marketing budget, this channel remains the most difficult to analyse in terms of attributing marketing results to sales revenue.

Metrics like CTR (click through rate) and CPM (cost per 1000 impressions) are not a good measure of reach. A high CTR does not necessarily guarantee a good return on investment for the ads. CPM is not a measure of any action taken by the viewers, it is just a measure of the number of times that the ad is shown.

To illustrate this point, advertisement costs in terms of CPM on Tmall's baby e-commerce platform have increased by an average of 60% since 2017.[65] Retailers have on average spent 20-60% more on social media marketing compared with 2018. Social media marketing now accounts for approximately 20%-25% of their annual marketing budget. The extension of Alibaba's Singles Day sales event to a week from a day is another reason for a significant increase in social media marketing costs.[66]

Since consumers are less likely to be impressed by paid social media marketing campaigns, brands and advertisers need to think out of the box to engage with customers.



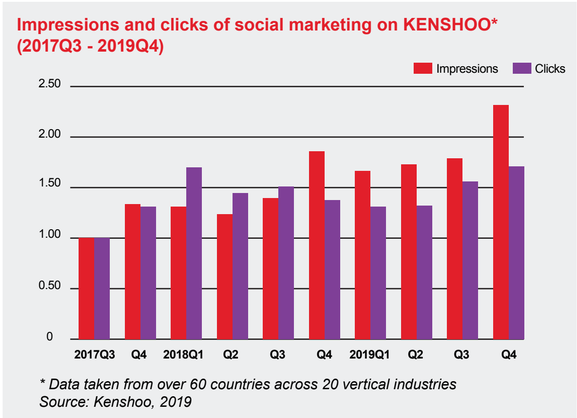


Fig 28a&b - Clicks and impressions comparisons
Data sources: Kenshoo[67 68 69 70]

Case study 7: Burberry, social retail

Burberry partnered with Tencent to open a new Burberry store in Shenzhen Bay with an overwhelming sense of design. During the pandemic, many industries were seeking change and luxury brands were no exception. The store combines physical space and social media to become the first 'social retail boutique' in the luxury goods industry.

An interactive installation at the entrance of the store evolves according to the body rhythm of the pedestrians. The WeChat applet customised by Tencent allows every customer who joins the Mini Program to get a cute digital animal character. The mascot upgrades as the customer participates in-store and on social platforms. The more interactions with Burberry, the more social currency reward the customers get. This enables the unlocking of character costumes, exclusive coffee meals, exclusive multimedia content, and personalised experiences such as exclusive access to private spaces within the 539m^2 store.

Creative Director Riccardo Tisci hopes to narrow the distance between the brand and the community, and to start a journey of common interactive exploration.[71]

Case study 8: Veja, real storytelling

Veja is a French brand of sustainable footwears and accessories. As of October 2018, Veja supplied its shoes to 1,800 retailers in more than 60 countries[72]. They sold 550,000 pairs of shoes in 2018, generating US$21 million in revenues[73] and without doing any advertising. Veja is based on a very simple observation: 70% of the cost of a normal big sneaker brand is related to advertising. They eliminate advertisements, marketing costs, brand ambassadors and billboards, to invest instead in their sustainable product development, working back up the production chain and changing it.

This allows the company to spend more time on the ground. The sneakers are sold in stores at the same price as competing brands even though the costs of production are five to seven times more than other big names, due to the use of environmentally friendly raw materials which are purchased according to fair trade principles. The sneakers are produced in factories with high social standards.

Lifestyle +

Loyalty programs have the potential to be more dynamic to attract customers who are increasingly demanding and seeking experiential elements. Apart from the traditional format where customers earn points and get rewards based on the points earned, brands are spending more to invest and curate services for customers, especially to distil the sense of exclusivity.

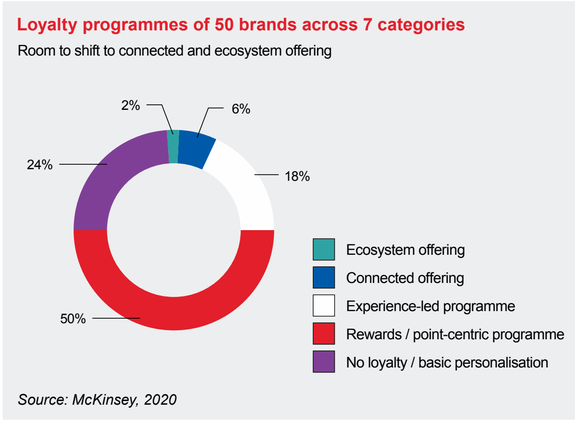


Fig 29 - Room to shift to connected and ecosystem offering

Brands, including Lane Crawford, Joyce and Eslite, a renowned bookstore in Asia, are increasingly relying on lifestyle to attract customers.

Case study 9: NIO House

NIO House, a brand that essentially carries the showroom and customer service functions for NIO, known as the "Chinese Tesla", positions itself as an exclusive clubhouse for business meetings, a library and even a day-care centre for kids, or a place for social events, beyond being a car showroom. They also collaborated with Hussein Chalayan, a high-end fashion designer famous for pushing design boundaries, to create an athleisure style apparel collection.

NIO invested heavily to set up spacious NIO House in CBDs around top tier cities in China. It didn't convert directly into car sales but this initiative ties in closely with the company's DNA that customer service and experience are the winning key in the electrical vehicle market where safety is key a concern.

Taking a lifestyle approach elevates brands from the price competition strategy and can more broadly communicate brand image. In NIO's case, their mission is to "shape a joyful lifestyle" for its users, while in fact the company is selling cars.[76 77]

Case study 10: Design Orchard – Local innovation launchpad

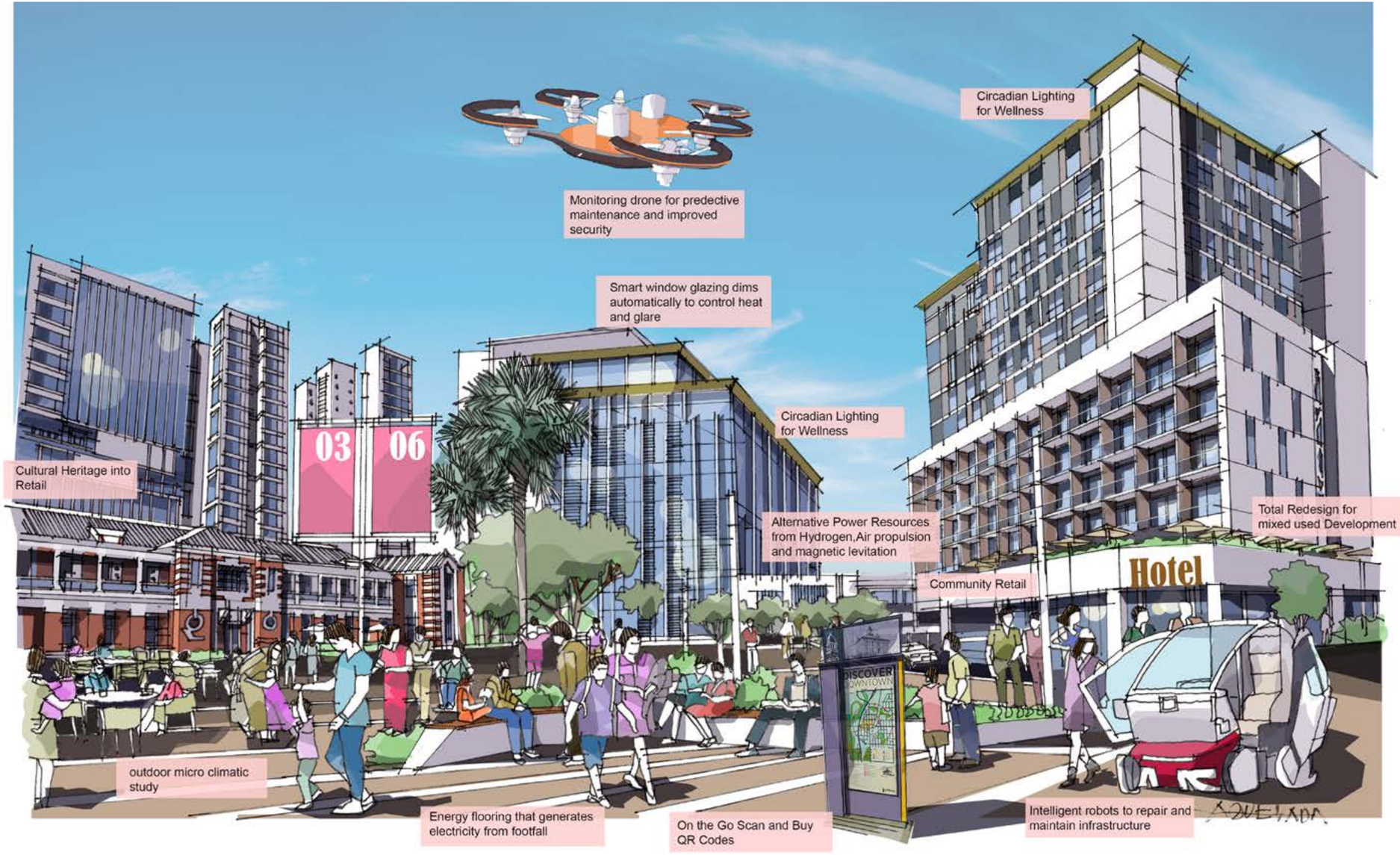
Design Orchard (DO) is an initiative supported and funded by the Singapore Tourism Board and Enterprise SG, situated on Orchard Road, the busiest retail district of Singapore. It is an innovation launchpad to support local designers to fast track the growth of their brands and to promote Singaporean designs. The first floor is a retail space that features around 70 brands; the second floor is an open space with cafe that can support public and private events, such as live band performances, or brand promotion events. Though also targeting customers from 20's to mid-40's, unlike big names, Design Orchard takes a light luxury and healthy positioning, with music helping set a more relaxing and quality shopping space in contrast to Zara's fast-pace music that prompts swift decision-making. Prices are set moderately higher, but the brands need to ensure design and quality match.

Retail will not die as a result of online shopping but rather transform as people seek personal touch and experience. Lau Chin-Hok, Design Orchard's GM said in an interview. About 20% of DO brands have bespoke products, as well as handcraft events for social engagement. DO organises semi-private/ limited events in which customers can have first-hand storytelling with the designers. Design Orchard is supported by a team of a dozen staff providing services to relatively new, small brands usually owned by one or two designers who have less than five years of experience and lack long-term and systematic planning for business development. The team guides the brand owners on marketing, finance and other pragmatic aspects of successful launching and nurturing a fashion brand. The salespersons on the floor assist all the brands instead of one only, lowering the headcount cost for individual brands. Unlike established clothing retailers, the salespeople also gather first-hand feedback from customers for the designers.

| Design Orchard, Singapore

Hybrid retail experience

An artist's impression of future retail experience.



3.1 Malls to build omnichannel presence (brick & click)

Since the emergence of e-commerce, shopping malls have been greatly challenged to step out of the role of simply providing space to retailers and experience to customers. The COVID-19 pandemic has expedited the transformation of shopping malls by compelling them to step up to be the leading voice to drive sales.

By doing so, shopping malls are on the way to becoming:

- A marketing platform
- An e-commerce marketplace
- An omnichannel customer service hub

Shopping malls were taking the initiative to use various channels to help their tenants make sales and meet the purchasing demands of the vast population stuck at home during the pandemic in 2020. Joy City responded swiftly by promoting online sales on WeChat in late December, with products from 510 brands incorporated already by mid-February. CapitaLand worked with tenants that were considering closing stores in this difficult time to promote their products on CapitaStar, the e-commerce website of CapitaLand, to ultimately make online sales increase by over 100%.

Fresh fish delivery to home

Malls and especially supermarkets should challenge the conventional norm of customers preferring buying easily perishable fresh food, such as meat and fruits, from physical stores. Innovative technologies are supporting speedy delivery of fresh food from fulfilment centre to door. With the ever-developing logistics businesses, same-day delivery has become more widely available as well as popular, boosting the growth of fresh grocery e-commerce business. For example, a Shanghai packaging company, Sinopack, developed the capability to package fresh fish for e-commerce delivery. The innovation uses Airpaq package, pumped with high concentration oxygen to keep the fish alive in the package without water. Depending on oxygen consumption rate of different fish, the fish can survive in the package for 24-48 hours.[78]

Successful cases from long established malls

Case study 11: Tianhong in China (offline going online)[79]

Tianhong is a long-established supermarket chain in China selling relatively affordable products rather than more expensive branded alternatives. During the coronavirus outbreak, its shopping app Chaoshidaojia (meaning supermarket-to-home) reportedly processed nearly 20,000 orders per day. And despite mall closure orders, Tianhong's physical supermarkets doubled their sales by acting as local inventory and suppliers for online orders.

To replace in-person assistance that happens at physical stores, Tianhong leveraged the wide reach of online assistants through live-streaming promotion and direct instant messages to individual customers (tripled the usual amount) to create this success. Though taking some time (~10 years) on the path of building omnichannel, Tianhong very steadily and solidly built its infrastructure from supply chain, logistics, in-store services, e-commerce system and membership programme to support the transformation.

Tianhong's Chaoshidaojia mobile app

Case study 12: Hema by Alibaba in China (online going offline)

E-commerce giant Taobao has also ventured into fresh food e-commerce and developed offline presence by forming a joint venture through Hema with Suibao, a traditional department store chain that was losing footfall. Hema uses the space to open not only supermarkets but also food courts to promote products that can also be ordered online.

Hema food court and self-service check-out with mobile payment.

Cases with different outcomes

Case study 13: Wanda in China (offline going online)

In 2014, Wanda formed a US$727 million joint venture with tech giants Tencent and Baidu as the real estate giant sought to establish online presence for its shopping malls and retail tenants while promoting its dining services and cinemas.[80] By 2016, Wanda claimed that Ffan.com, the e-commerce platform, connected over 1,000 shopping malls, including non-Wanda malls, and over 3,000 retailers.

The joint venture said personalised in-mall Wi-Fi marketing would be carried out as Wi-Fi was expected to cover seven billion shoppers per year.[81] However, Tencent and Baidu, each held a shareholding of 15% in the joint venture , quietly quit the partnership in 2016, followed by a series of management reshuffles, including CEO changes.[82] Chaotic leadership coupled with a fast-changing market landscape created a viscous cycle that impeded even a retail giant like Wanda enjoying an economy of scale.

Besides betting wrongly on Wi-Fi marketing, queuing and car parking, the poor user experience of the mobile app made it difficult for shoppers to connect the in-store experience with online experience seamlessly. Wanda was also hampered by other setbacks at the same time and this partnership was not such as success in digitally transforming its shopping malls.[83,84]

Baidu 百度

Tencent 腾讯

万达集团 WANDA GROUP

Case study 14: 'Keep' in China (online going offline)

'Keep' was initially rolled out as a mobile app for users to keep track of their daily workout. The app's features, such as body-building tracking, weight loss and other biometric monitoring, are pretty much the same as other workout apps. But the app's social networking feature, which is very user-friendly, contributes significantly to its success as a mobile app, harvesting over one million users within 105 days and 80 million users within two years of its first launch.[85]

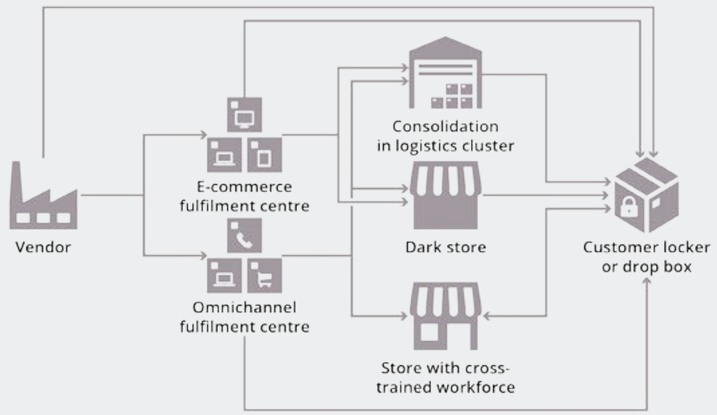
The popularity of the app even prompted the company to launch its own workout facilities, from yoga mats to treadmills, that can be connected to the app, and later open physical gyms in tier-one cities, branded as Keepland', to complement the app. Overall, the implementation of its brand building and click-and-brick strategies has been consistent so far, making the brand the physical and virtual destination to go when it comes to personal training. In the real world, the 'Keepland' gyms are the physical get-together places that maintain the virtual community together. But due to high capital and operation costs, the company will not likely over-expand its gym network and therefore maintain a balance between its virtual and physical businesses.

The prerequisites

To prepare for a digital transformation journey, existing business operations from supply chain and inventory management to customer services have to be thoroughly reviewed for digitalisation opportunities:

- Can websites, apps or e-shops be built on or integrated into an e-commerce platform?
- Can online marketing be implemented to attract new and retain existing customers?
- How to showcase the products and brands of tenants in the virtual space, in more engaging ways?
- Can inventory management and logistics including return services be streamlined or automated? For example, is it faster and/or more cost-effective to work with local partners/stores to arrange delivery via a connected logistics system?
- How to ensure better quality control across the whole customer journey? For example, consider using a centralised evaluation and incentive scheme to manage collaboration among distributed functions?
- How to redesign customer experience by integrating online and offline services and events seamlessly?

Connected inventory



Source: McKinsey, 2020

Fig 30 - Connected inventory

3.2 Tenant mix optimisation

Shoppers are demanding more from traditional malls besides shopping, dining and social gathering. They also seek for a one-stop place to fulfill their daily needs, such as healthcare, work and handling errands.

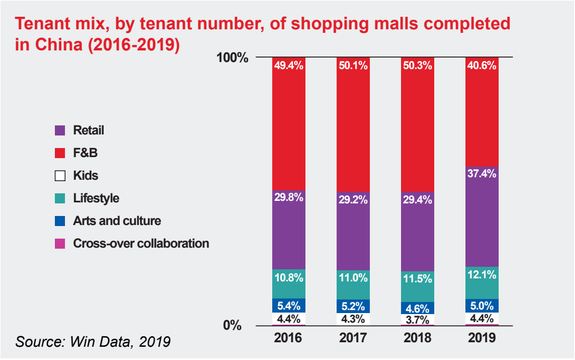


Fig 31 - Tenant mix, by tenant number, of new malls completed in China during 2016–2019. [86]

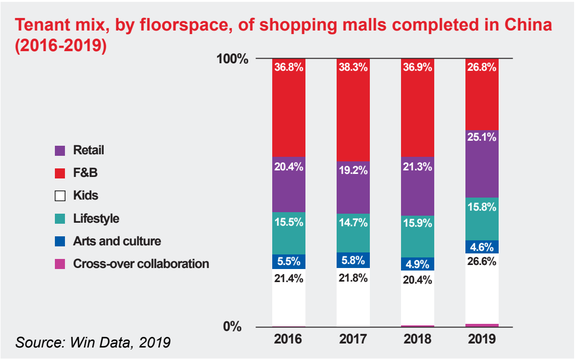


Fig 32 - Tenant mix, by floorspace, of shopping malls completed in 2016-2019 in China.[87]

F&B occupies more retail space

Some 20 years ago, China's retail landscape was largely dominated by department stores in which items were shelved in categories for easy searching. Only about 10% of the retail space was used for F&B. The reason is simple: department stores are where people shop for essential items or daily necessities.

However, since nowadays consumers rely more on online shopping to buy a wide range of merchandise, from food and daily necessities to luxury items, they want to socialise or to entertain themselves when out shopping. Fine dining, hot pot restaurants, bars and pubs, karaoke bars, for example, exactly provide such experiences. As a result, the F&B segment now roughly accounts for 40% of the retail space in any mall being planned, with some flexibility that allows for conversion into other uses after opening. In Singapore, the proportion of F&B in malls has reached a similar level of 40% in the past ten years.

Anchor stores

An anchor store of a mall is one of the few key stores that can very actively attract footfall, while other stores can benefit from the collateral visits. The presence of anchor stores, from cinemas or supermarkets to Apple stores, sets the tone for other potential tenants. Regardless of their type, they are the primary destination or the main reason for shoppers to visit a mall.

Anchor tenants command more bargaining power than other tenants, due to the very tangible benefits they bring to the mall. For example, they might be exempted for base rent or charged by a lower sales commission rate.

These days Instagramable cafes and theme restaurants appeal to tourists. Brands such as HEYTEA in China and Lady M from New York are so popular that after almost five years of opening, people are still happy to wait 30 minutes or longer in queue before being served. Globally popular brands or franchise stores such as Lego or M&M's are still considered to be strong anchor tenants.

Customers queuing up at HEYTEA.

Healthcare's shift to retail settings

Healthcare service outlets have long existed in shopping malls, but now mall owners have strategically expanded their presence by grouping them together under the same roof to provide more comprehensive healthcare services, from eye care, vaccines, preventive screenings, to oncology, specialty care and chronic disease management. Convenience aside, these services must be different from hospitals.

Membership-based health management programmes with proactive monitoring of clients' health are in great demand, especially in major cities. There are multiple potential benefits that healthcare-focused malls can bring to patients and service providers over hospitals. Medical malls are usually located closer to densely populated neighbourhoods, with longer opening hours than a clinic, therefore giving a large patient base access to a wide range of medical services in the same location. In 2017, there were 30 medical malls around the world.[88]

Extra criteria required of healthcare-focused malls

- Cleaning/sterilisation that meets specific hygienic requirements
- Additional security procedures
- Specialised equipment repairs and maintenance
- Proper/compliant hazardous waste disposal management
- Enhanced and specialised lighting
- Increased energy usage

Retail incubator space

An incubator space in a shopping mall or a retail space is designed for obtaining swift feedback and testing the response to new brands or products. Furthermore, incorporating a makerspace in this incubator space can invite and allow consumers to co-create with designers for more direct design iteration, consumer engagement and brand promotion.

Mediplex, Bangkok

Case study 15: The Mills in Hong Kong, China

Once a cotton mills in Hong Kong back in the 1950's, the building was revitalised and has been transformed into a destination for art and culture, integrated with retail, F&B and an incubator for experimentation, sampling and community.

Its owner, Nan Fung Group, was a textile company and is now one of the leading property developers and largest privately held developers in Hong Kong. Fabrica at the Mills is one of the group's continuing explorations in innovative textile and fashion technology, or what they call 'techstyle'. Ventures include digitally measured made-to-order garments with sustainable fabric. Customers can experience the technology and place orders at the Mills directly.

The Mills in Hong Kong, China

Co-working space

Co-working space is entering shopping malls for many reasons. For individuals, more vibrant and human-centric design and setting of co-working spaces provide a better working environment than what is inside a regular high-rise office building. The transit to malls is usually more convenient than to office buildings. For corporates, they are renting co-working spaces in prime areas, including inside malls, in order to:

- Reduce the ratio of fixed space (which means fixed rental cost) to give more flexible control over rental costs
- Allow migration of fixed offices to somewhere less central for non-client-facing functions, but using co-working spaces in prime areas for client meetings, and
- Allow the management team to split and work at different locations for risk control, for example, during the COVID-19 outbreak or social unrest

More than two-thirds of people claimed that a coworking space located in a mall would encourage them to visit shops more; for restaurants the figure is 73%.[89] Another immediate benefit is that co-working space boosts the utilisation of high floors in a mall.

The factors to consider when implementing a co-working space in a retail space, especially in a shopping mall, span across hardware and software aspects, such as:

- Whether daylight, layout and safety standards are met
- How to manage the difference between typical retail opening hours and office business hours, which affects the operations of elevator, HVAC, power supply and entrance control, and
- How to control noise from the mall section and cooking odour from the F&B section

Logistic fulfilment node/centre

Transforming store space into a mall-based or store-based fulfilment centre to provide logistics functions for online purchases as well as handling returns is a way to mitigate the challenge of decreasing footfall and value of physical store fronts. For shopping malls, a centralised fulfilment function offered to tenants will be a high value-added service, especially to tenants with zero or low capability to fulfil online purchases but looking to establish e-commerce presence.

This is a win-win not only for shopping malls looking to increase their e-commerce offerings but also for e-commerce giants to expand their logistics networks to provide faster, cheaper delivery as well as easier return services. For example, Amazon will reportedly buy dead malls in the US and transform them into logistics centres. These malls are naturally closer to neighbourhoods and dense urban areas; unlike conventional logistic centres usually located on the outskirt of a city. Proximity to where most people live reduces delivery costs and time.[90]

More e-commerce organisations are establishing their own logistics capabilities. For example, JD.com has shared a sneak peep of its underground capsule parcel system.[91] Each capsule carries parcels and is 5G-connected to the cloud system for directed transmission through underground networks from warehouses through transit centres then to residential and office buildings.

Case study 16: Hema by Alibaba, China

Alibaba's fresh food line, Hema, has expanded its offline presence by joining forces with Suibo, an established department store chain in China, revitalising Suibo to compete in the growing fresh food e-commerce marketplace. Tracks are built and hung from the ceiling of the Hema supermarket, with online orders packed in parcels to be delivered to the nearby neighbourhoods.[92]

By adding fulfilment functionality, retailers and malls can extend their service (i.e. revenue-earning) hours. As a physical retailer, the opening period can only be 12 hours a day. But as a fulfilment node with automation capability, it can serve online orders 24x7.

Parcel track for fresh food delivery at Hema Supermarket.

Social kitchen

Social kitchens are gaining popularity in shopping malls. A social kitchen serves multiple functions as a venue to host:

- Cooking classes or cooking clubs that can regularly attract footfall
- Oublic events for cooking and other activities, such as coffee brewing, floral arrangement, DIY workshops, etc, to attract new visitors to the mall
- Private events, such as parties and corporate team building activities

Since social kitchens are more spacious, they are typically arranged on the upper floors of shopping malls as a way to draw foot traffic to other upper floors.

Case study 17: ABC cooking studio in K11

Originating in Japan, ABC Cooking Studio has opened over 130 studios in Japan and 15 more across Asia. Apart from providing cooking courses, the brand also expands its ecosystem by collaborating with food and grocery supplier Zen-Noh from Japan and online supermarket HKTV Mall from Hong Kong, to curate theme-based cooking ingredient lists. The lists complement healthy cooking videos, further promoting the brand's ethos.

Growing crops above shops

The greenery lost by land taken up by buildings, such as shopping malls, can be replaced vertically through rooftop and vertical farms. Urban farms can be used as touchpoints for sustainability and environmental messaging. Urban farms can be used to educate the younger generations about the importance of responsible and ethical consumption by connecting them to nature and the food that feeds them. They can also be used to reconnect the elderly with their communities, enhance their sense of belonging, employ them and help them find meaning and purpose.

Case study 18: K11 Atelier, King's Road, Hong Kong

K11 Atelier has a microclimate-controlled sky garden designed through Computational Fluid Dynamics (CFD) and thermal comfort analysis.

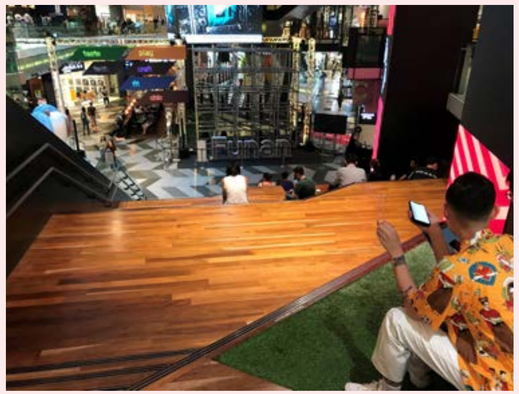
There is a digital dashboard before entering the sky garden to display data of renewable energy generation and wellness building features.

Case study 19: New Funan, Capitaland

Singapore's creative intersection, Funan is an experiential playground. Integrated with Grade-A offices and a serviced residence, Funan offers first-to-market technologies and retail concepts to deliver a dynamic array of learning and discovery experiences. It brings tech, craft, play, fit, chic and taste passions together.

Funan is tech-connected, round the clock marketplace, with a drive-through concierge and lockers for hands-free shopping. The nine floors of co-living apartments for technopreneurs and creatives are a communal and collaborative habitat where residents co-create, forming a strong community of kinship. Indoor and outdoor communal amenities are spread across 11 floors of office spaces, facilitating social conversations and encourage healthy workplace living.

Contemporary, flexible loft-type spaces provide customisable configurations. There is also a smart car-parking and security-controlled access, also with an easy access on foot, bike or public transport. A cycle track leading to café shops, climbing walls and swimming and workout spaces also offer a great way to keep fit. A multi-level structure called the Tree of Life that houses activity pods and open spaces to promote new forms of retail, experimentation and social learning with creative maker workshops, interactive exhibitions, social events and a live performance theatre are also provided. With 5,300-sq ft rooftop urban farm and 6,900-sq ft edible yard, Funan hosts the largest urban farm in the CBD which provides a place for the community and reconnection with nature.



3.3 Retail space revitalisation/upgrade – space design

Physical retail is not dead but a place to inspire

It has been so often said that physical retail is not dying, but boring retail is. The saying shows its merits – despite the continuously increasing penetration of e-commerce, accelerated by COVID-19, people still need some communal space to socialise, or simply not to be stuck at home. As well as being a marketplace, retail space plays a role to inspire. People want to discover new things or explore what's happening around them. Shopping facilities are a natural venue for the community to engage in social activities that in turn can stimulate consumer interest and drive retail sales.

Form follows function

To formulate the right approach to retail space design, we need to look at what people look for in a shopping mall beyond convenience and accessibility. Retail space now can also perform the role of a public space despite its situation in a privately-owned building. This demands a more systematic thinking at the urban level to consider the needs of its citizen-clients, rather than just shoppers visiting a venue for sales.[93] It is a conceptual challenge as it requires a thorough and balanced understanding of needs from visitors, tenants and owners, whose interests might not always align.

Semi-open

Boxed / endosed

Flat

Terraced

Network

Vertical

Traditionally department stores and shopping centres take the homogeneous form of a big box near a neighbourhood or on a shopping street. However, despite being the centre of modern urban life, a gigantic boxed mall cuts off the connection with the community. Cars must find ways around the mall. Pedestrians cannot see what is on the other side of the mall from across the street.

Therefore, the typology and space-making strategy of a retail space should consider its connectivity to and from its surroundings, as well as the internal circulation of visitor traffic. These can further affect the volume of traffic to the space and whether its visitors are pleasantly inspired enough to spend time and/or money there. Due to different constraints (e.g. land size, underground) and positioning (e.g. green & healthy, cultural), malls and retail space are taking more porous or semi-open forms, and sometimes hybrid forms architecturally.

Some typical typologies and respective examples include:

- Boxed/enclosed (AEON Mall in Japan)
- Vertical (The One in Hong Kong)
- Terraced (K11 Musea in Hong Kong, Namba Park in Osaka)
- Underground network (Link City in Shenzhen)
- Semi-open (Avenue One in Shenzhen, Galaxy Soho in Beijing)
- Flat (Xintiandi in Shanghai, Taikoo Li in Chengdu, outlet villages)

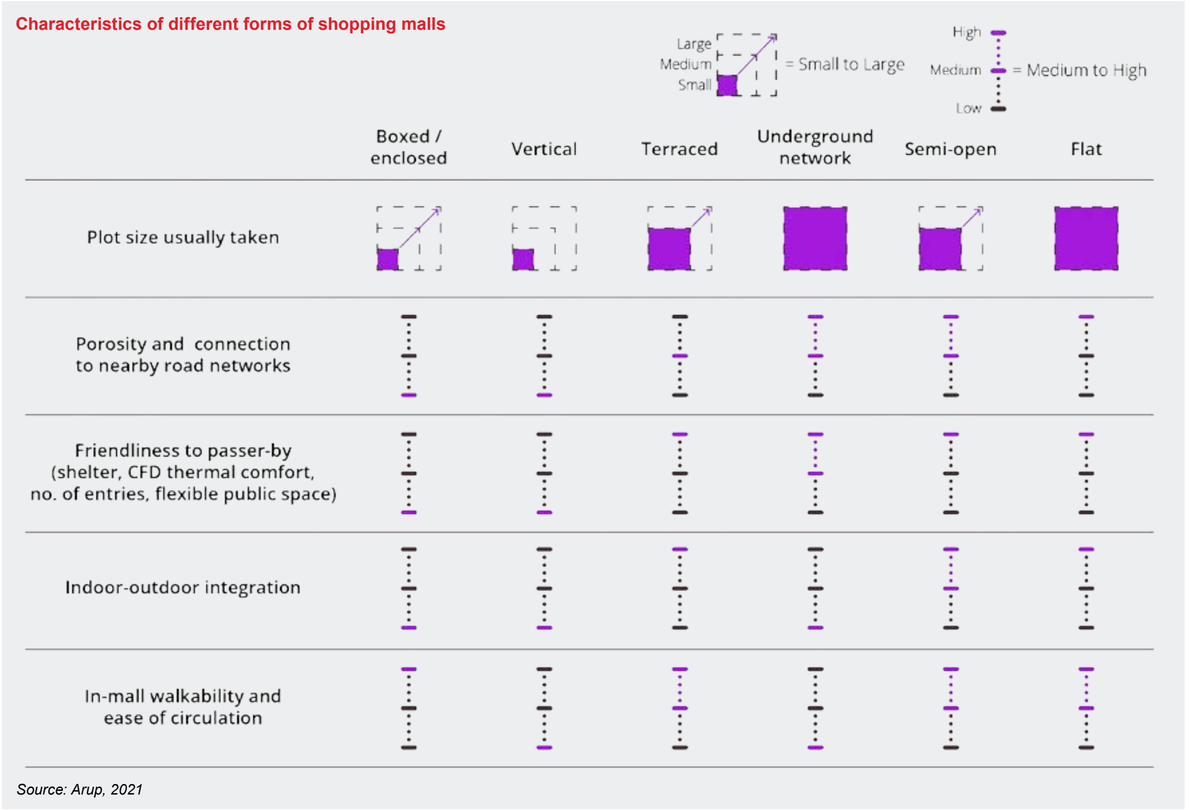


Fig 33 - Characteristics of different forms of shopping mall

Indoor-outdoor integration

Boxed shopping malls create isolated points of destination that block the connection of urban functions around it. More and more large retail spaces are looking at porous or semi-open design.

Benefits include:

- Greater accessibility to nearby streets
- Greater visibility of shops
- More public space
- Better integration with nearby neighbourhood

Case study 20: Envision Pavilion, Shanghai (pop-up store)

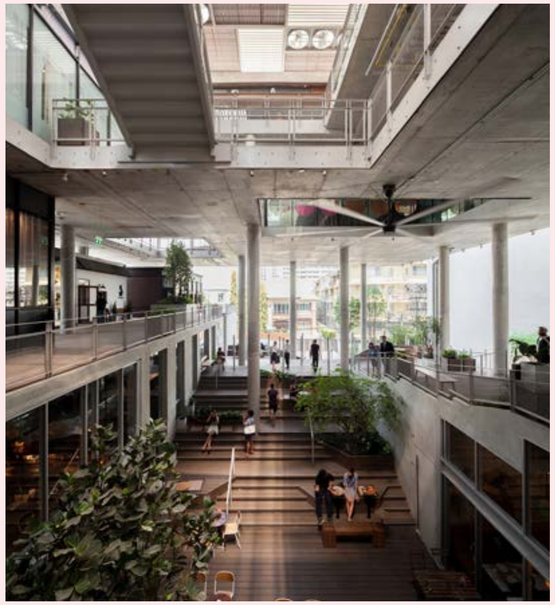
Using scaffolding, Sou Fujimoto built this temporary space outside a museum as a cafe with retail and even hosting functions. The architectural design exposes the interior space to plenty of natural light.

Case study 21: The Commons BKK, Bangkok

Under Thailand's tropical climate – sunny, hot and humid in most months of the year – Bangkokians prefer to minimise the discomfort of high temperature while staying outdoors. 'The Commons', a small retail complex in the city centre, answers this request by skilfully creating a semi-open active environment for people to comfortably enjoy outdoor space any time of the year.

The Commons BKK boasts an iconic architectural design that is visually pleasing and refreshing to the neighbourhood.

The interior space opens out onto a terrace that promotes outdoor natural lighting and breeze while providing shelter, social space and temperature moderation. The wide-step terrace can also cater pop-up events such as flea markets or live music gigs.



Lighting matters

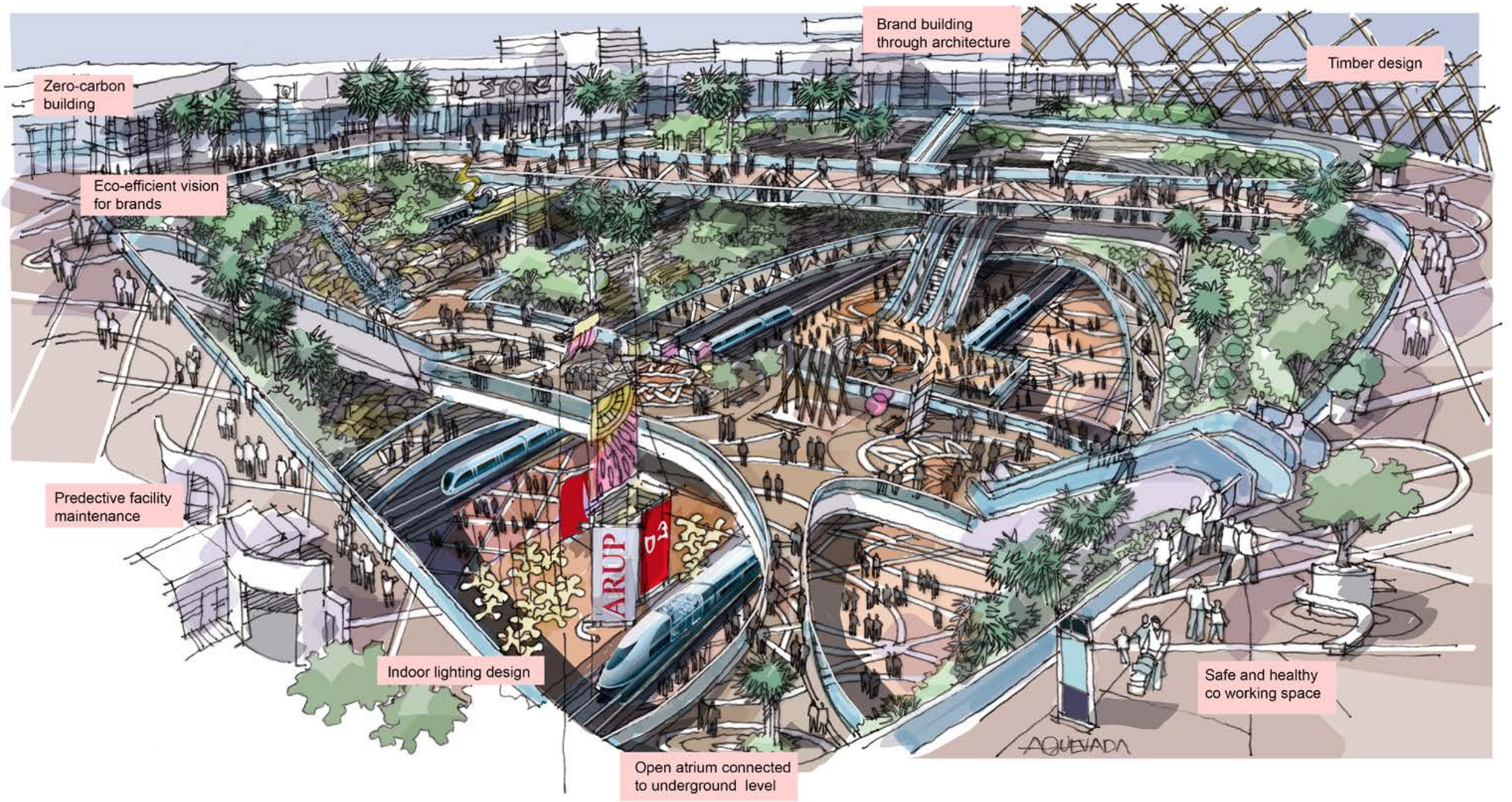
Research shows that lighting factors influence the purchase intention of the customers. Modern track lighting, chandeliers, store appearance due to different lighting effects, eye-catching and spotlight factors all positively influence the buying decision. At the street level, it is essential to highlight dark spots and gaps in order to create safe, welcoming and high-quality night-time public spaces to boost the night economy.

Case study 22: Night economy in Cartagena, Colombia

Ultimately, night-time is essentially different from daytime. Thus, it deserves its own design approach, and thinking creatively and smarter about street lighting is a vital part of this. For example, in Cartagena, Colombia, Arup strived to create high-quality night-time public spaces.[94] Districts were invited to explore their after-dark hours, highlight dark spots and gaps (which may feel unsafe or unwelcoming) and influence design decisions.[95]

Urban community experience

An artist's impression of what an urban community mall could look like.



4.1 Urban regeneration

Architecture and city planning have always played important roles in shaping their users' (i.e. citizens') behaviour and daily life, tacitly directing or inducing consumer actions. Effective spatial design also requires good interaction with and understanding of users to meet their fundamental needs.

Retail has been considered as a decisive element in urban regeneration. We can see different sites of urban regeneration significantly integrating retail, or almost repurposing themselves into a retail space.

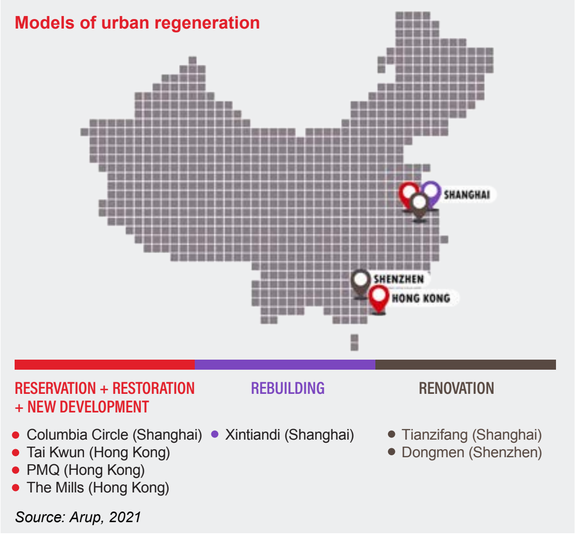


Fig 34 - Models of Urban Regeneration

In many urban regeneration cases, cultural aspect is emphasised not only for the preservation of original culture heritage of the site, but also as the key element to attract visitors for commercial success. On the one hand, it creates a special 'third space' that differentiates itself from the surrounding modern urban environment. On the other hand, the commercial purposes it serves lead to the following problems:

- Superficial and business-driven cultural dress-up twists or over-simplifying its original historical meaning
- Gentrification by using culture attracting affluent consumers while pricing out local consumers
- space design and making not catering to local needs, while locals in fact nurturing and bearing the cultural background

History renewed

A good example is PMQ. Once a dormitory site for married police officers in Hong Kong, the Police Married Quarters (PMQ) has a history that traces back to 1886 as the Central Government School that nurtured many local leaders and business tycoons, including Sun Yat-Sen and Robert Ho Tung.[96]

The moderately-sized former dormitory rooms have become new temporary homes to retail tenants, who are mainly local designers of apparels, home décor, art décor and accessories. It also hosts co-working space with the mission of turning creativity into business to nurture create-preneurs and designers, to build and promote high-quality international brands originated from Hong Kong.

The F&B in PMQ also echoes the moderately affluent (or bourgeois-bohemian) lifestyle by inviting collaboration with Michelin-star chefs to attract more visitors and dwell time.

| The Police Married Quarters (PMQ) in Hong Kong

Gentrification

Gentrification is defined as the process of transformation of neighbourhoods from low value to high value, carrying the potential to cause displacement of original residents of lower income. Gentrification, often associates with urban regeneration, changes the essential character and flavour of that neighbourhood." However, this can be mitigated.

We need to understand needs in local context. Usually areas that require urban regeneration are those that occupied by lower income families and individuals or empty-nest elders. Instead of savvy shops in an extravagant mall, they need community facilities and accessible public transportation.

Taikoo Li hosts luxury brands such as Hermes and Omega on the ground level, as well as a high-end boutique hotel. At the same time, it incorporates affordable high-street brands for retail and F&B on the upper level to cater to a wider range of shoppers.

Taikoo Li, Chengdu

Surrounding of Taikoo Li, Chengdu

Community Mall

Community malls that serve the nearby neighbourhoods are gaining popularity as a response to rapid urbanisation in South East Asia (SEA) countries. They tend to host less retail, especially less luxury retail, but more affordable choices mostly geared towards healthy living. Some of the malls are also purpose-led with a clear mission to serve, bond and uplift the lifestyle of surrounding residents.

Unlike conventional community malls that are sometimes built near residential complexes and following similar architecture style, the new malls tend to put more emphasis on architectural aesthetics alongside their functions, both on the exterior and interior, to provide a pleasant environment to visitors, as well as to attract more footfall in the social media era. For example, the Commons BKK in Thailand was shortlisted for the World Architecture Festival for successfully attracting visitors to go from street level to upper levels, solving the classic challenge faced by multi-storey retail malls.

Our Tampines Hub (sports facilities)

4.2 Transit oriented development (TOD)

Role of retail in TOD

Retail plays an important role in TOD projects, providing three key functions:

- As fillers that connect key destinations in a TOD project, for example, in the form of stores along the walkways
- As memory points in wayfinding, for example 'MTR entrance is next to the 7-11'
- As a destination itself, for example, in the form of a mall

Traditionally, TOD projects utilise a lot of underground space to connect commercial functions with underground public transports and parking facilities. For example, opened in 2012, City Link in Shenzhen Futian CBD is an exemplary underground shopping street that conveniently connects three adjacent underground stations and their nearby commercial buildings. Functionally and commercially, it is a success.

Thanks to Shenzhen's continued economic growth, the Futian CBD never lacks white-collar consumers and corporate executives who frequently visit the City Link for very affordable F&B and shopping options on their daily commute routes. Design-wise, it is, after all, an underground space. Despite the remedial measures taken to bring more natural light, the ambience is not attractive enough to lure high-end retailers to meet the needs of its core customers, who have already demonstrated stronger buying power and desire for more quality products.

The design of City Link is typical of many similar underground retail spaces in TOD projects. Underground retail has always been put with brands at Tier 2 or below. While it is not a big problem at all, there are still ways to improve the positioning and tenant mix.

| Tainan Axis, Taiwan

In order to transform the former China-Town Mall with a neighbouring green corridor in the Tainan Axis project in Taiwan, MVRDV proposed to open up the head space to expose a significant portion of the underground space making it semi-underground. Using this method, visitors can still enjoy easy access to underground public transport, while the opened up space forms a retail + F&B street with enough natural light and appealing landscape that offer a pleasurable environment to visitors.

TOD = connectivity

Many examples of existing TOD projects are built above underground stations. A common misconception is that TOD is meant only to connect underground public transport with above-ground functions. TOD in fact is an efficient integration that opens up and connects originally isolated functions by providing enriched but organic transition environment. This organic enrichment is often done by implementing retail and F&B between nodes.

Besides facilitating business, enriching the public space along the underground shopping concourse and near the nodes are also important to attract footfall and visitor flows (vitalisation). ION Orchard is an example of utilising the public open space. The first thing you see after exiting the MRT station is the extravagant shopping mall, which is a landmark on Orchard Road. The public space, named ION Square, is used for product launch events, exhibitions, etc.

| Ion Orchard, Singapore

Longyang Road is a Shanghai's major gateway and interchange hub connecting the four metro lines with a maglev train service to Pudong International Airport. Arup conducted the urban planning of a precinct covering 39.6ha integrating with this hub. Distinct from the traditional commercialised transit-oriented development (TOD) approach, a well-connected public realm and mixture of cultural facilities in the commercial precinct were prerequisites set by the government.

A strong vertical mixture of functions along with a seamless walkable environment was proposed. The multi-layered connections are functionally integrated within the station, connecting the commercial complex, cultural theatres and exhibition facilities. The plan also shapes an iconic and enjoyable public realm which will become a precinct landmark while still ensuring relevance to the existing control plan.

Longyang Road urban planning

Challenges of TOD

Metro and retail integration

When metro exits and retail entrances are developed together, the overall effect and pedestrian transition are much smooth. Good design features include:

- Good integration, where the metro exit matches the retail establishment
- Metro exits directly lead to the basement level or sunken plaza of the adjacent establishment
- Interface feels natural and is intuitive to passengers exiting the station
- Proper signage and lighting

Citylink Mall, Hong Kong

Lighting

A unified interior design with use of natural lighting gives pedestrians reasons to visit and linger in the space longer. Underground space should have consistent areas for natural light wells and ventilation.

Good design features include:

- Regular light wells in nodes
- Extended ceilings to give the underground perception of more space
- Natural lighting at the connection between metro and retail can attract more visitors

Special transportation hubs

Airports

Case study 23: Incheon International Airport, Seoul

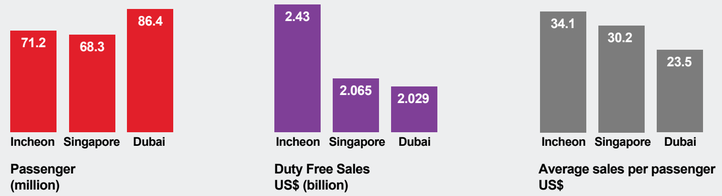
As the largest airport in South Korea, Incheon International Airport is named the World's Best Transit Airport and its Terminal 2 (currently under expansion and to be completed in 2024) is named the World's Best Airport Terminal in 2020.[97]

This is well witnessed by hard figures: its duty-free sales volume beats Dubai International Airport and Singapore Changi Airport to be the winner of top three sales in 2019, both in terms of total volume and average per passenger.[98] [99] The airport also goes an extra mile by providing more value-added services than simply being a transportation hub.
For example, it provides:

- Self-service kiosks to facilitate shopping and mobile meal ordering app that contribute to smoother user experience
- Traditional cultural programmes including craft workshops to impress tourists upon departure, performing tourism function on top of transport function
- Special areas such as indoor gardens and a spacious bookstore with reading space for resting and sitting, instead of just restaurants, lounges and waiting areas near gates like conventional airports

The above measures encourage passengers to stay longer in the retail areas of the airport while keeping them engaged and happy before leaving the country.

A comparison of Incheon International Airport, Singapore Changi Airport & Dubai International Airport



Source: Retail in Asia, TR Business, 2020

Fig 35 - Airports passengers and sales comparison

Beauty mirror that allows customers to try out make-up products virtually.

Case study 24: Jewel Changi Airport

Jewel Changi Airport is the latest addition to, and centrepiece of, Singapore's world-renowned Changi Airport. It is a collaboration between Changi Airport and Capitaland, two truly Singaporean companies and world-renowned architect Safdie Architects. This dome-shaped attraction houses a dynamic mix of retail, leisure, garden and hotel amenities, as well as airport operations. The integration of nature with engineering marvels housed under a striking glass and steel dome is successful with the Singapore public and international passengers in transit. Its distinctive domed façade is made of glass and steel, and glitters in the sunlight. At the apex of the roof is an oculus through which water is channelled to the building's centre – creating a stunning waterfall feature. This 40m tall Rain Vortex is also the world's largest indoor waterfall and transforms into a light and sound show after dark. A shopping mall cohabitates side by side with nature, connected to Terminals 1, 2 and 3, and has become an interactive civic and urban centre.

Arup was appointed by Jewel Changi Airport Development (JCAD) to provide acoustic consulting services, and by the main contractor Woh-Hup and Obayashi Singapore to provide facade engineering inputs during pre and post-tender stages.

The COVID-19 pandemic has pushed some airports to shift their focused sales channels to online. A mobile app called AtYourGate in the US allows passengers, flight crews and airport employees to order food and shopping online, the products will then be delivered to the designated accessible locations within the airport.[100]

Brisbane Airport has much extended this online potential to establish a BNE Marketplace, which allows shoppers to buy products from the airport's retail partners and receive purchases within Australia. Changi Airport in Singapore also launched iShopChangi, the first online shopping campaign from the airport, to promote duty-free shopping to both travellers and non-travellers.[101] Such initiatives practically blur the line between airport and non-airport shopping, further adding hybrid retail experience possibility to consumers.[102]

Cruise terminals

Compared to other travel modes, cruises tend to attract passengers who are middle-aged or above, as well as more family groups. These travellers have a more distinct travel pattern: they typically stay at the port, tour around the city for one to three days and return to the cruise instead of hotels at night for accommodation. Given these characteristics, a wide range of retail, F&B, and arts & cultures programmes around a cruise terminal should be easily accessible by foot or public transport.

Case study 25: V&A Waterfront, Cape Town

The V&A Waterfront in South Africa is a 123-hectare mixed-use development within five minutes' walk to the Cape Town cruise terminal. It hosts retail, F&B, hotels and cultural programs ranging from local tours to a special visit to the Zeitz Museum of Contemporary Art Africa which has the world's largest collection of African contemporary art.[103]

V&A Waterfront strives to provide a wide range of attractions and activities including:

- Helicopter tour
- Fishing tour
- Aquarium

As duty-free shopping is available on cruise, retail around the cruise terminal focuses more on experience and openness for passengers who have already spent days on the cruise. The Victoria Wharf Shopping Centre takes a low-rise form spanning along the bankside of V&A Waterfront, with abundant amount of natural light introduced via the ceiling. The interior design of the mall echoes the cruise theme for consistency with the port's positioning.

V&A Waterfront

Cruise terminals are less resilient by nature compared to other transport hubs such as airports. Droughts, floods and pandemics are proved to have caused great disruption to cruise businesses and operations. They are also less versatile: with a focus on tourism function and that cruise terminals are not equipped with the hardware and infrastructure to perform logistics functions as what airports can do. To build stability and resilience to mitigate the business risk of cruise terminals, operators and owners should consider enhancing a cruise terminal's value to local citizens by striking a balance of the 'touristy' things and local flavour.

Rail stations

Case study 26: King's Cross station, London

This 170-year-old transport hub connecting London to other parts of the country and the continent has been redeveloped to better integrate into the surrounding areas socially, economically and physically.

To accommodate more users, the entrance of the new concourse extension takes a fan shape opening. The station also has extended entrances to underground rail for better connection of different transport modes.

The master-planning for the redevelopment of the site integrates considerations of nearby arts and culture as well as commercial elements. For example, the Coal Drops Yard, which is situated within eight minutes' walk from King's Cross Station, is restored into a refreshing retail complex next to the Regent's Canal.

The Granary Square outside of the Coal Drops Yard is a pleasant outdoor space that attracts visitors and residents nearby. Inside the mall, hand-picked labels that celebrate high quality and design elements to differentiate from high-street brands are curated to target students from Central Saint Martin's and workers from tech start-ups and giants such as Google.

Entrance to King's Cross station-new concourse extension

Visitors relax outside Coal Drops Yard by the Regent's Canal.

With the increasing workspace fluidity, people are looking for new places to seamlessly switch between work and relaxation. Rail stations, usually situated near urban business centres, should consider providing co-working space for business commuters, as well as people from surrounding offices who need a refuge from the office grind.

Rail station co-working space does not have to be large and well equipped like WeWork. They can be small, individual workstations scattered around the station with easy access to F&B, retail offerings and nearby transport links. The design should also promote natural light and bring in a more natural environment, making it different from conventional office design.

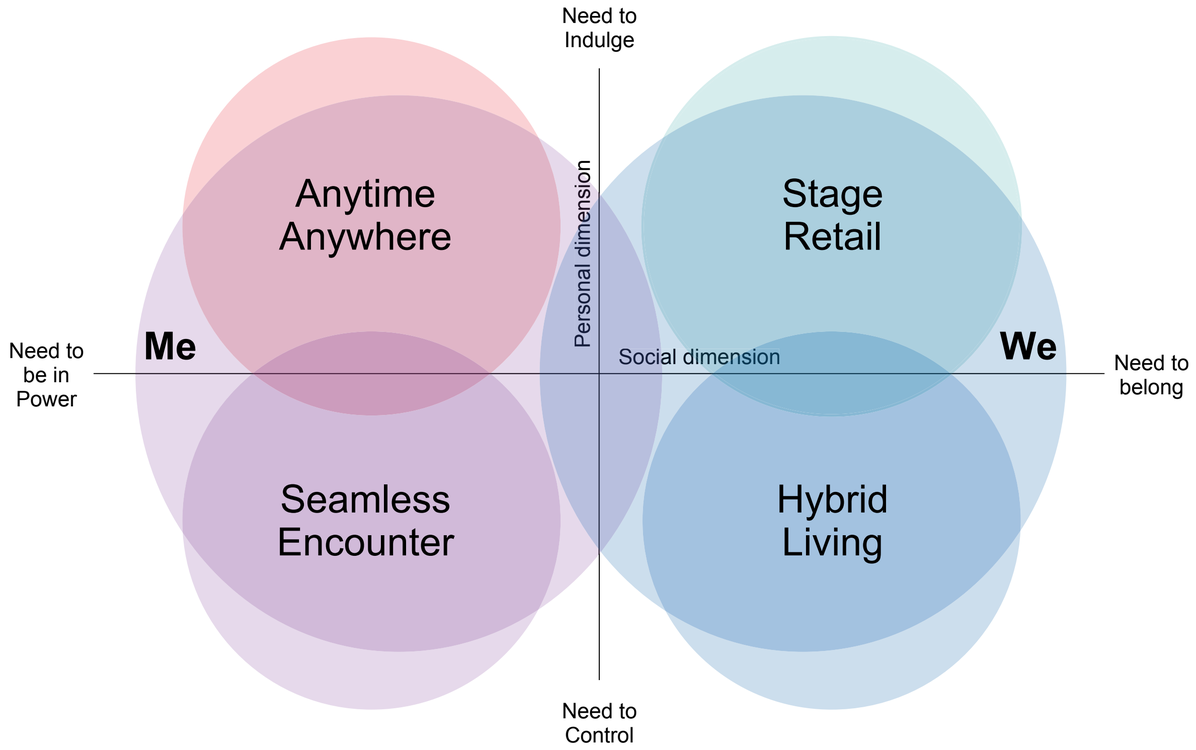
Future plausible scenarios

We explored four future plausible scenarios where brands, retail space and community meet people's motivations. Motivations can be difficult to articulate which makes strategies based on motivations sometimes vague or unclear. The Ipsos Censydiam™ framework was used to help the reader understand the motivations behind brand positioning and offerings.

The four plausible scenarios are based upon the psychological understanding that human beings are driven by two main forces:

1 How we feel in relation to ourselves: this is the personal dimension. There are times when we are trying to balance the tension that exists between the two motivations – to indulge or to control. This gives us two rather opposite motivations: Enjoyment and control.

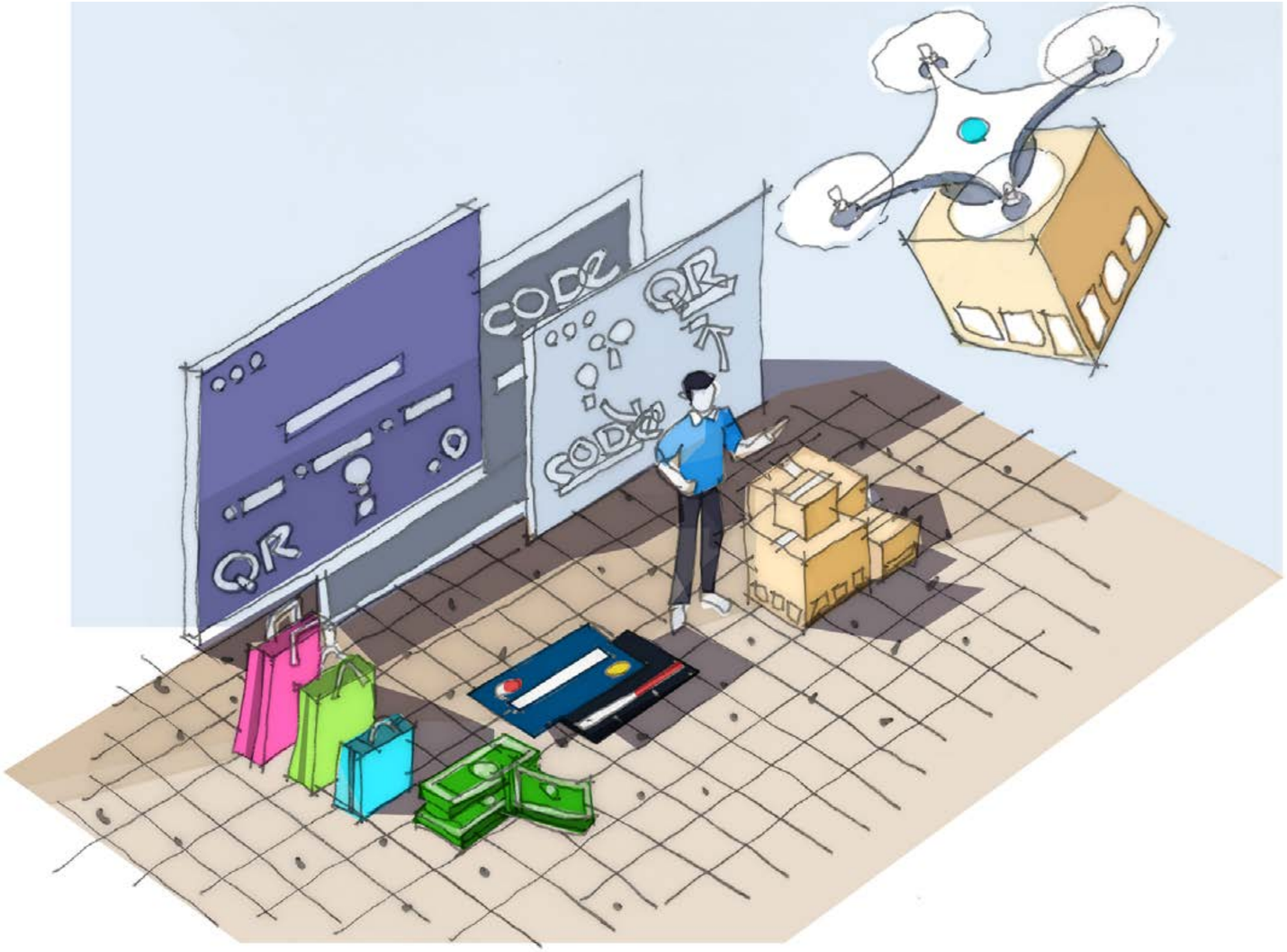
2 How we feel in relation to others: this is the social dimension. At times we want to feel superior, to be a leader, and at times we want to fit in, be part of the group and be just like everyone else. This gives us two more motivations: Power and belonging.



Anytime Anywhere

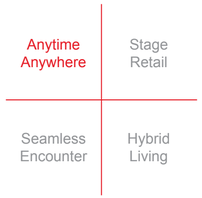
Anytime Anywhere describes a post-pandemic future reality driven by technology advancement and an increased fear of crowds (Enochlophobia + Agoraphobia) where, just like any digital content, anything can be purchased from anywhere with the least amount of effort and least contact with others.

This is digital experience reaching another level of individual convenience.



Connected walkways

Online orders will be delivered to pick-up points near where the consumer works or lives using an extensive logistics network.



Scan to buy

QR codes and Augmented Reality are increasingly used to allow pedestrians to localise themselves with respect to their route, with navigational instructions as well as to make on-the-go purchase and arrange delivery.

Mobile purchase, from F&B to medicine, will be automatically delivered by drone networks.

Augmented Reality

Anytime Anywhere | Stage Retail
Seamless Encounter | Hybrid Living

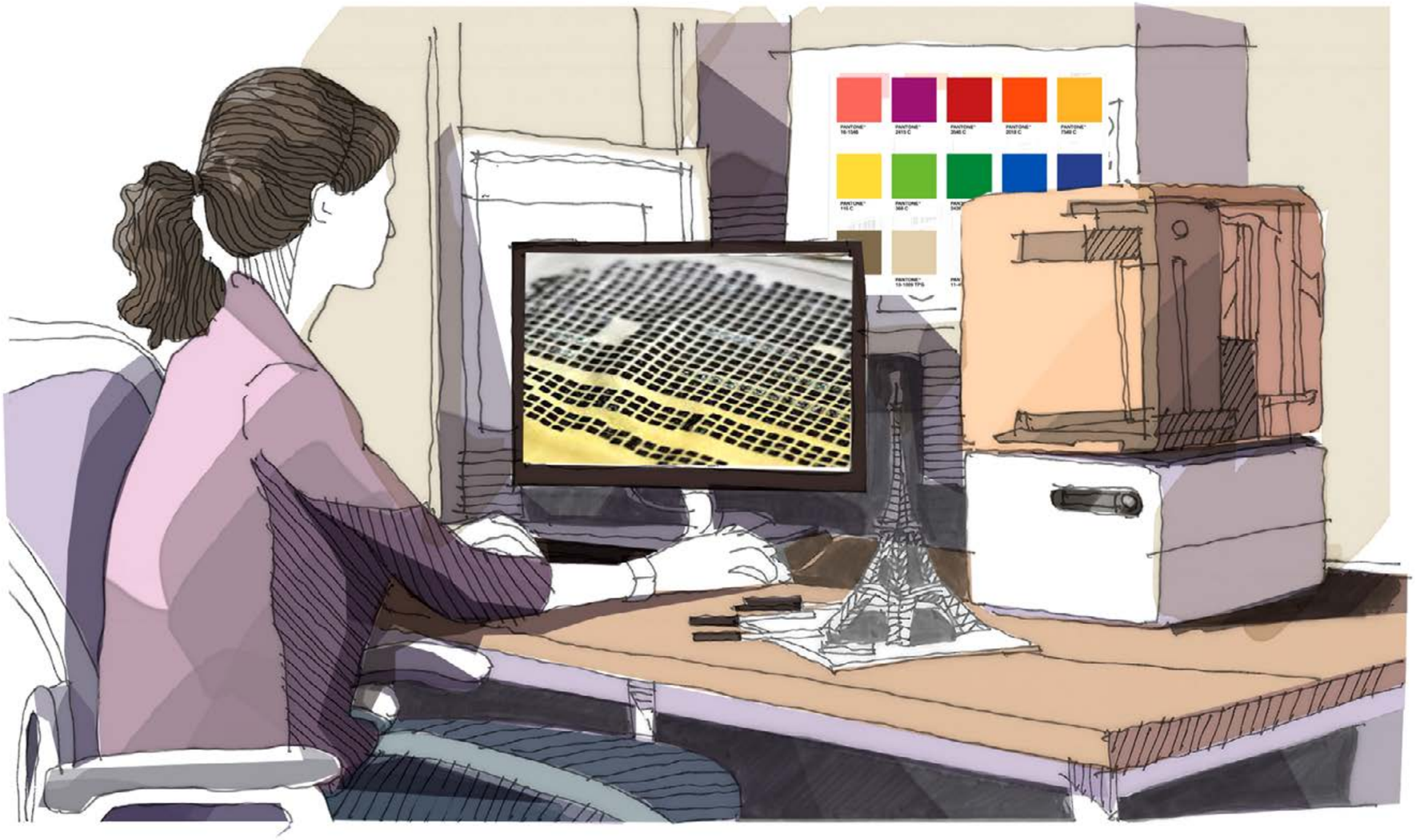
On-demand fresh seafood delivery

Fresh seafood can be delivered on-demand using autonomous delivery vehicles.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Democratisation of 3D printing

Self 3D printing fabrics and products at home, distributed booths and pop-up stores will remove reliance on delivery.



Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Holographic AI assistant

AI-based holographic assistants will enhance customer engagement and product customisation.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Haptic gloves for virtual reality

Haptic and force feedback glove will allow the user to feel textures in their hands, bridging the gap between the virtual and real worlds.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

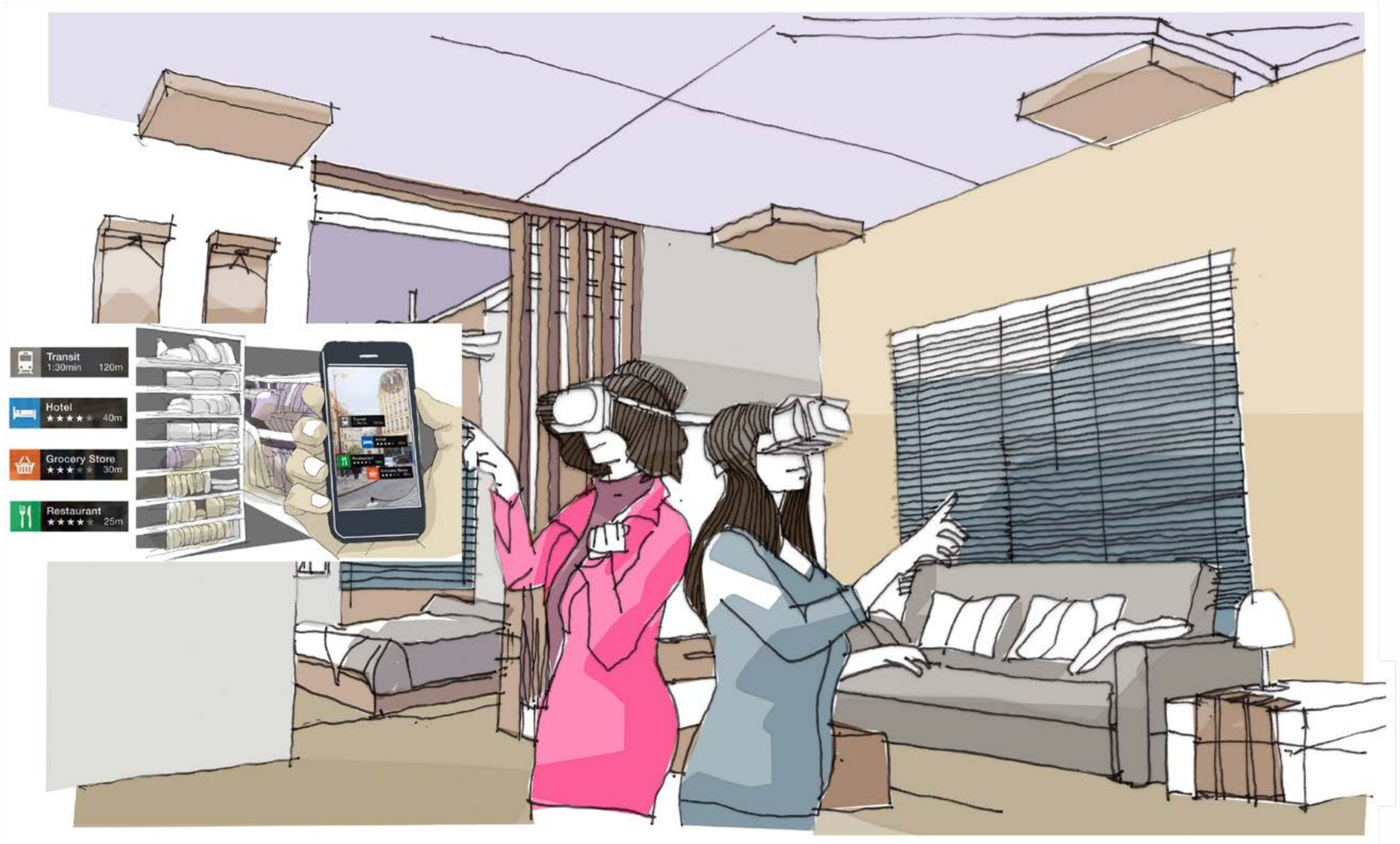
3D hologram technology for home learning

For instance, the virtual holographic assistant can teach you how to prepare a meal in the kitchen. You can then order the required ingredients.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Home virtual store

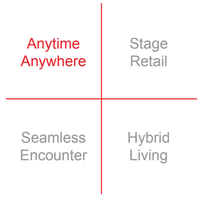
Consumers will be able to try on different clothes and accessories in a virtual fitting room at home to get a feel for an item before ordering it online.



Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

In-store e-fitting room

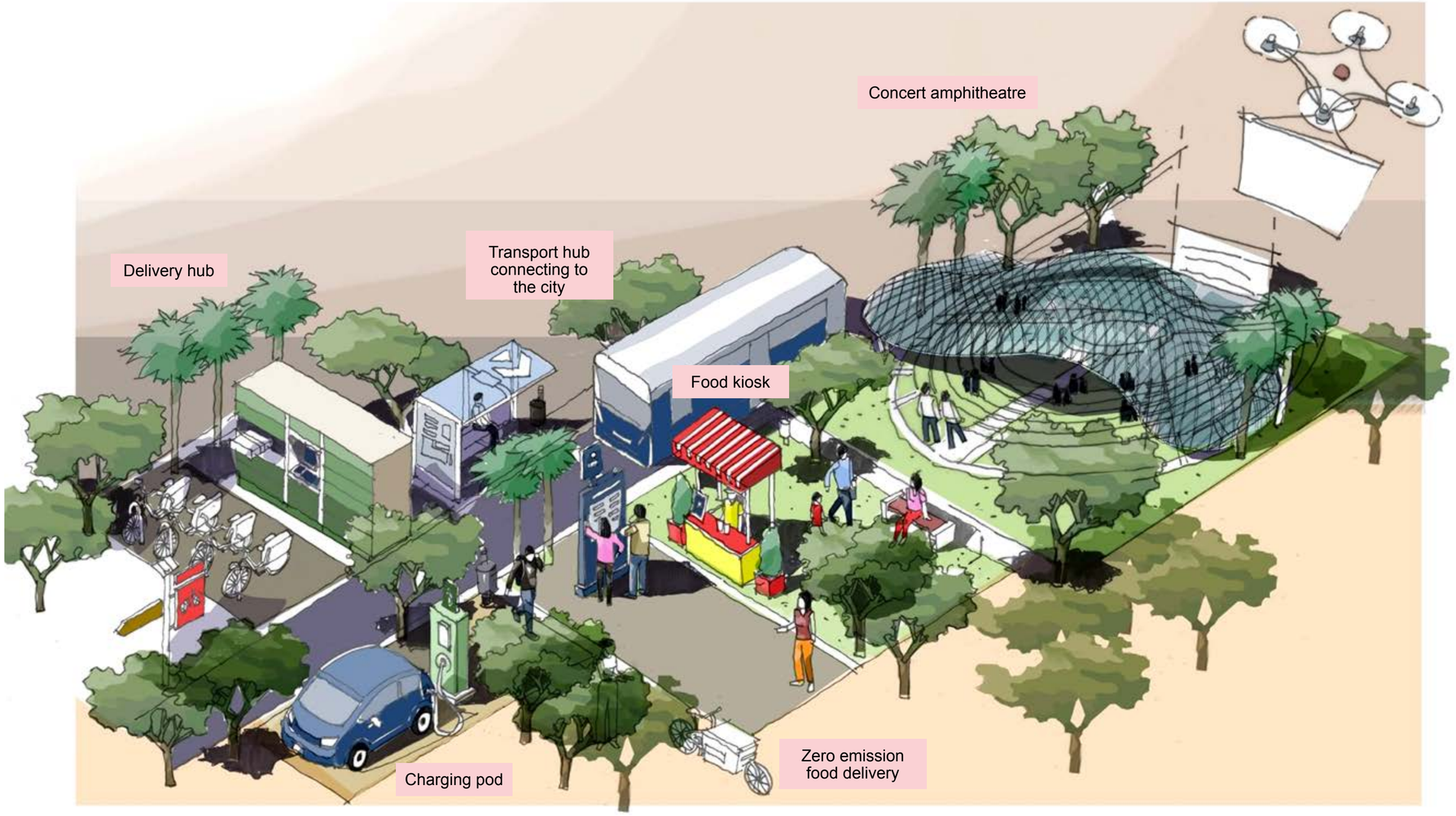
With a virtual fitting room, shoppers are given a blank canvas and the ability to drag in items from your online store, creating and styling their own outfits according to their unique personal style.



Stage Retail

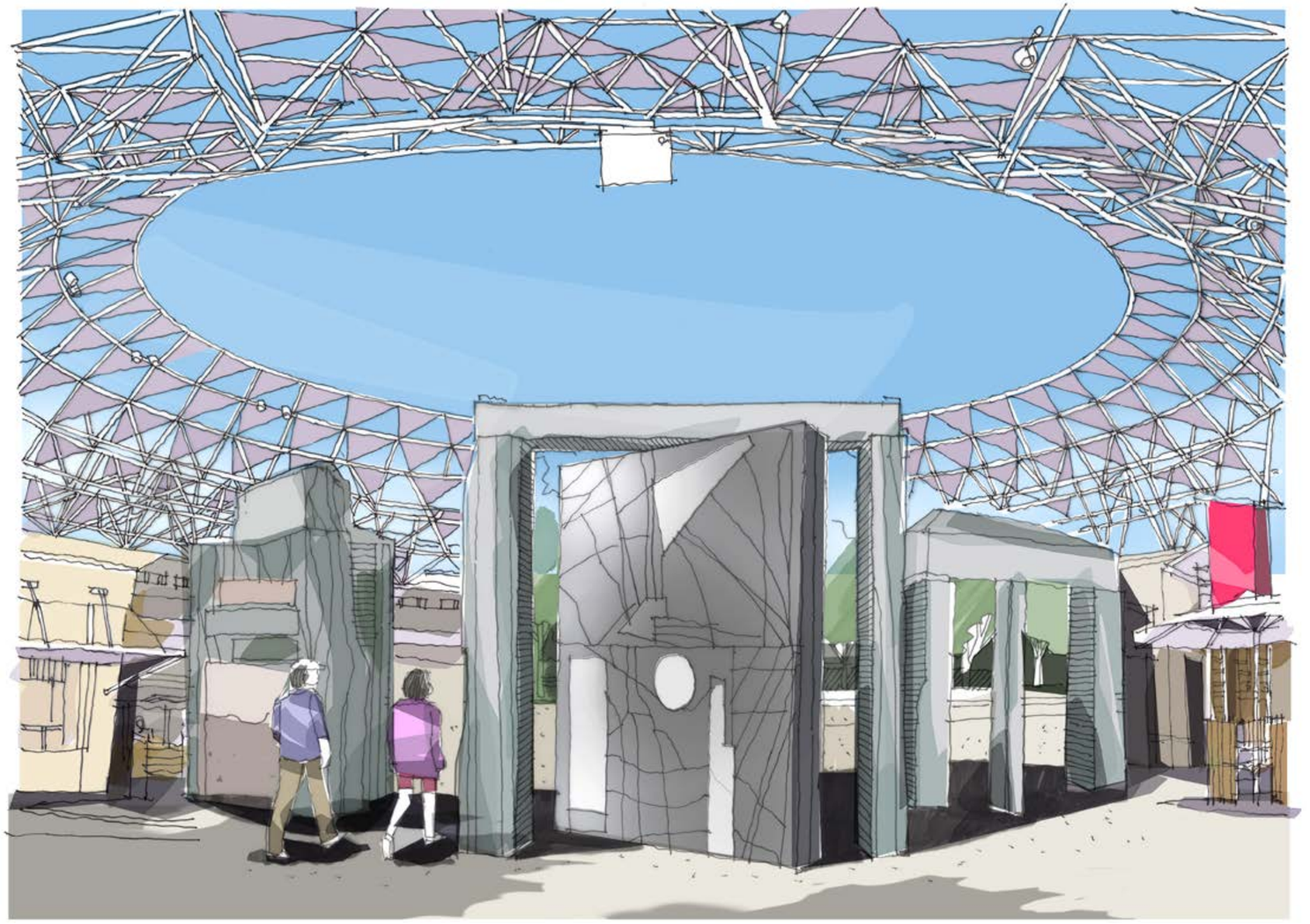
To suceed, brands have to make deep and constant connections with their audience. Stage Retail depicts a new breed of retail environments that are designed for physical, social connectedness and fun. A place where people, brands and their ambassadors meet and mingle.

Stage Retail displays constant shows, whether in the domains of the arts – 'mall-seums', those of entertaining technology, sports games, and/or Sunday markets with a display of fresh, locally produced F&B.



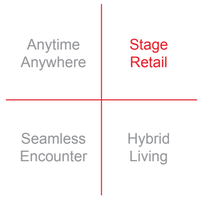
Art retail

Art exhibitions and curated 'art malls' have the ability to tap into Gen-Z shoppers, offering a possible remedy for brands and retailers after COVID-19.



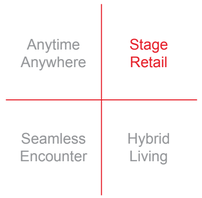
Off-stage fashion shows

Fashion shows and catwalks will be held off the stage to engage appreciative customers in a more interactive way.



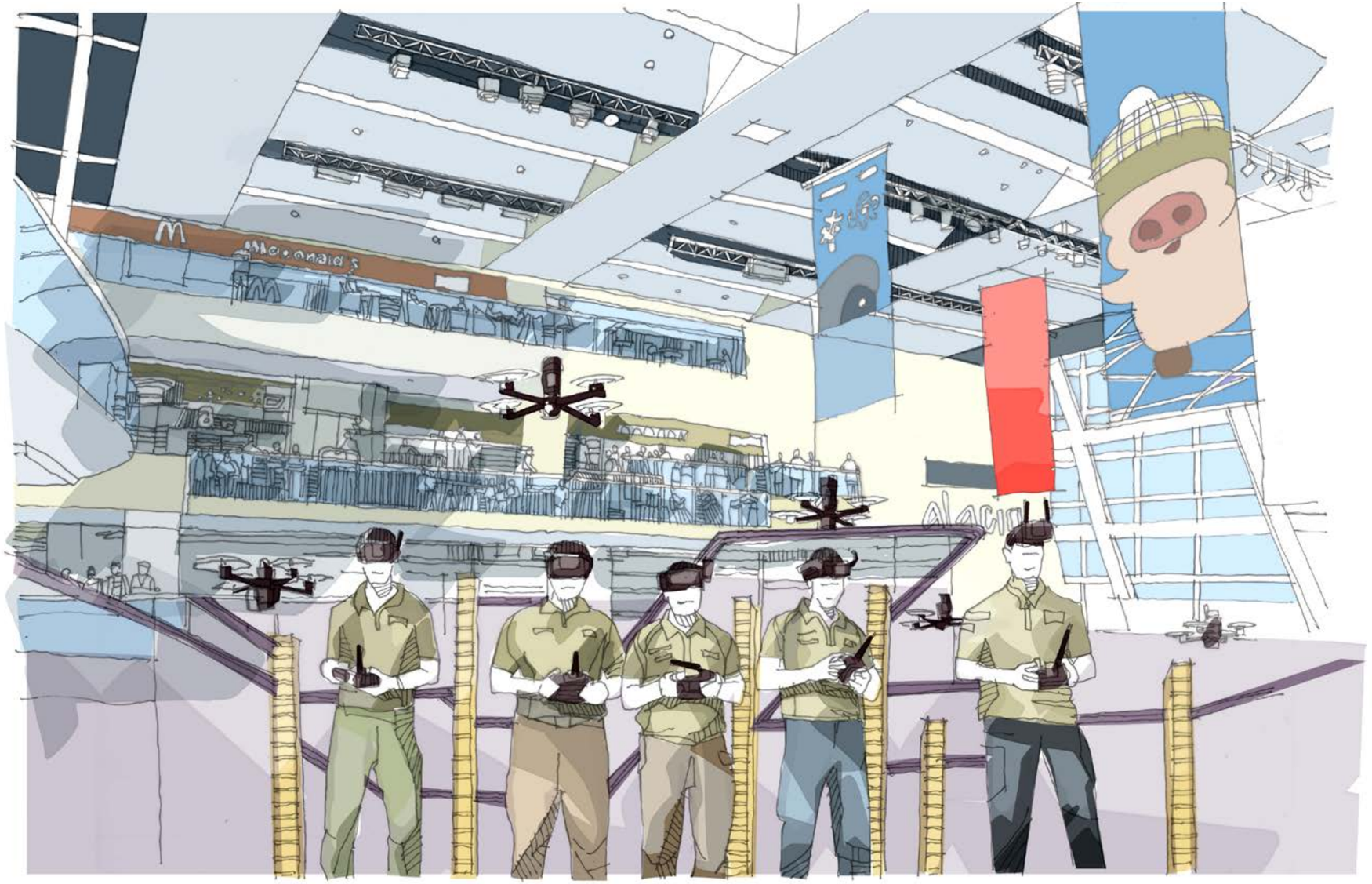
Gamified retail

Gamification brings elements of gameplay into shopping to engage customers and boost loyalty.



Gaming arena

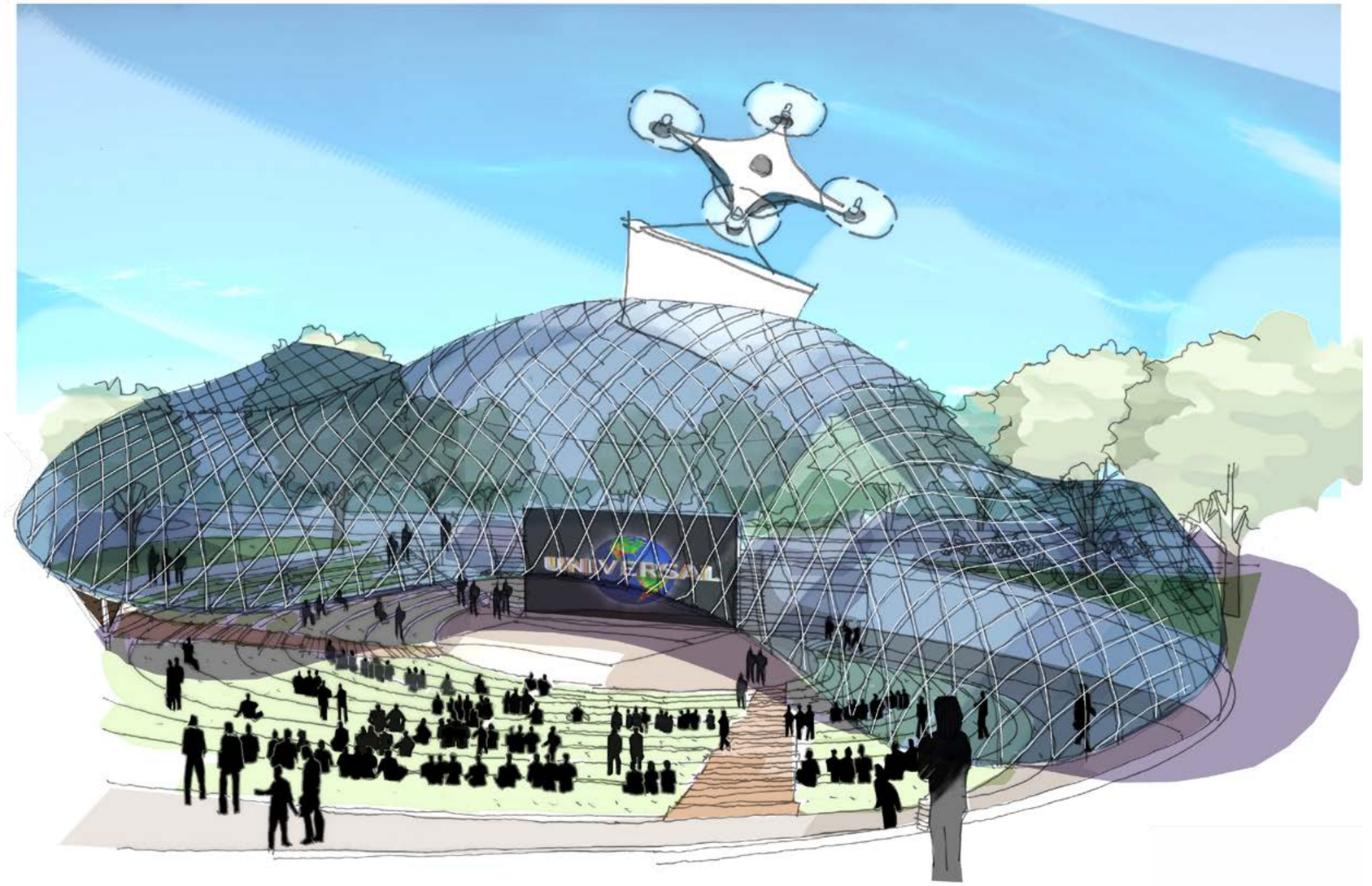
E-sports events and tournaments are increasingly held at malls.



Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Arts events and theatres

Malls become venues for arts events and movies to provide opportunities for friends and the community to get together.



Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Live music performances and concerts

Malls become venues for live music performances to provide opportunities for friends and the community to get together.

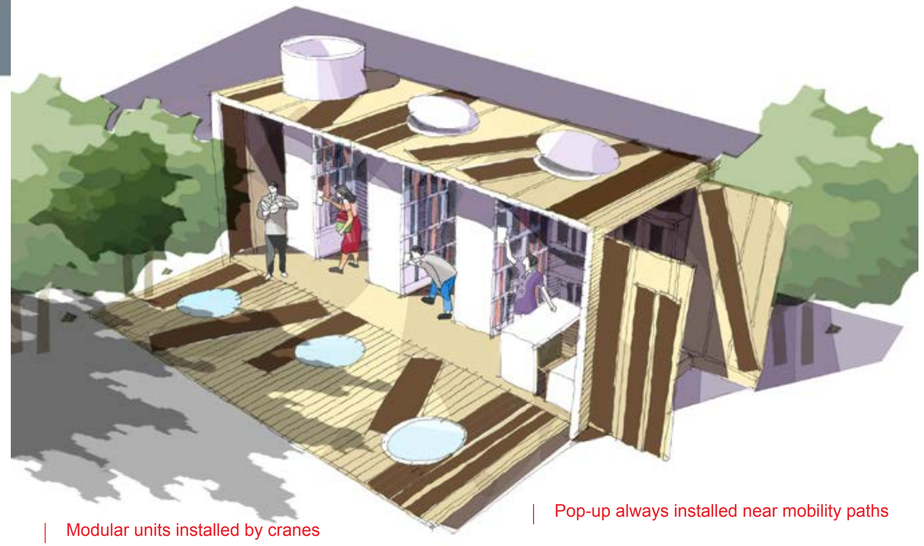
Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Pop-up stores

Mall owners and operators are likely to allot more space for pop-up stores to diversify their tenant mix and keep foot traffic in their properties.

Pop-up/ ecosystem of stores

Cycling/running tracks
+ tracks for delivery AV delivery vans

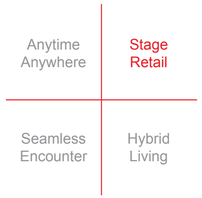


Modular units installed by cranes

Pop-up always installed near mobility paths

Sports brand activation

Sports stores and brands will be where shopping and trying out the product range are combined for an engaging experience.

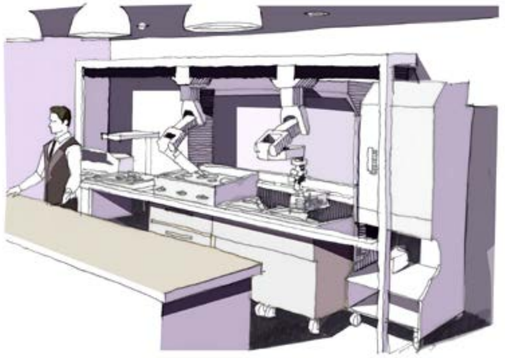


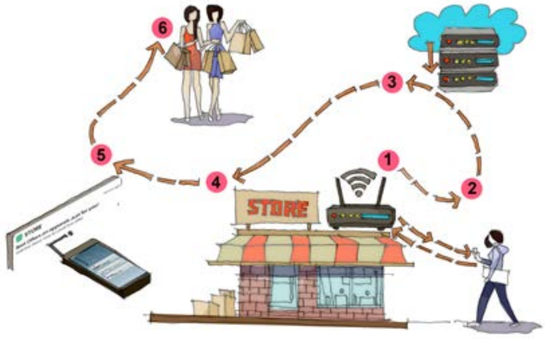
Seamless Encounter

Seamless Encounter promises on-site retail experience, enabled by cutting edge technology. This very plausible future is driven by the need for ultimate efficiency.

Efficiency of operation and efficiency of service to the customers.

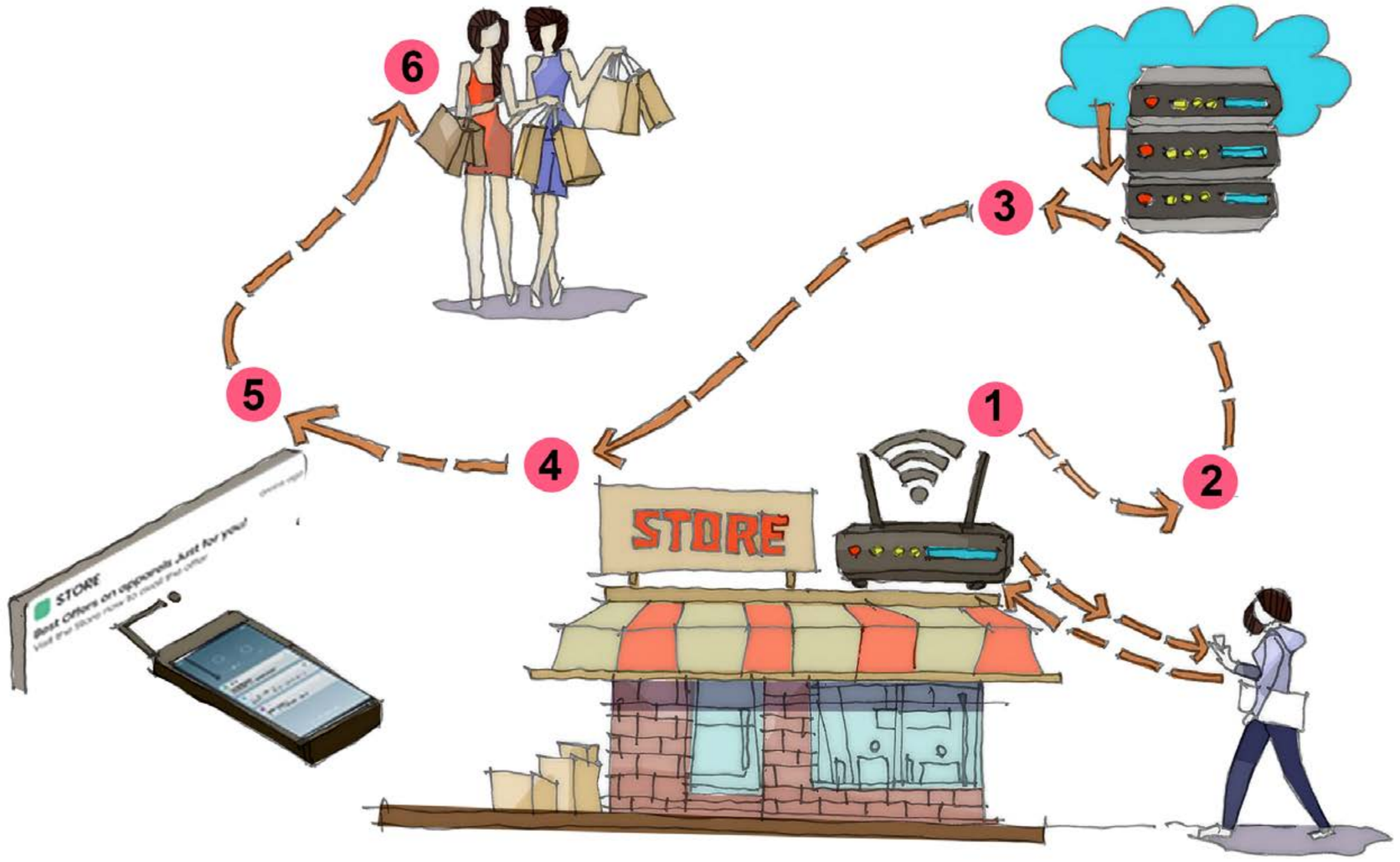
Mall visitors enjoy personalized assistance powered by AI, fast and smart delivery wherever they need.





Bluetooth/beacon-enabled mobile targeted marketing

Beacons use Bluetooth technology to transmit information to nearby mobile devices. They offer a simple way for marketers to send timely, targeted messages to customers based on their physical location.



Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

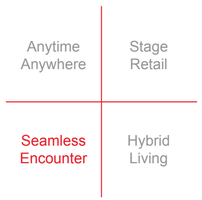
Digital content

Interactive façades and displays react to passers-by and the environment.

Anytime Anywhere | Stage Retail
Seamless Encounter | Hybrid Living

Immersive experience with AR and VR

Implementation of AR and VR helps retailers and consumers alike have a better shopping experience while reducing operating costs for retailers.



Smart building technologies

Smart building management systems can drive energy efficiency and lower maintenance costs with real-time monitoring and predictive maintenance.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

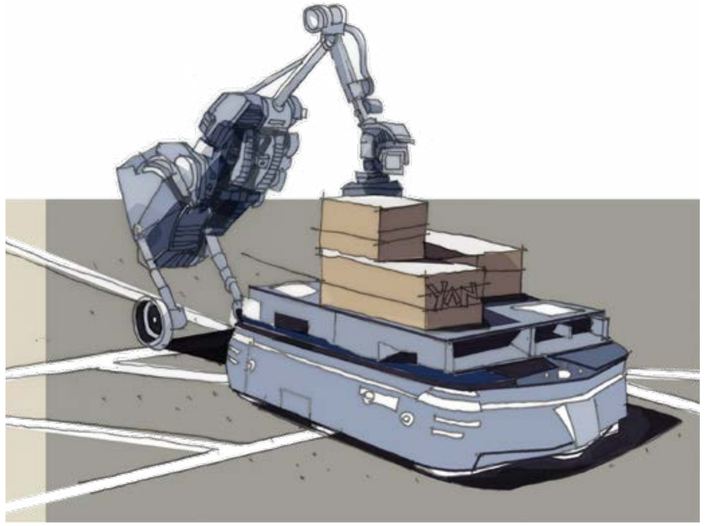
AR for indoor mapping

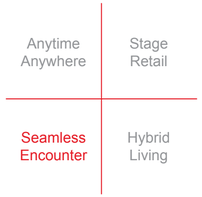
Indoor wayfinding solutions using AR aid ease of navigation and enhance user experience for staff and customers, and to increase operational efficiency.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Instant delivery

The new normal will be deliveries to a live location, such as a personal phone, delivery within a pre-booked 10-minute time window, or delivery in less than an hour after ordering. The consequence will be a significant global and local increase in the demand for and movement of small- to medium-sized parcels. An automated network of delivery will be necessary to allow for community fulfillment.





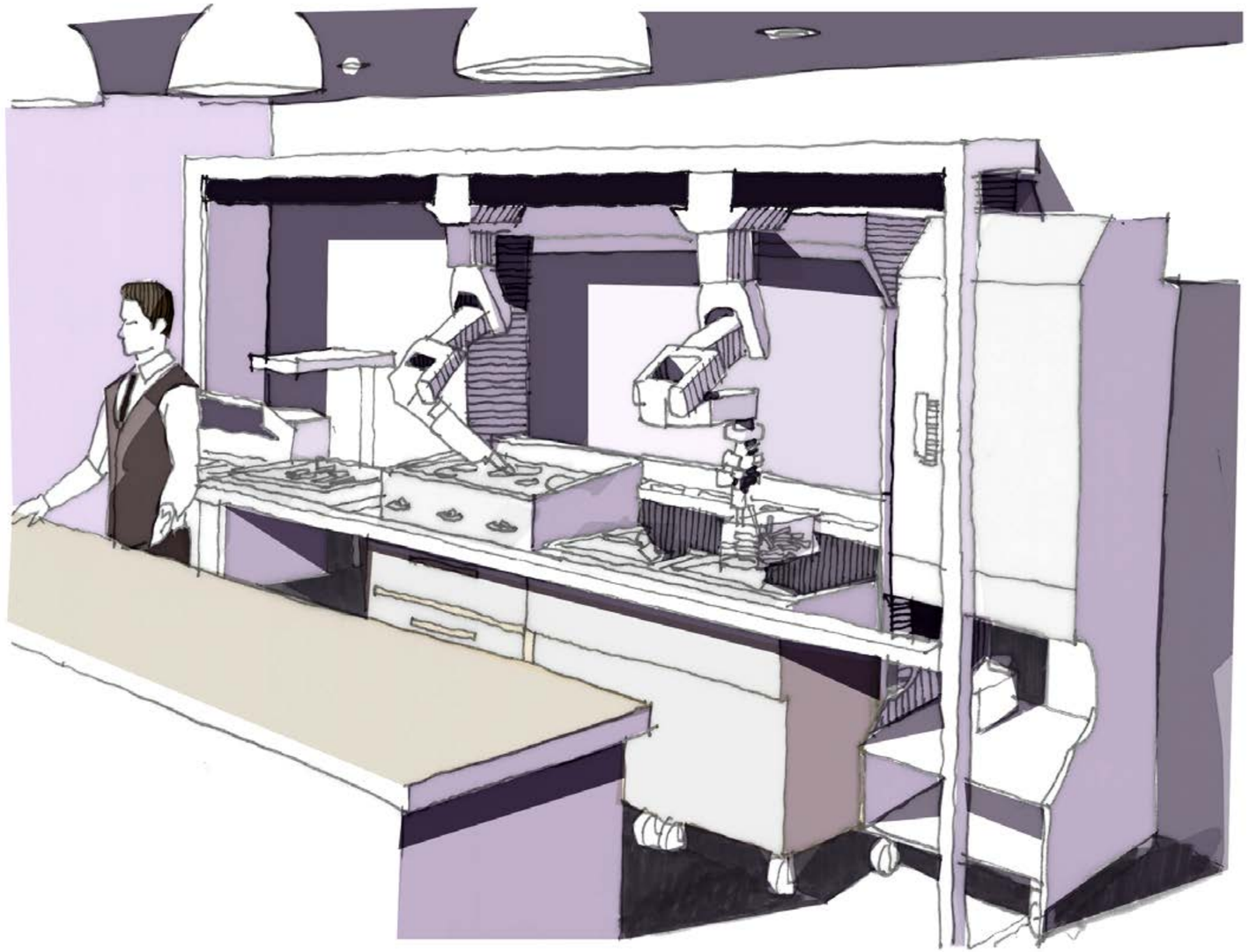
Cashless check-out

More retail stores will go entirely cashless to streamline processes.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Robotic chefs/bartenders

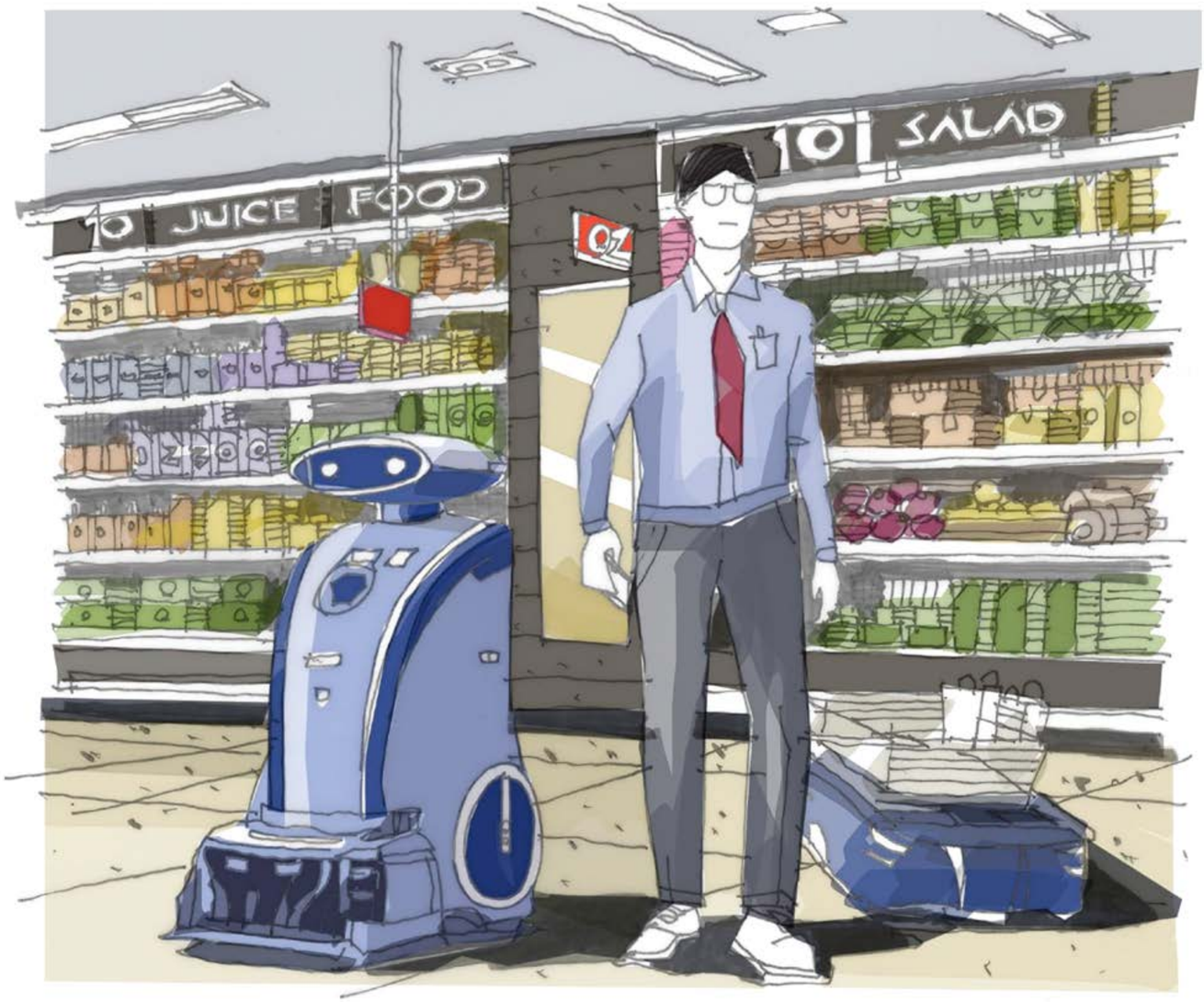
Robotic chefs and bartenders are helping the food and beverage industry minimise human involvement in the meal and beverage preparation processes.



Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

In-store robotics

cleaning and sanitation robots will improve visitors and staff health.



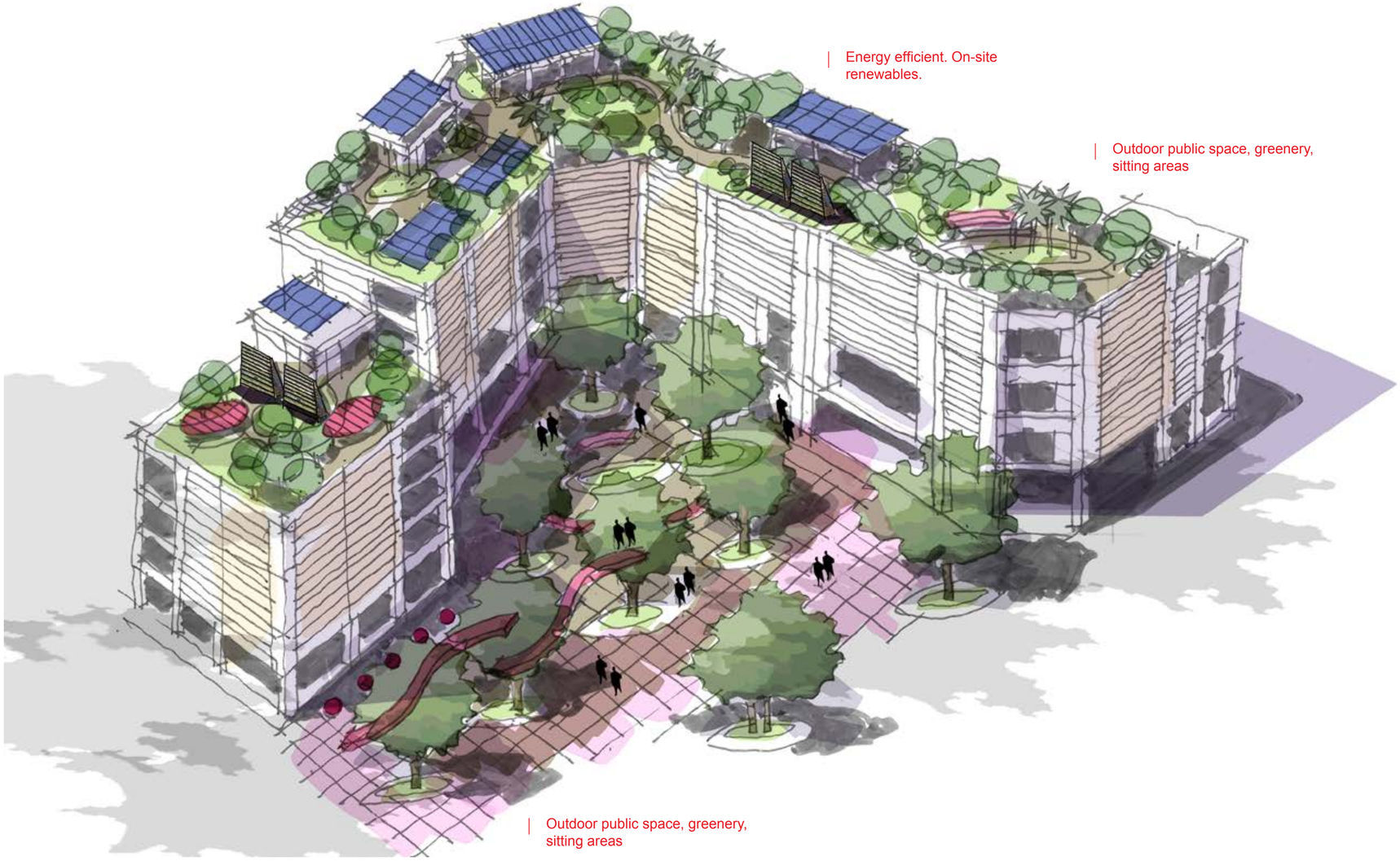
Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Hybrid Living

Hybrid Living is a mixed-use development for the recalibration of work, life and place.

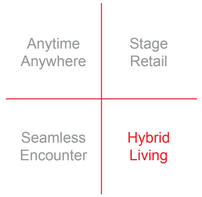
In a post-pandemic world where cities reorganise themselves into rejuvenating neighbourhoods, that requires less or better commutes, citizens have more time to spend interacting with each other in meaningful ways.

- Hybrid Retail transcends the codes of home, office and retail design.
- A place that reconnects different generations, and different social groups.
- A place that makes people feel safe to be living and working in.
- A place to belong.



Urban food production

Communal outdoor green spaces provide opportunities for residents and shoppers to enjoy, socialise and relax.



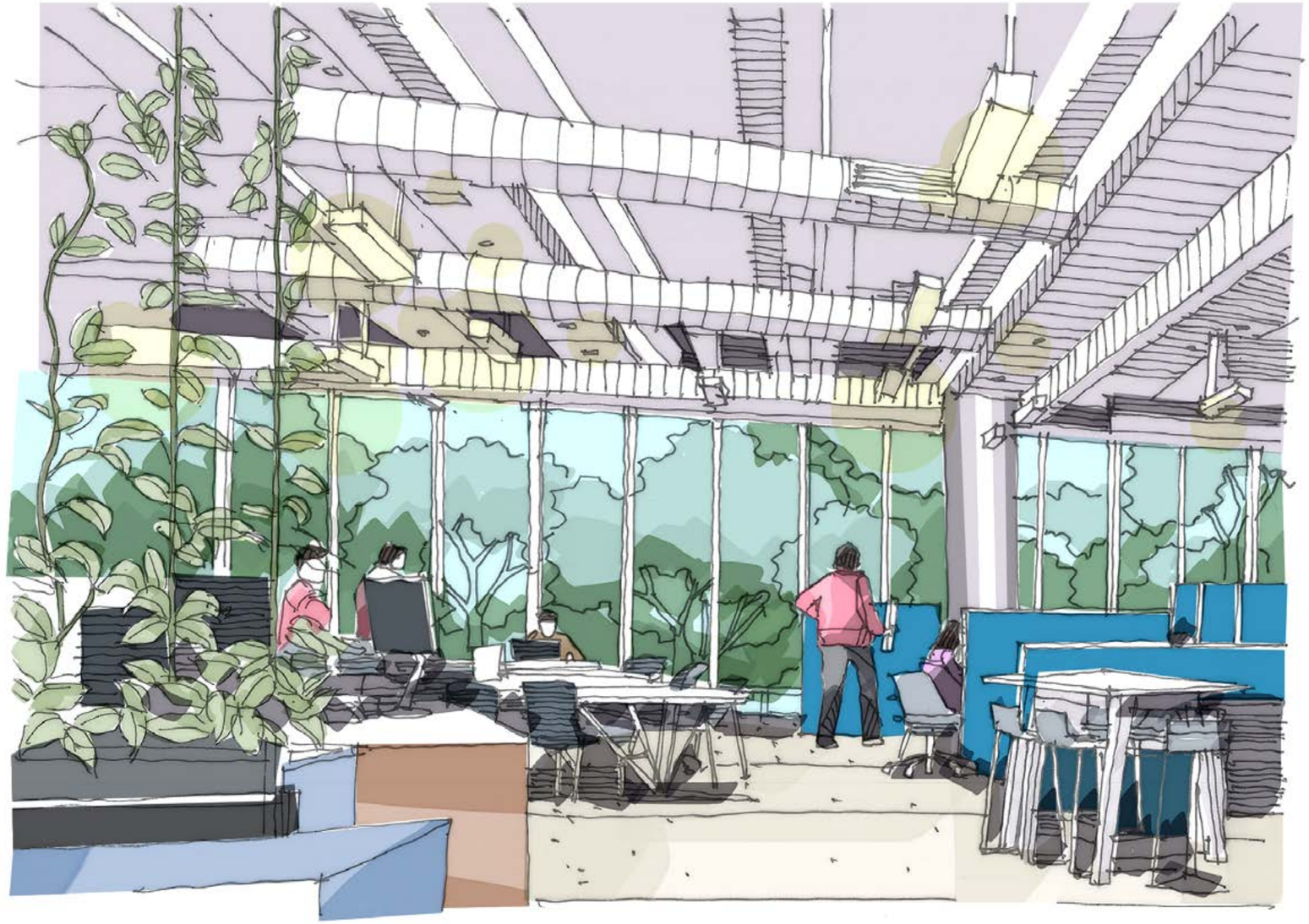
Circular retail

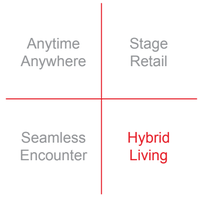
Retail businesses will implement circular principles and initiatives, with, for example, a better waste management and energy consumption.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Exposure to natural light

Stores, restaurants and workplace will have a greater access to natural light and fresh air, with access to the outdoor to increase the health and well-being of visitors.





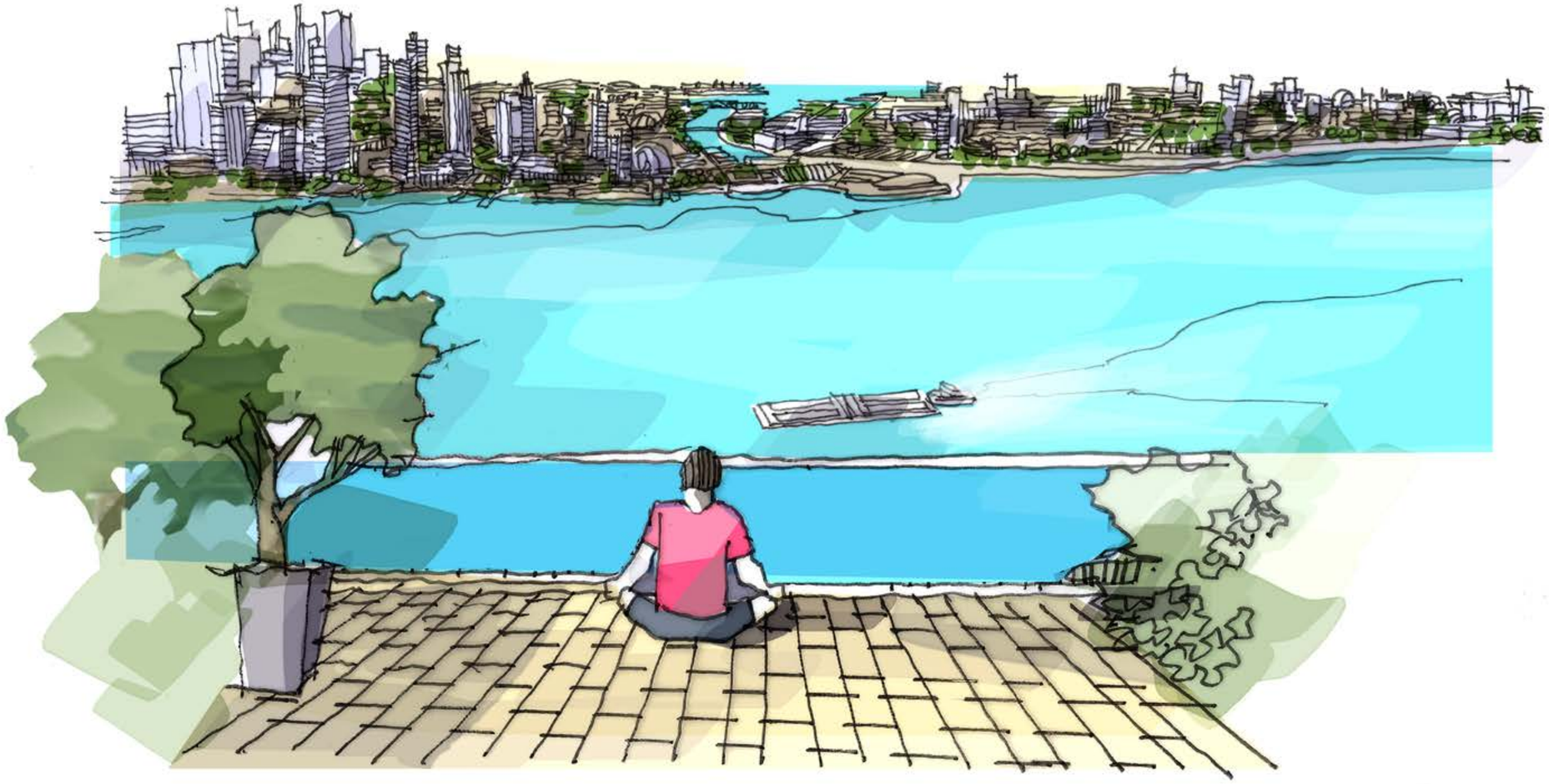
Active design

Retailers should promote health and wellbeing with active design features such as running tracks, climbing walls and workout equipment.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Meditative therapeutic environment

Other than active sports, the quiet corners of the facility, ideally surrounded by nature, can be turned into meditation spots.



Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Childcare

Parents can drop their children off at a shopping mall's day-care centre.

Anytime Anywhere | Stage Retail

Seamless Encounter | Hybrid Living

Healthcare

Medication, home delivery medicine, virtual consultations, in-mall pharmacy, virus testing areas and community centers for vaccination.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Community market

Retailers will allocate more space for 'mom and pop' businesses, Sunday bazaar and exchange of goods, weaving stronger ties with the local community.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Inclusive wayfinding

Inclusive wayfinding fosters the use of zero-emission vehicles such as bikes or scooters to facilitate goods delivery.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Active transport/mobility hub

Built environments that support active transportation promote mobility, healthy lifestyles, reduced traffic congestion, and positive environmental impacts and generate economic benefits.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Distributed parcel pick-up points

Self-service lockers can be made available at community centres, post offices, delivery centres, for example, to serve as convenient and secure locations to pick up parcels.

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Retail incubation

Retail incubators help creators prototype, improve and launch their products faster, getting feedback from customers

Anytime Anywhere	Stage Retail
Seamless Encounter	Hybrid Living

Conclusion

As with most other sectors, many aspects of retail will have changed permanently in the aftermath of the pandemic. Perhaps most significantly, the emergence of hybrid retail will become more of the norm. Mobile commerce appears very likely that it will grow steadily. Shopping malls will be designed to be compelling and engaging places where people choose to spend their time to socialise, to experience and to have fun while selling goods and experiences. They will also invest in more technology, from a variety of sensors and artificial intelligence capacity to provide insights for their operation and strategic planning.

That said, many points of sale will still require dedicated spaces to grow. These will need to be redesigned for the purpose of not only hygiene and safety but also collaboration. Retailers' reputations will continue to rest on the quality of the shopper experience, and increasingly their capacity to address the exponential sustainable behaviour change of demanding consumers. Retailers that invest in sustainability will attract a generation of shoppers and visitors who are especially conscious of the risks of climate change.

Now is an opportune moment to reconsider mobility strategies, indoor navigation, energy procurement and space utilisation. We can expect a shift in what shoppers expect from brands, and where and when they want to interact with them. Retailers will need to adjust to these shifts and find ways to provide a shopper experience that truly responds to people's expectations. If shopping malls are not (yet) dead, traditional shopping is. Retail leadership will need to manage the cultural change required for new behaviours around hybrid retail and the technological transition.

The aim of producing this report is to help capture the state of the retail sector and to share insights and actions being tested in Asia. This report helps start a conversation about how shopping malls can be resilient to future change and acts as a source of insights for those seeking to take the fullest advantage of up and coming opportunities. Arup can guide them to succeed in their endeavours.

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Authors:

Agnes Wen
Ricky Tsui
Yannick Lenormand

Arup contributors:

Alvin Lo
Clement Ho
Mark Chen
Sankar VS
Jacky Chan
Tony Chan
Michael Chin
Josephine Wong
Justin Cheung
Xin Wang

External contributors:

Marilyne Meesters Chew
Lau Chin Hoc
Kevin Tranbarger

Iconography, data and research:

Susan Moore
Wendy Fung
Chris To
Agnes Wen
Yannick Lenormand
Sarah Wong
Sam Li

Editorial & Design:

Jimmy Chow
Ming-Yan Wong
Ayo Abbas
Annabel Rabbets

Illustration and sketch:

Leonardo Quevada
Nemo Liu

Photography:

Damon Yuen
Theerasak Kaewkhluab
Xue-Mei He
Yannick Lenormand

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