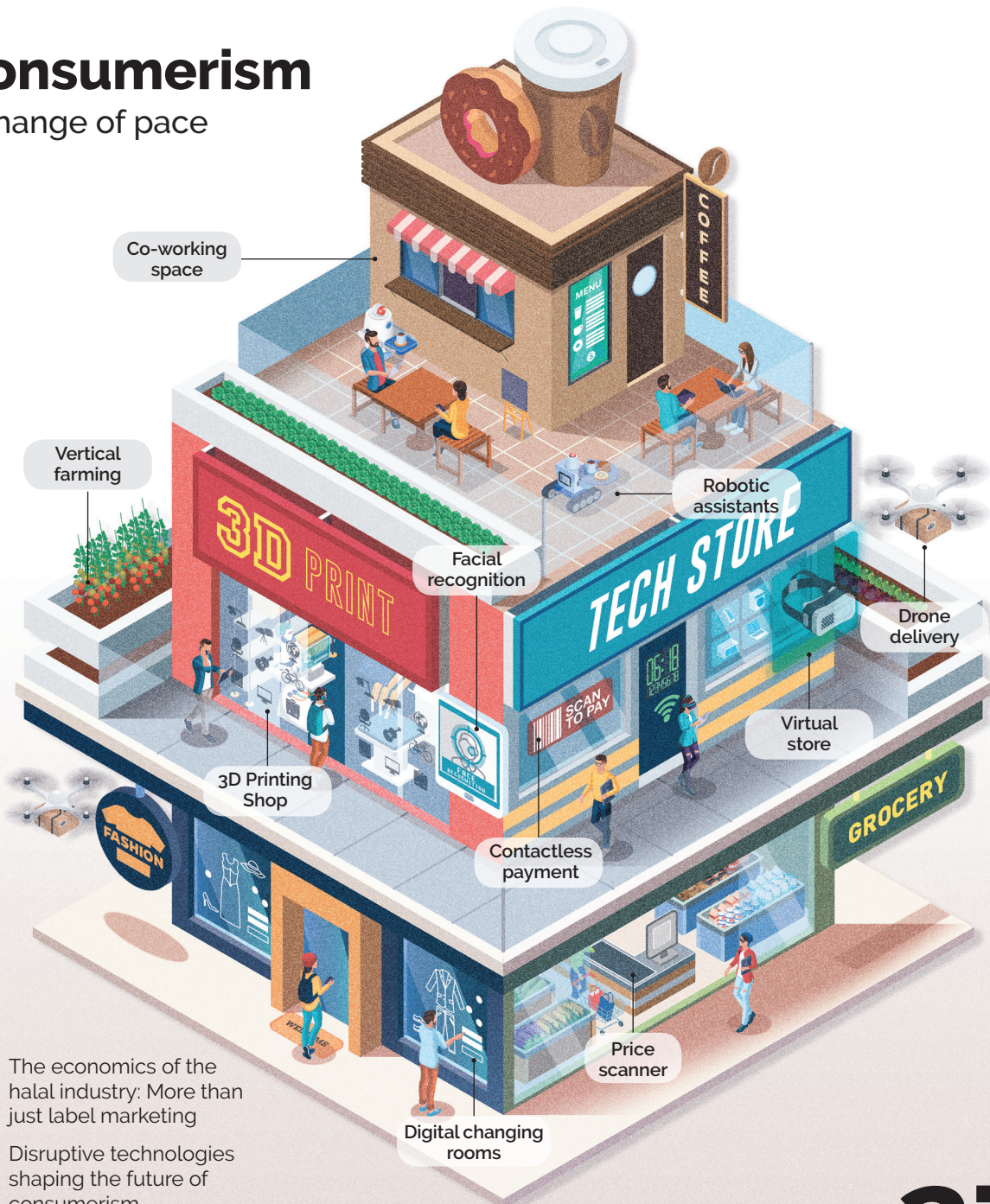


myForesight[®]

MALAYSIA'S NATIONAL FORESIGHT MAGAZINE

Consumerism

A change of pace



- ▶ The economics of the halal industry: More than just label marketing
- ▶ Disruptive technologies shaping the future of consumerism
- ▶ Investing in a sustainable future

27th
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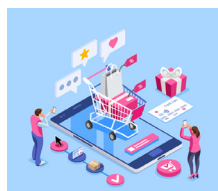
32

How consumerism is impacting innovations in the food and health ecosystem



35

The economics of halal industry: More than just label marketing



40

Disruptive technologies shaping the future of consumerism

EDITOR'S NOTE

04 Initial thoughts

IN PERSON WITH

06 YBhg. Datuk Muez Abd Aziz

INSIGHTS

10 Back to the future with the conscious consumer

VIEWPOINTS

14 The freelance economy: Are we tuned up for it?

18 Technology and the consumer experience

22 Millennials and consumerism

32 How consumerism is impacting innovations in the food and health ecosystem

35 The economics of halal industry: More than just label marketing

40 Disruptive technologies shaping the future of consumerism

44 Consumerism in the age of sustainability: Green practice & mindset

50 A circular solution to e-waste recycling: Treasures from trash: A story of an e-waste recycling hero

MYFORESIGHT INTERCONNECT

53 myForesight® in the news

55 myForesight® book club

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myForesight® is pioneering a national level foresight initiative to facilitate technology prospecting for local businesses. myForesight® advises and provides a common platform for the government, industry and academia to share experience, insights and expertise on 'futures' strategy, both locally and at a larger global level.

Key components of myForesight's mission are intelligence, research, competency framework and community engagement. myForesight® raison d'être is set out to accomplish the following:

1. Anticipate Malaysia's future possibilities;
2. Promote foresighting at national, sectoral and corporate levels;
3. Identify key technologies to support sectoral development;
4. Outline key future R&D areas.

Initial thoughts

Greetings & salutations

The future of consumerism



Rushdi Abdul Rahim

rushdi@might.org.my

Think about it, technology advancement has affected each and every one of us most notably as consumers. In the last five years, our behaviours as consumers have shifted dramatically. We are more demanding, expecting faster, greater convenience, better, safer, and higher personalisation from our products and services. Furthermore, the rising level of affluence has created demand for products and services unthinkable back then. In fact, one of the primary challenges of the future will be over-consumption.

As we envision the Future of Consumerism 2030 in Malaysia, we see a plausible future where consumers are greatly empowered, armed with knowledge and choices to exercise their rights in a safe environment. This will be made possible with the existence of a vibrant trade and retail ecosystem. Business environments are self-regulated, driven by greater awareness of ethical business practice as well as pressure from consumers resulting in minimal government intervention. Responsible production and consumption will be the norm. Meanwhile, new business models introduced are redefining the relationship between consumers and providers. Cyber entrepreneurs are mushrooming, adding to the vibrancy of the local business environment. Intellectual property will be protected and grow in values. "Made by Malaysia" is equated with value and quality. The third sector—NGOs and consumer rights advocates—work hand in hand with governments whose role now are more about ensuring a fair and safe ecosystem for consumers as well as traders and retailers.

Far-fetched? Not according to some. There is a group of individuals who thinks that these are the future to strive for.

It is interesting to note that based on the Consumer Confidence Index (CCI) 2019, Malaysia is placed 6th globally, where consumer perceptions of current business and employment conditions, and their expectations for business, employment, and income are relatively high compared to other countries. Rosy futures ahead for consumers then.

Anyway, for this edition, myForesight® discusses the futures of consumerism and its impact to selected industries. We were able to solicit the view of Datuk Muez Abdul Aziz, the Secretary General of the Ministry of Domestic Trade and Consumer Affairs on how the ministry is responding to the forces of the fourth industrial revolution. Whereas our associate futurist, Dr. Liz Alexander shared her insights on conscious consumerism and how we need to look backwards sometimes for inspiration, as we try to advance toward a more sustainable mindful consumption future.

“

As we envision the Future of Consumerism 2030 in Malaysia, we see a plausible future where consumers are greatly empowered

”

As in previous edition, we have a number of viewpoints' articles. One is on the freelance economy and its impact toward employment and the business landscape driven by the growth of internet. Another is on the impact of technology to the consumer experience and the disruptive technologies shaping the future of consumerism. There are also further insights on how millennial spending styles are nowadays, impact of consumerism toward innovation in the food and health ecosystems, and also the economics of the halal industry. Last but not least, we explore consumerism in the age of sustainability, green practice mindset, and we have an experience sharing article from a recycling hero in his effort to promote environmentally friendly e-waste. Though not exhaustive, I do think it provides a broad range of perspective on consumerism.

As usual, I sincerely hope the magazine provides you with some food for thought as you draw up your future plan. Do tell us what you think. Comments are encouraged and welcomed.

MALAYSIAN CONSUMER CONFIDENCE

INDEX 2019

Malaysia
is placed **6th**
globally on the Consumer
Confidence Index (CCI)

Index score:
115 points

(Q1 2019)
largely in-line with last
quarter's score
(118 points)

71%

of Malaysians believe the state of
their personal finances in the next 12
months will be excellent or good (vs.
70% in Q4 2018, 63% in Q1 2018)

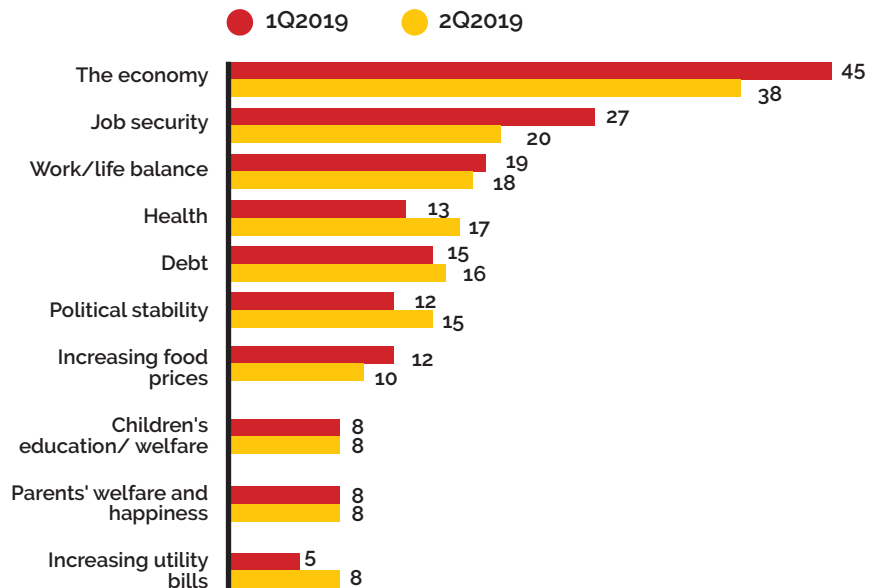
70%

have a positive view on
job prospects in the next
12 months. (vs. 71% in Q4
2018 and 56% in Q1 2018)

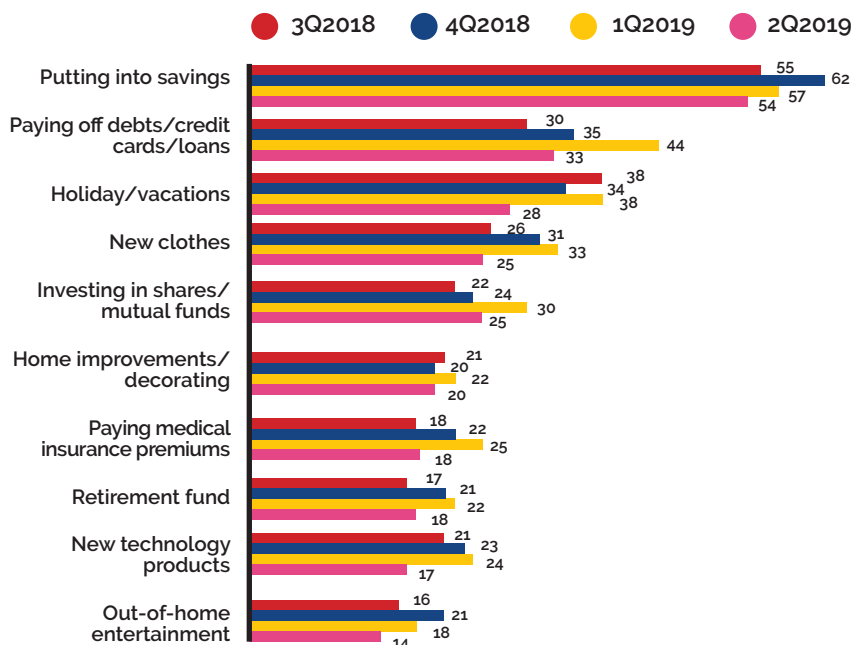
48%

say "now is the time to buy
the things they want and
need" (vs. 53% in Q4 2018
and 42% in Q1 2018)

Top 10 major concerns among Malaysian consumers (1Q2019 vs 2Q2019) (%)



Top 10 areas Malaysian consumers are spending their spare cash (3Q2018 - 2Q2019)(%)



Source: The conference board
global consumer confidence
survey & Nielsen

In person with...

YBhg. Datuk Muez Abd Aziz

Secretary General of the Ministry of Domestic Trade and Consumer Affairs

YBhg. Datuk Muez Abd Aziz started his career in the public sector in 1988 as an Assistant Director at the Inland Revenue Department. Through the journey, Datuk Muez has held leadership responsibility in many areas including economic development and businesses management. In his public service engagements, he formerly served key positions at the Ministry of Entrepreneur and Cooperative Development, the Ministry of Agriculture and Agrobased Industry and the Ministry of Domestic Trade, Co-operatives and Consumerism. In addition, he was also involved with the Public Service Innovation Project (PIKA) in 2008/2009. Datuk Muez bin Abd Aziz was recently appointed as the Chairman of the Companies Commission of Malaysia (SSM) with effect from 9 January 2019. Datuk Muez holds a Master's Degree in Economics from the University of Vanderbilt, Tennessee, United States.

Consumerism and the business ecosystem

Malaysia is doing remarkably well compared to its global peers, and currently we are in a good position in the business ecosystem. Recently, we advanced nine places to 15th among 190 economies worldwide in the World Bank's Doing Business 2019 Report, which based its rankings across key performance metrics in business regulations and ease of doing business. Another measure is consumer confidence—published by The Conference Board Global Consumer Confidence in collaboration with Nielsen, has ranked Malaysia 10th globally on the Consumer Confidence Index (CCI).

These two turning points are clear indications of how we are doing globally. But we need to take a pause and ask ourselves, how can this be improved? How can we further improve the quality and cost of living by tapping into the power of technology? Critically, how can we further optimise our society's consumption?

Supply chain reinvention and an evolving global environment

Advances in technology, or the much hyped "disruptive innovation" are rewiring consumers and businesses. Today, both entities are more diverse than ever along the lines of business systems, markets, responses and interpretations. They are changing in reaction to the evolving environment around them.

One thing I should add, all these changes have been made possible by technology—new technologies becoming mainstream and replacing older ones. It's important to note that our consumers can't be viewed in isolation from the changing global market landscape. Also, these changes are radically remaking our society's identity, traditions, economic structure and political will.



Weighing the government's response to current consumer trends

I think what's exciting about right now is the consumer-led revolution enabled by digital technology happening at breakneck speed. It has really taken off. In a very short time, we are seeing a lot of consumer trends being transitioned to a more fluid online spending. It's this swirl of marketplace dynamics that is heavily influencing the behaviour of today's consumers.

As new technologies catch on, (apps, social media, geo-localisation software, etc.) consumers have become increasingly smarter and better informed. The combination of increased digital consumption and mobile technology is having a big impact on the retail industry.

To understand how, where and why consumers are changing, look no further than the power of information. Consumers have multiple sources of information at their fingertips nowadays and they demand a constant dialogue with brands. However, within this environment (increased information and scrutiny) businesses are facing intense competition to gain market share and traction. Meanwhile, in more established product categories, growth can be especially difficult to achieve on a regular basis.

There's no question that social media and the people's ability to mobilise information are increasing the pressure on the government and our businesses. In the years to come, the government has to be well prepared to address any complexity that may arise to protect our consumers and businesses. Yet historically, governments will be required to operate differently to deliver better services to the Rakyat. This doesn't mean that technology is a threat, but it is heavily influencing the relationships between the government and its stakeholders—consumers, businesses and our communities.

Harmonising consumer protection

Amid this fast changing narrative, consumers nowadays can find and buy almost everything online from food delivery, travel, clothing, cosmetics, sports apparel to music and movies. So, it is increasingly evident that we need to prepare ourselves to face up to the formidable challenges posed by these nearly ubiquitous platforms such as e-commerce.

What we learned is that over 30 percent of the complaints we now receive monthly are about online trading. Next, price increase complaints are second in our record. This shows that our people's participation in online trading has recorded a huge upward swing. In fact, we haven't seen a shift like this in the last ten years.

In view of this, the ministry is taking various measures to harmonise consumer protection. For instance, recently, complaints that concern online trading have increased tremendously, averaging roughly around 2,400 cases every month. Most of the complaints filed were in connection with undelivered goods, order discrepancy and poor quality of goods.

Today, consumers can lodge their complaints to the Tribunal Tuntutan Pengguna Malaysia (TTPM) or the Consumer Claims Tribunal. Previously, consumers could only file claims below RM25,000. However, last July, an amendment was made to the Consumer Act 1999. All things considered, this resulted in the increase of the ceiling sum—now up to RM50,000. And this was done to protect consumers against fraudulent digital transactions.

We looked at other shifts as well to understand ways in which our consumers could be manipulated. Therefore, this is a timely alignment as the TTPM is under the purview of the act. We have also made it compulsory for merchants to register with the Companies Commission of Malaysia (SSM). When we factor in the trends showing up these days, it makes it a lot of sense—especially when we investigate our report cases.

Curbing high cost of living

For the last few years, much has been talked about today's high cost of living. To cut through the noise, the government must intervene. In addition to this, the government is also continuously monitoring weaknesses and malpractices in the market from the presence of middlemen. Such inefficiencies among suppliers could lead to acute shortage of supplies and unfettered price hikes. In a free trade economy, prices largely depend on the economics of market supply and demand. With the relatively high cost of living, price hikes are a burden to middle income families.

Despite this, in support of the common good, we have adequate control and authority over the market to ensure we are able to protect consumer interest. Under the Price Control and Anti-Profitteering Act 2011, we have the authority to control the prices of essential items. Sugar for example, we regulate the price at RM2 per kilogram.

It is the cheapest in the region. If you compare with Indonesia for example, the price can go up to RM5 to RM6 per kilogram. Even though Thailand is one of the largest sugar producers, the price of sugar in the country is not that cheap. It is more or less the same with ours.

We control the price because sugar is widely used in everyday food and cooking. Just like fuel, we fix the pump price this year for RON 95 at RM2.08 per litre. Currently,

it is among the cheapest in the region. It is imperative for the government to understand that fluctuating prices of these essential items can impose a huge strain on the Rakyat's economy.

At the ministry, we are pulling all the levers we have at our disposal to make sure the Rakyat get adequate access to all these essential items. In addition, the ministry is mandated to strengthen the National Action Council on Cost of Living (NACCOL). It is a council set up to tackle on the ground issues regarding the country's cost of living. For that, the council can give the government a greater monitoring capability.

Under the council, the focus areas are categorised into seven key clusters that impact the cost of living the most. Over and above this set of concerns, the clusters consist of food, housing, health, education, utilities, transportation and e-commerce.

Consumer education

Now, to a degree, two key parameters should be noted to evaluate future consumer trends. How consumers' fundamental needs might change over time are typically fuelled by excitement and satisfaction. Although the picture is far more varied in the retail sector, we need to understand the characteristics of 'new consumers' where personalisation, speed, integrity and entertainment will influence spending habits and behaviour.

Moving to consumer education, we need to work relentlessly to educate our consumers. In general, consumers have the right to have access to information, essential goods, safe food, reasonable prices and so on and so forth. While we believe in a free market by design, oftentimes, people are the weakest link. In this context, empowering and educating consumers with the right knowledge will require greater effort from all stakeholders.

It involves both the public and private sectors, for example, government agencies like us, businesses as well as consumers associations and NGOs. This should be one of the measures of success when assessing our performance as the custodian of domestic trade development and consumer protection.

Protecting domestic trade

Protection isn't simply consumers vs. traders. In our roles, we are not just protecting consumers, we are also protecting our domestic trade. Both are equally important as our SMEs consist of over 90% of business enterprises. New technologies and business models don't just create opportunities, they also create perils. Apparently, our businesses are exposed to the

turbulent trends that disruptive 4th industrial revolution technologies can unleash. Because no one knows exactly how these changes will eventually play out, we want to make sure we don't lose revenue from our businesses losing profit when they stumble on being disrupted by new technology.

Alongside other agencies such as SSM and MyIPO, we are expected to be on the frontline of technology adoption to protect consumer interest and domestic trade, through registered IPs, patents and copyrights. Similarly, we need to measure what matters in terms of adopting new technology to improve our delivery.

Combine this with a supportive public sector, this will allow our businesses to attract more investors. Relevance is another way to think about it to improve the country's ease of doing business. At the ministry, we're really excited about new emerging technologies and how they will continue to improve consumerism and local businesses.

The desire in all of us is to have a greater degree of success for our SMEs. This is why we need to have a co-productive way of engaging them. Not only is there a dramatic rise in global competition, but when you think about new pockets of opportunity that can be created, we have a lot of catching up to do. To this end, we have our franchise development programs that help to market our SMEs' products and services. We work closely with hypermarkets to earn more places for our local products on their shelves.



New technologies and business models don't just create opportunities, they also create perils. Apparently, our businesses are exposed to the turbulent trends that disruptive 4th industrial revolution technologies can unleash.



Supporting Sustainable Development Goals (SDG)

Speaking of Sustainable Development Goals, Goal #12 is about responsible consumption and production. The idea behind it is to promote resource and energy efficiency, sustainable infrastructure, improved access to basic services and the creation of green and decent jobs. All this points toward a better quality of life for all. This includes educating consumers on sustainable consumption and lifestyles. To do this, we need to

provide our consumers adequate information. With respect to the objectives, the government can ill afford to engage in wasteful spending. Equally important is for the government to practice sustainable public procurement to achieve the appropriate balance between economic, social and environmental development.

For all of this, the challenge for the ministry is to engage an inclusive strategy to make sure that the supply of goods is continuously secured while working toward lowering the cost of living. As for the Malaysia Competition Commission (MyCC), the ministry is committed to promoting competition and combating anti-competitive practices in the marketplace. At the moment, the most pressing is curbing the rise of food prices.

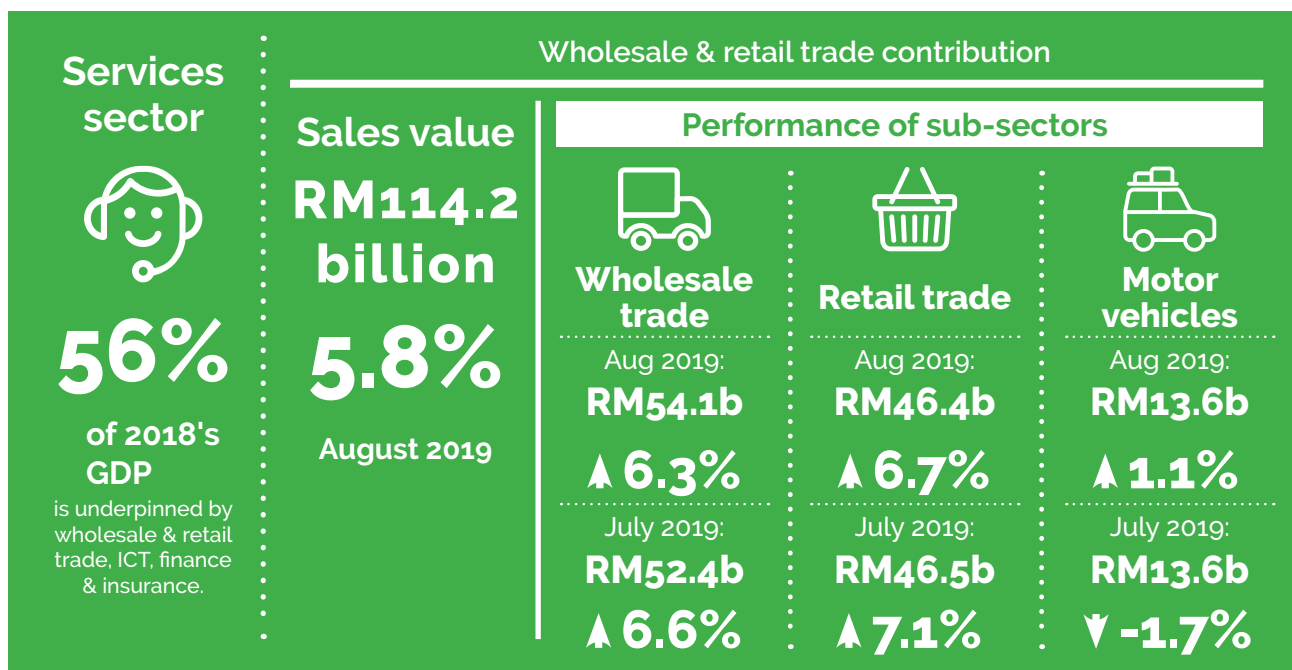
The recently launched market review by MyCC discovered inefficiencies and potential anti-competitive conduct in selected food sectors. The review also presented a few recommendations on how Malaysia can become a self-sustaining nation. For example, diversifying our sources for specific food items and expanding our domestic industry can help reduce our dependence on imports.

But this requires a strong joint-effort from every stakeholder. Our businesses, perhaps, should exploit existing weaknesses in the market by tapping into the food industry and the ministry wholeheartedly supports this opportunity. In economic terms, we believe that more competition will increase market efficiency, promote innovation and accelerate economic growth.

Foresight and scenario planning

Currently, the ministry is strengthening the capacity and depth of its people in the fields of foresight and scenario planning. As such, we recently collaborated with MIGHT (Malaysian Industry-Government Group of High Technology) to develop the ministry's strategic plan for 2021-2025. It is like the saying, 'killing two birds with one stone'. This is why we are moving up a layer in our preparation as the risks of adopting a wait and see attitude are too costly to bear in the future. We need to make sure those who will be involved in the planning exercise are ready for change.

Given today's challenges, our people will not only be using foresight tools to explore future scenarios and translating them into action, but they are also expected to equip themselves with strategic thinking skills. Going forward, these skills are critical considering the rise of the 4th industrial revolution. This will be a familiar theme that will characterise our effort to prepare our people to contribute productively to the nation's development. At the same time, this will also harness Malaysia's commitment to global causes, such as the SDGs and national development plans. In the race to build competitive global advantage, we need both sides of the strategies we formulate to be executed really well. One side of it is the planning of effective and scalable strategies. The other is the governance and integrity of the strategies.



Source: DOSM

Contents

▶ Governments, industries and social action groups have a part to play in helping to positively influence consumer behaviour.

▶ Reshaping the desires of emerging middle class is a concern for environmental consequences.

▶ Conscious consumerism is not just about what consumers buy, but how long they can make those products last, and how they can help reduce waste overall.

Back to the future with the conscious consumer



Liz Alexander, PhD

Futurist. Author.
Consultant. Speaker.

Consulting futurist, Dr. Liz Alexander, is co-founder of Leading Thought, whose clients in the United States, UK, Australia, South Africa and India look to them for ways to 'futureproof' their talent and organisations. She combines her futurist skills with a deep understanding of the strategic needs of business, especially as they relate to communicating thought leadership insights and paradigm pioneering ideas.

Dr. Liz is the author/co-author of 21 nonfiction books published worldwide, that have reached close to a million global readers. She contributes to Fast Company's online platform and writes a blog entitled 'Preparing for the Unpredictable' for Psychology Today.

In 2016, I decided to leave the United States and move to Malaysia. Faced with packing almost half a century's worth of accumulated "stuff," and paying exorbitant fees to ship it halfway across the world, I decided to get tough; only my most important items would go with me. I arrived in Penang with two suitcases, followed by half a dozen small shipping cartons containing family mementos and pictures I'd always meant to digitize. Everything else had been sold, donated to charity, or given to friends. I tried to reduce what needed to be thrown away, but some things, inevitably, ended up in a landfill or recycling center.

What this experience taught me was how much of what I'd accumulated over the years was unimportant—and how little thought I'd given to what would happen when I no longer needed it. I had not been a "conscious consumer."

Conscious consumerism is nothing new. In 1972, two professors from The University of Texas at Austin wrote an article for the *Journal of Marketing* entitled 'The Socially Conscious Consumer,' in which they stated that high socially conscious individuals differed from most other people in some significant ways:

- They have better jobs
- Are younger and less status conscious
- Enjoy above-average socio-economic status

Back then, the people most likely to "look beyond the label" when making purchasing decisions, were a fringe, elite group.

That's not the case today.

A top trend

Researchers for Euromonitor International recently listed 'Conscious Consumer' in their Top 10 Global Consumer Trends 2019 report. This is someone who votes with their wallets by opting for plant-based foods, not only out of concern for their health but also animal welfare. They shun companies that engage in, or are complicit with, child labour, human rights violations, polluting rivers and seas, and other anti-social, unethical activities. Many use online sites and apps like Buycott.com, DoneGood.co, and NatureHub.com to help them identify sustainable businesses.

Not everyone agrees that personal consumer responsibility is enough to make a difference, however. After all, I might ask vendors not to automatically plop a plastic straw in every drink I order at a restaurant; refuse plastic bags at the wet market, using my Helping Hands Penan shopping bag instead; buy bulk goods from stores such as NUDE Zero-Waste; and support H&M because of

their "Conscious Collection" and commitment to creating raw materials and new products out of old clothes and home textiles that otherwise would have ended up in a landfill. But am I really moving the needle with respect to saving the planet?

Making a difference

Evidence shows that coalitions of government, industry and social action groups have a part to play in helping to positively influence consumer behavior. For example, in our book *Transform Tomorrow: Awakening the Super Saver in Pursuit of Retirement Readiness*, co-author Stig Nybo and I looked at ways in which Americans could be persuaded to change the abysmal savings culture of the U.S. We cited several highly successful public service campaigns that ran on a variety of socially important topics, including one initiated in 1961 entitled Keep America Beautiful (KAB.org). This collaboration involved businesses like Coca-Cola, Philip Morris and Anheuser-Busch, as well as the wife of then-President Lyndon B. Johnson—Lady Bird Johnson—who came together to help combat the U.S.'s littering epidemic. The Ad Council produced a TV advertisement known as The Crying Indian which aired on Earth Day, 1971 and can still be seen on YouTube: <https://youtu.be/j7OHG7tHrNM>. According to a later study funded by KAB, overall littering subsequently dropped by 61 percent, and in the case of beverage containers almost 75 percent.

Here are three further examples of initiatives that are happening today, worldwide:

Norway: Electric cars

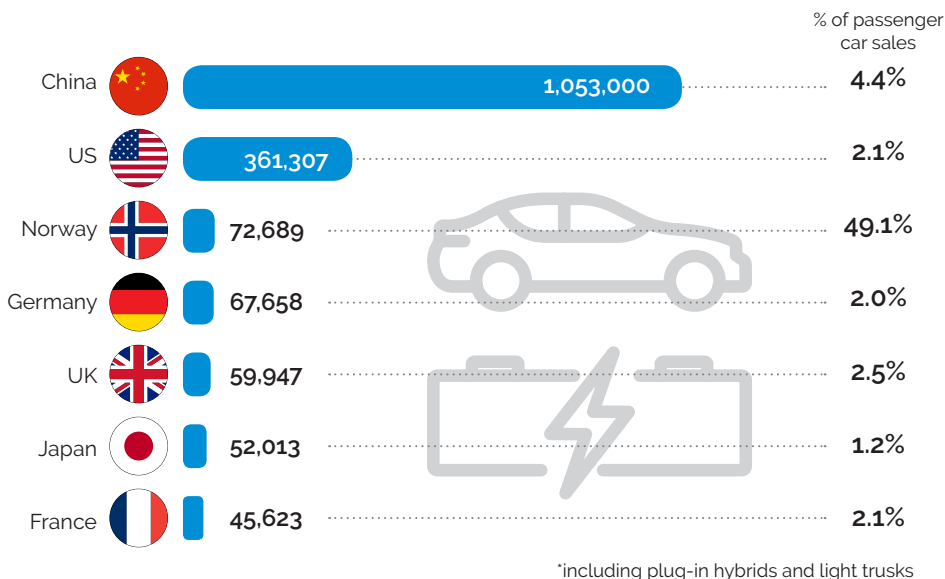
Statista recently produced a chart showing China leading the way in terms of the number of plug-in electric passenger cars sold in 2018. But what was perhaps more remarkable is the fact that, "every second newly registered car in Norway is battery-driven – a market share that seems unthinkable in most other markets for now." More recent reporting suggests that Norwegian figure is closer to 60 percent.

What helped to spearhead this huge uptick in the purchase of plug-in electric cars in Norway was its government's "EV incentives," in support of a national goal that all cars sold by 2025 will be zero-emission. These incentives include:

- No purchase/import taxes
- Exemption from 25 percent VAT on purchase
- No annual road tax
- 50 percent reduction on public parking and toll charges

Who leads the charge toward electric mobility?

Largest markets in terms of plug-in electric passenger car sales/registrations in 2018*



Source: ACEA, CAAM, InsideEVs, BEA, JAMA

While Norwegians are some of the wealthiest consumers in the world, their government's decision to reduce or eliminate relevant taxes and charges, as well as implement other financial incentives, seems to have contributed to the decision by consumers to choose electric cars. Similar approaches could be adopted by other countries serious about influencing consumer behaviour in the right direction. For example, when UK drivers were asked what it would take for them to buy a battery electric vehicle over a fossil-fuel alternative, the top response was that it needed to cost the same or less than petrol/diesel.

China: Energy efficient lighting

The goal of the China Dream initiative, according to a United Nations Environmental Program report entitled *Fostering & Communicating Sustainable Lifestyles: Principles and Emerging Practices*, is to "reshape the desires of the emerging middle class" in China. Since its inception in 2007, JUCCCE (the Joint US-China Cooperation on Clean Energy) has perfected a culturally-specific approach to Western depictions of "having more," in favour of "living more." Since "concern for environmental consequences" was found

not to be sufficiently motivating for Chinese consumers to change their purchasing behaviour, the initiative highlighted the impact of green energy on traditional Chinese values of community, family, happiness and prosperity.

As one example, JUCCCE's Energy Efficient Lighting Project replaced over four million traditional light bulbs with compact fluorescent lamps (CFLs) since, according to one of its partners, Philips, "they use up to 75 percent less energy and can last 6 to 15 times longer."

This measure to influence Chinese consumers' choice of light bulbs bought involved workshops, advertising, artistic works and community events through a collaboration between:

- The National Academy of Mayors of China: 208 mayors, representing 420 million people
- Senior Officials on Energy (SOE) leaders
- Industry partners, GE and Philips, who provided the CFLs
- Celebrities like supermodel Du Juan and actress Li Bingbing, who engaged in a media blitz



Repair cafes help people reduce waste and the movement is now in

29
countries.

Linking the Netherlands to Ghana: Repair cafés

Toss it? No way! That's the motto of the Repair Café International Foundation that helps consumers see how what they already own could be repaired rather than thrown away. After all, conscious consumerism is not just about what you buy, but how long you can make those products last, and how you can help reduce waste overall. The concept, which originated in the Netherlands in 2011, is now in 29 countries, including Brazil, Ghana and Singapore. (In KL and Petaling Jaya, an independent, small-scale initiative exists, known as KakiRepair by KakiDIY.)

Repair Cafés do more than simply help people repair broken bicycles, food blenders, irons, televisions, smartphones and other electronic gadgetry that would otherwise end up in a landfill. *(Sidenote: The United States generated 11.7 million tons of e-waste in 2014, just under 30 percent of the world's total. Roughly 80 percent of U.S. e-waste is said to have been exported to Asia. Recent government restrictions in the region, "may be a turning point that forces the world's major producers to finally reckon with the true social costs of waste " in their own backyards).*

According to one study, the top three reasons why people engage in Repair Cafés are to:

- Spread the message of sustainable living to others
- Provide a valuable community service, that doesn't just repair things, but avoids "throwing away people with the skills to fix them."
- Become part of a movement for social change. The FixIt Selfie campaign, for example, encouraged people to upload images of items they'd fixed, and attach them to a petition to the EU demanding action to cut waste.

Such grassroots activities require funding, in this case financial backing from the foundation associated with the Dutch Postcode Lottery . Licensed in the Netherlands by the Minister of Justice, 50 percent of lottery revenues is donated to charities in the areas of conservation, environmental protection, and development aid.

An aberrant blip?

I suggest today's rampant consumerism is an aberrant blip in human behaviour; the exception rather than the rule. I remember a time when paper straws were only used by children, sick adults or the elderly. Milk was delivered in re-usable glass bottles. We kids would supplement our pocket money with rebates for returning drink containers. I also remember my father, who worked in the grocery business, saying plastic was the worst thing to happen to the taste and longevity of products like cheese. People engaged in different behaviour back then; we can do so again.

Indeed, we need to look backwards for inspiration, as we try to advance toward a more sustainable future. This might sound like a strange thing for a futurist to say, but I believe that "mindful consumption" is our natural state. Greater governance and industry support can help us get back there.



The concept, which originated in the Netherlands in 2011, is now in 29 countries, including Brazil, Ghana and Singapore. (In KL and Petaling Jaya, an independent, small-scale initiative exists, known as KakiRepair by KakiDIY.)



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- Contents** ▶ Job opportunities on digital platforms provide the labour force with equitable access to opportunities from across the world.
- ▶ The rise of the freelance economy is attributed to the need to harness an income due to the lack of opportunities within a full time employment.
- ▶ With jobs within competitive fields being harder to obtain, the freelance economy is still an easy segue to making a living.
- ▶ Freelance workers are subjected to less stability in the workforce and greater income volatility.

The freelance economy : Are we tuned up for it?



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Labor markets are unveiling uneven landscapes with dramatic transformation. Conventional employment is being supplemented or replaced by contracting gig “workers”, especially those mediated by online platforms. The trend of hiring gig or freelance workers is better known as the ‘freelance economy’, ‘gig economy’, ‘platform economy’, or ‘on-demand economy’. It involves temporary, flexible work arrangements with payment made based on tasks, assignments, or sales. While there are unskilled gig workers such as ride-hailing drivers, there are also a plethora of skilled gig opportunities available for data scientists, designers, copywriters, trainers, and coders among others. A recent rapid increase of 30% a year is also observed on digital platforms that serve as an intermediary for larger projects—which amounts to longer durations—with greater complexity and higher compensation; i.e. skilled job opportunities with longer commitments.

A report produced by the McKinsey Global Institute in 2016 shows that 44% of freelance workers, on average out of the 5 countries surveyed (United States, France, Germany, Spain, Sweden and the United Kingdom) are committing to the freelance economy as a primary income with 30% doing it by choice while another 14% are those who are reluctant, i.e. out of necessity. 40% of the freelance workers are casual earners and rely on gig work as a supplemental income. 16% take up extra jobs on top of full-time job commitments as they are financially tight. The data from the 2016 survey shows that services such as installation, maintenance and repair, as well as specialty retail top the income share in independent work. Note that only 15% of the gig workers from this survey earn an income via digital platforms. The remaining 30-42% share of the survey indicated that they were unaware of the utilisation of a digital platform to earn an income.

In the United States, the demographic of independent workers on a digital platform varies with the type of occupation. 74% of the earners in Upwork.com, a platform for skilled gig work, possess tertiary education. Additionally, more females are involved in selling goods on Etsy (80%) compared to engaging with Uber as earners (14%).


The freelance economy creates possibilities for new earning and has shown significant impact and involvement in countries, and by individuals within job sectors that are suffering from unemployment. Job opportunities on digital platforms provide the labour force with equitable access to opportunities from across the world. This applies even to the potential “employees” in the most remote of areas but with internet access, i.e. this opens up a fair share of opportunities for people to have jobs and income, albeit only part time.

The labour force population in Malaysia as of February 2019 stands at 15.54 million with the labour force participation rate (LFPR) of 68.5%. The World Bank projected that Malaysia's economy will expand at a rate of 4.7 per cent in 2019 and 4.6 per cent in 2020. The country is expected to achieve a high-income nation status at some point between 2020 and 2024. With these developments and opportunities arising within the freelance economy, the human capital matrix is shifted to an unhackneyed landscape. There is a growing number of Malaysians in the cities who are self-employed. The age demography of the population is inclined to the younger cohorts below 35 years of age. The proportion of unskilled and skilled freelance earners, however, remains unclear.


Available online platforms can be broadly divided into three groups: asset rental platforms such as AirBnB; goods and services platforms such as Grab, Etsy and

Demographics of workers on digital platforms


Earners



Providing services



Selling goods



Leasing assets

	Uber	Upwork	Etsy	Airbnd
Mean age	41	36	39	42
Female %	14	47	86	57
Education (tertiary) %	48	74	56	84
Primary income %	40	45	30	7

Source: McKinsey Global Institute Report



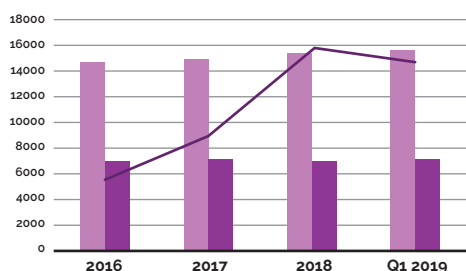
Workforce in Malaysia



Labor force population: 15.54 million (as of Feb 2019)



Labor force participation rate (LFPR): 68.2%



Unemployment rate: 3.3% (0.5 million)

4.9 MILLION

are outside the workforce (housewives, students, retirees and those not interested to work)

Growing number of self employment



Khazanah Research Institute report in 2017 showed freelance workers in the cities stood at 12% in 1995 and increased to 16% in 2016. Data by MOHR showed a self employed population of 18%

Long term financial stability is worrying

INTI International University and Colleges conducted a survey in 2017 on 300 freelancers in marketing, business, IT

66%

of freelancers do not have a retirement plan

33%

do not have personal savings

56%

Have less than 3 months' savings

Shopee; as well as labour services platform such as Upwork, Rev, Fiverr, Freelancer, Guru and PeoplePerHour. The iLabour research project led by Professor Vili Lehdonvirta at the Oxford Internet Institute provides an Online Labour Index of workers data collected from four of the largest online labour platforms. Recent data shows that the freelance population in Malaysia are involved mainly in writing and translation work, software development and technology, as well as creative and multimedia. Globally, the labour force in the United States dominates the freelance economy with most of the opportunities having an emphasis on the software development and technology – which is also the highest freelance opportunity available since 2016.

The recent industrial revolution driven by the era of internet has strongly influenced the Malaysian employment landscape. The current internet infiltration in Malaysia stands at 85.7% indicating the accessibility of Malaysians to embark on gig work available on digital platforms. The rise of the fifth generation of mobile network technology (5G), which the Malaysian Communications & Multimedia Commission (MCMC) anticipates to be fully ready by 2021, would enable applications to go beyond uploading and downloading. It also calls for live-streaming and real-time related applications such as the drone technology, virtual reality, and even self-driving vehicles. The new capacity provided by the 5G technology would increase the potential of the freelance economy to greater heights. The current lack of coverage of Malaysian telco services in rural areas would also encourage a sizeable number of urbanisation in order for the population to enjoy the facility as well as participate in a technology facilitated workforce. The rapid growth of digital platforms as a result of fast internet capacity will continue to intensify the participation of individuals into freelance work. However, this should not be considered as the sole driving factor. Data provided by the Department of Statistics Malaysia shows that the unemployment rate is high among those below 35 years of age. In other words, the rise of the freelance activity could also be attributed to the need to harness an income due to the lack of opportunities within a full time employment.

Even with tertiary education, individuals embarking on gig work are not considered as skilled workers by the Ministry of Human Resource. Being classified as self-employed, the gig workers are not entitled to receive worker's rights to employment benefits such as healthcare, social security schemes (SOCSSO), employment provident fund (EPF), overtime, holiday pay, minimum wage and other

Source: DOSM, MOHR, Khazanah Research Institute, INTI International university & colleges

compensation fees. They are also subjected to less stability in the workforce and greater income volatility. Nevertheless, with jobs within the competitive fields being harder to obtain, the freelance economy is still an easy segue to making a living. The impact and the tectonic shifts imposed by the freelance economy is also felt by employers. The new business models thrown by competitive companies employing gig workers are making it attractive to employees. The employees can switch employers very quickly posing challenges to the firm to retain the right talent. The competition is now not only for the customers but also for the employees.

With jobs being displaced, the Malaysian population needs to take greater personal responsibility on their education. This is to realise their own potential as the work environment for the future will require more than just content knowledge. They need to continuously learn and relearn—lifelong learning—to be relevant and competitive. As an individual involved in the freelance economy, it will not always be rosy. One has to upskill to be the best to compete against the world. Until a freelancer's reputation is established, one ought to be continuously resilient. The survival skills required within the freelance economy emphasizes competencies beyond paper qualifications with a differentiated skill to be a bonus. Passive observers would lose out, and lack of awareness on the required skill sets and the opportunities arising from rapid cycles of obsolescence will increase the economic gaps in the Malaysian population.

The Malaysian education system needs to reconceptualise affirmative actions to center around enabling a system that will inculcate lifelong education, which encourages self-directed but supported learning. While STEM subjects as well as digital forms of literacy could remain as the essential core academic subjects, a dynamic modern curriculum which incorporates critical thinking, creativity, risk taking, critical conversation skills, negotiations skills and people management skills including leadership and empathy, innovation and entrepreneurship, would also be salient as these would be the key competencies of the future.

To encourage continuous learning to the mature population, adult learning styles will have to be well understood. Real world problems will need to permeate into the learning content with a more personalised approach to reflect the varying adult learners' needs and pace. Adult learning assistance such as that provided by the HRDF should also be made available direct to the individual, in allowing greater access and individual learning responsibility. Data provided by PwC through their recent survey indicated that 74% believe that it is their own responsibility to upgrade their skills rather than relying on any employer; indicating an increased self-awareness and responsibility to realise their own aspirations.

While 30% of employers are strategizing future talent acquisitions following the emergence of the freelance economy, the employment law in Malaysia is still lacking. It has not been able to keep up with the same pace as the digital economy which is one of the main drivers in the freelance economy. A more proactive and dynamic approach may be required to compensate for the changing employment landscape in Malaysia, which is evolving alongside global megatrends.



The Malaysian education system needs to reconceptualise affirmative actions to center around enabling a system that will inculcate lifelong education, which encourages self-directed but supported learning.



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Contents

- ▶ The shift to online commerce was greatly fuelled by the desire for time-flexibility and cost savings.
- ▶ Machine learning and AI have enabled 'hyper-speed targeting', thus marking a new age of marketing automation and acceleration.
- ▶ Conversion rate, the percentage of visitors to a website that completes a purchase is the most desired outcome in online retail.

Technology and the consumer experience



When asked what the single most significant factor is to influence fashion today, famed fashion designer Donatella Versace answered 'Technology'.

Once strange bedfellows, technology and fashion have experienced far greater convergence than at any other time in history. The fashion industry epitomises an extreme end of retailing, banking almost entirely on speed and accuracy in a fast-moving, highly creative environment. Worth \$533 billion in 2018, the global online fashion market is predicted to grow to \$872 billion by 2023.

The playing field however, is brutally competitive with more than 1,875 fashion retailers shutting down in the last year alone. Miscalculations cost companies dearly. Understanding consumer wants is key, along with the considerations for pricing-points and affordability, a supply-chain with creative content that changes on a weekly basis and a distribution infrastructure serving a client-based increasingly raised on instant gratification.



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To illustrate the magnitude of the issue, in March 2018 The New York Times reported that H&M had on hand \$4.3 billion worth of unsold inventory. This was followed by a report by Business Insider four months later that Under Armour had unsold inventory in excess of \$1.3 billion. Typically, the unsold inventory will make its way to discount centres to offset losses.

Enter technology

Technology seems an obvious solution. It creates more streamlined and efficient processes, allows for faster turnaround time and in the process revolutionizes how industries operate. Data analytics and artificial intelligence (AI) allow companies to create goods that fit consumer purchasing patterns, thus minimising wastage and keeping costs low. Smart Contract, a block-chain based computer protocol digitally facilitates, verifies and enforces the negotiation or performance of a contract. This saves both time and money when executed across the multiple contracts between manufacturers, retailers and logistic operators and minimises problems of invoicing data and tracking multiple vendors worldwide.

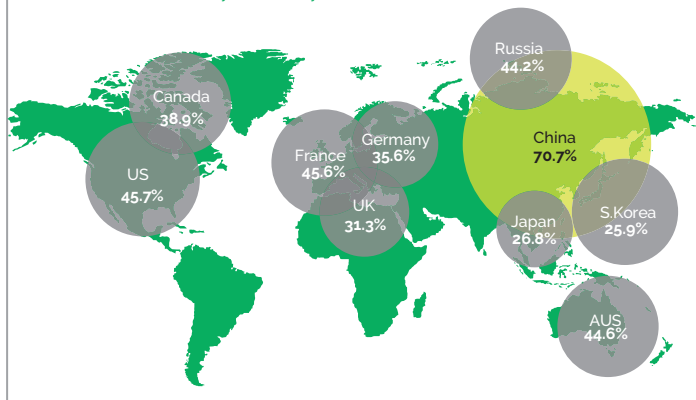
Growth of e-commerce

The fashion industry is not alone in its battle to adapt to the retail and commercial seismic shifts. Advances in technology, logistics, payments and trust, coupled with increasing internet and mobile access and consumer demand for convenience have created a US\$3.3 trillion global online shopping arena, where millions of consumers no longer 'go' shopping, but literally 'are' shopping. This is expected to grow further as 1.4 billion people join the global middle class by 2020 out of which 85% will be in the Asia Pacific region. By 2022 e-retail revenues are projected to grow to USD 6.54 trillion.

Technological considerations aside, the shift to online commerce was greatly fuelled by the desire for time-flexibility and cost savings. In more densely populated countries like China, India and Singapore, avoiding the crowds was a strong motivation.

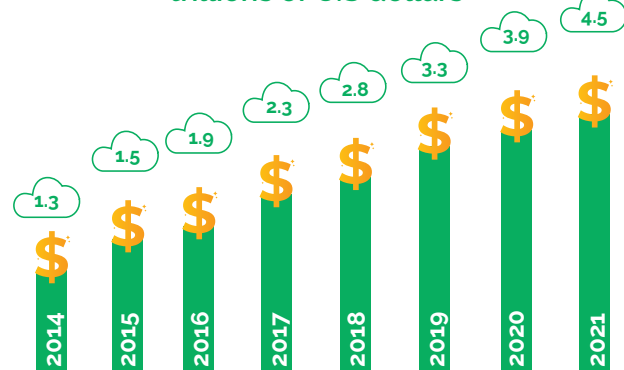
Brick-and-mortar businesses still dominate and are not losing their pull as yet. In 2019 online sales still account for only 13.0% of global retail sales, far behind more traditional physical business outlets. Its growth potential at 15% year-on-year however, promises to considerably change this in the near future.

Five-year growth rate of global ecommerce by country from 2018-2023



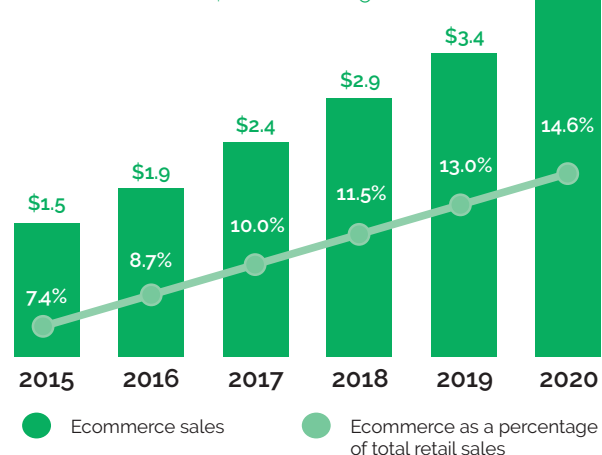
Source: Aaron Orendorf; Shopify

Total worldwide ecommerce sales in trillions of U.S dollars



Source: Shopify

Online retail sales as a percentage of total retail sales. (US\$ trillions) 2015-2020



Source: KPMG

Closing the browser to buyer divide

Further examination into consumer spending habits especially as regards the purchasing platforms, reveal that among the electronic platforms, desktop PCs or laptops are still the device of choice among 57 percent of online purchasers globally. 17 percent stated a preference for mobile device while 27 percent had no preference either way. Asian consumers are more than twice as likely (19 percent) as the global average (8 percent) to shop on a smart phone, especially in China, where 26 percent favoured mobile devices.

Today, it is estimated that more than 5 billion people have mobile devices, and over half of these connections are smartphones. Not surprisingly the millennials are most likely to use a smartphone for shopping (11 percent of recent purchases).

This compels e-commerce merchants to examine a key issue in online purchasing, especially in the use of smartphones as a purchasing device—the conversion rate. Conversion rate, the percentage of visitors to a website that completes a purchase is the most desired outcome in online retail. A high conversion translates into more value from a customer and lower rate customer acquisition costs.

For every three successful purchases from an online store, about seven end up in an abandoned cart. In 2006, the average cart abandonment rate was 59.8%. This increased to 69.23% by 2017 which translates into approximately \$18 billion of unrealised revenue. More than 60% of consumers who abandoned their carts did so because of shipping costs, while 57% say they were “window shopping.” Worldwide, mobile sales trail desktop by over one trillion dollars and mobile conversion rates are less than half those of desktop.

Crossing the mobile buying divide

53.7%

U.S. shoppers who start and finish purchases on mobile

Data via eMarketer (2018) and Statista (2018)

\$1.04T

Worldwide difference between mobile and desktop ecommerce

Average conversion rates in ecommerce

Mobile

1.73%

Desktop

4.02%

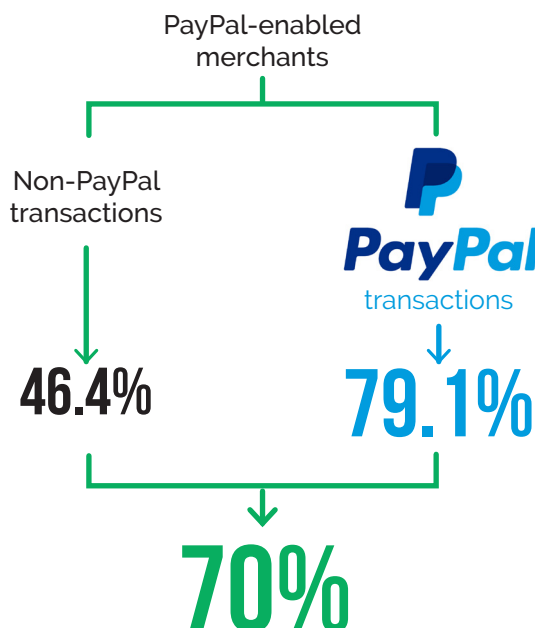
Improving the consumer experience

Quite simply, the challenge for online retailers, like businesses on any other platform is to create a one-two of successful purchase and customer loyalty; and like any business, good user experience is key.

Consumer centric marketing geared towards better conversion rate includes wider use of shopping apps, fast website loading time, cleaner storefronts with better visuals and storing account information, which allow users to minimise typing. Additionally, better return processes and shipping costs help to further reduce ‘barriers’ to making and completing online transactions. The experience of ‘the last mile’ cannot be underestimated. Customers seek for clear information on efficiency of product delivery and ease of payment. PayPal transactions for example, have 70% higher checkout rates than non-Paypal transactions.

Long wait times for customer service or product enquiries lead to customer quickly losing interest. AI has largely circumvented this through the use of chatbots and virtual assistants. It is expected that by 2020, 85 percent of customer relationships will be managed without human interaction. AI also personalises content again to continuously hold customers’ interests by pushing relevant content e.g. recommended videos and movies on YouTube and Netflix; recommended music on Spotify and recommended products on Amazon.

Online checkout conversion rate



Loyalty – keep them coming back

Smartphones and the internet have unlocked information and decision power that changed the interaction between consumers and businesses. Traditionally, consumers go through a linear process of familiarisation and on to deliberation and purchase. If the experience is a positive one, it will be positively evaluated to form a bond and loyalty. At any one of these steps, the customers may 'drop off' and marketers' main purpose is to ensure that these drop-offs do not occur.

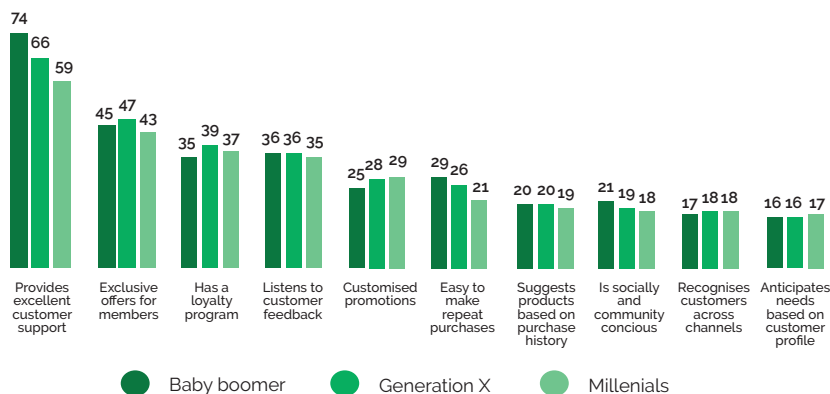
The internet has created a non-linearity in consumer purchasing behaviour in that the modern consumer decision process is much more iterative. Consumers today hop between different stages of the cycle between multiple companies—cutting short the route to loyalty and subsequent purchases.

More importantly, while providing information to aid a customer's evaluation of a company's product, this new

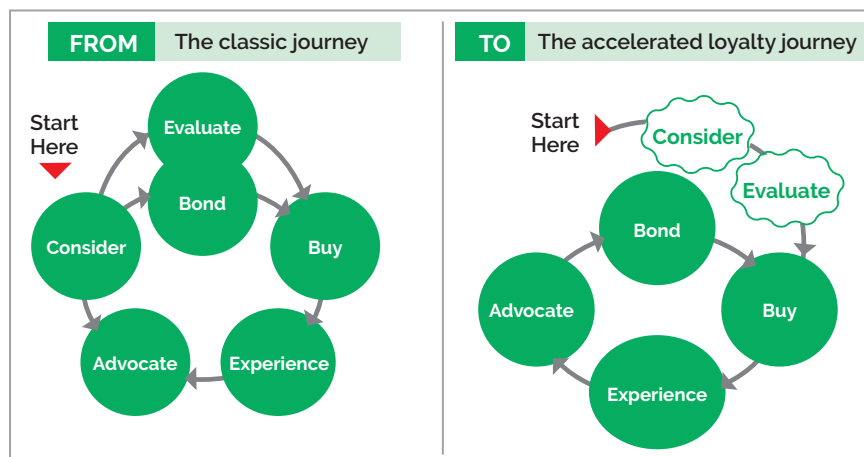
'accelerated loyalty' model once again greatly emphasizes the importance of speed and accuracy. Information must be aggressively pushed to the consumers at the exact moment their needs are generated. Delivering it fast to the targeted market segment allows customers to take immediate action and pursue an intended purchase. Once again, advanced technologies such as machine learning and AI have enabled 'hyper-speed targeting', thus marking a new age of marketing automation and acceleration. Companies that optimise the consumer decision journey by compressing or in some cases eliminating the consideration and evaluation phases will enjoy competitive advantage.

In the final analysis, success in online commerce will still depend on companies adopting cost-effective methods of providing goods and services and offering those at competitive prices. Companies poised for success however will be those which develop offerings and strategies that are market specific and are able to deliver them at hyper-speed.

Top 10 attributes that drive customer loyalty



Source: KPMG



Traditional vs Accelerated Loyalty Journey (Source: McKinsey)

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Contents

▶ Millennials' media consumption habits are remaking the consumer landscape.

▶ Mobile convenience is paramount to millennials.

▶ Millennial consumers will patronize and support companies that align with their values.

Millennials and consumerism



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Who are the millennial consumers?

Millennials are a generation of young people growing up in a world of accelerated transformation. Characterised by their use and adaptation of technology, millennials have led numerous new trends in daily living consumption, values, experience, motivation, and, ultimately, a remap of the consumer segment buying behaviour.

This generation, according to the Pew Research Centre, is the demographic cohort born between 1981 and 1996, now between the ages of 23 and 38. They are currently developing as a social group who are deeply influenced by technological changes embedded early on from childhood.

Loosely determined by geographical and theoretical positions, the generational range of this cohort however varies widely.

At the extremes, millennials are a result of key world events. For this, social and economic changes, as well as technological integration have largely shaped their everyday lives. In fact, millennials were the first generation to grow up in the digital age. Generally everywhere, this generation is essentially no different to others, as are Malaysian Millennials.

Culture and shared life experiences have led them to the development of similar attitudes and beliefs. Millennials know full well what motivates them as much as what the consequences of their expectations and behaviour can unleash.

Malaysian millennials today grew up in an era defined by key events that shocked the world locally and globally. To name a few, the 1998 economic recession that hit Asian countries, Commonwealth Games held in Bukit Jalil National Stadium and the September 11 terrorist attack were some of the most telling. Most of them were old enough to grasp the gravity of the events, and the memories were still vivid.

Millennials and stereotypes

When you hear about millennials, it may call to mind some stereotypes. They are self-absorbed, foolish with money, not long-term planners or perhaps, often, we hear that they are still dependent on their parents. These are just some of the most typical notions associated with the generation.

Interestingly however, some millennials believe and are deeply entrenched in the stereotypes commonly linked to them. Despite possessing good habits, the uneasiness and pessimism that's weighing on millennials' minds is their overspending. A large majority of millennials are found to be carefree about spending beyond their means, and as a result, this is gravely sinking the generation in a sea of debts.

Despite the stereotypes, millennials are actually just as good, or better, than other generations in some regards when it comes to managing money. A large majority of them are getting their finances in order. In truth, millennials are more likely to set saving goals and a majority of them are able to meet these goals. Furthermore, most millennials share a common sentiment, in that, they feel financially just as secured, almost on par with Generation X and Boomers. At a time when the labour market is tight, decidedly, millennials are also more likely to make bold moves, developing and using their sense of belief as a bargaining chip in asking for a raise.

For all the stereotypes, millennials deserve more credit. In contrast, they are a tad more cautious when it comes to managing money and their lives. Let's not forget, many millennials entered the workforce during the most severe economic downturn since the great depression. However, they seem to have weathered the storm quite admirably.

Characteristics

Convenience and flexibility

Millennials have grown up and matured alongside mobile technology. They expect to use it in every aspect of their lives. By and large, as mobile convenience is paramount to this group, millennials are changing the rules of the retail sector. They make purchases, use social media, chat with friends, do online research and pay for products via mobile.

Further, millennials have often been portrayed as consumers who are at the epicentre of the disruption taking place in every corner of the society, including marriage, childbearing and home ownership.

Certainly, there are vast generational differences between this group and past cohorts. Millennials are better educated, they are marrying, buying homes and having children later in life than boomers did at the same age. But this is just a part of a broader trend that's been underway for decades.

The digital generation

The Digital Generation comprise of those who grew up using technology and the internet. They feel at home in the online domain. Their media consumption habits are remaking the consumer landscape. But increasingly, these preferences make millennials hugely different from the generations before them. And as more millennials rise through the ranks, so too is their purchasing power.

Improving the payment experience through self-checkout kiosks and advanced digital payment technologies is essential to keeping the millennial shopper. They use multiple devices to make purchases and have started turning their mobile devices into handheld wallets. The relentless focus on perfecting technology has set a new standard across the industry that millennials now accept as the norm. Retailers must be able to provide streamlined, user-friendly systems and processes in order to retain millennials.

Technologically adept

Millennials are tech savvy as their roots are steeped in the internet and mobile. With companies like Amazon being the driving force behind the way we make purchases, everything seems to be happening online, right on our phones. Under the influence of millennial consumers, retailers such as Starbucks are winning over the generation with their mobile wallet app which makes it easier for customers to pay while delivering additional perks such as discounts and free drinks.

Personalisation

Millennials demand a customer centric experience in which they feel wanted and valued. Whether in stores or social media channels, showing interest in these shoppers creates loyalty. In order to do this, retailers need to closely examine what they're currently doing with customer data, and ensure this information is being utilised to deliver a more personalised in-store experience. This can include where customers shopped last, what was purchased, and their motivation to shop.

Millennials and their purchasing power

Fittingly called the DIY generation, creating content that teaches millennials how to do things can actually swing their buying decision in your favour. Millennials spend more than other generations on comforts and conveniences like taxis, pricey coffee and dining out.

The attitudes and behaviour of millennial consumers are shifting dramatically, presenting opportunities and challenges for companies. They utilise social media in real time, posting photos of their whereabouts and purchases, affording retailers instant social traction while sharing their experience with others.

In order to appeal to this generation, retailers need to provide a seamless customer facing retail experience. Whether this is online or in stores, millennials seek customer service professionals who understand their preferences and make recommendations tailored to their specific needs.

Millennials' buying power will soon surpass that of the generations before them. Retailers will have to work harder to meet their demands as they influence trends and redefine buying habits. They will continue to utilise technology and expect that the world around them to adapt to them quickly.

Consumerism hitting a crisis - millennials staying away from retail stores

Looking back to 2009, when dining out takes too long, we would all agree that food delivery options would only go to Pizza Hut or Dominos Pizza. But fast forward 10 years, whether it be ordering your next meal or hailing a ride through the Grab app straight from your mobile has become normal, technology is how millennials go about getting things done.

With millennials—who are plugged into their devices all the time, this has somehow disrupted traditional purchasing patterns. Not only food, this has created a gap between what shoppers are looking for and what brands are delivering—from head to toe. Anything that we used to find in stores is now available online. With millennial consumers making purchases from food, clothing and everyday items online at least once a month, it is really up to retailers to keep up to stay ahead.

As the millennial generation has reached their prime in their careers and spending power, as a result, their impact on the economy will be significant. This will require brands to ultimately adjust many of the models of how they operate as millennials have truly come of age during a defining time of technological change, globalisation and economic disruption. These factors have given them a distinctly different set of behaviour and experiences.

For example, the retail culture has changed everything. This means that players sometimes quickly come and go. This speed is accelerated by new technology and the group of shoppers using it the most will be the millennials. Brands connecting through culture has seen great changes over the last decade. Social media and digital innovations have revolutionised how culture impacts marketing and its role in consumer strategy. Therefore, retailers must be able to provide streamlined, user-friendly systems and processes in order to retain millennial buyers.

To keep and encourage millennial consumers to spend, retailers must be creative in their branding. This group of young consumers do not only use social media to share photos and hashtags to share their purchasing experience, but they culturally do so to engage with the brands they associate themselves with. Retailers must now follow trends created by these young consumers in order to capture a broader audience.

Digital marketing: The key to targeting millennials

Millennials constitute an important group of the consumer market. In a country where its residents spend an increasing amount of time and money online, and have an average of four social media accounts, it seems somewhat paradoxical that companies globally continue to be unsure of just how much impact the digital marketing industry can have on their profitability.

With the increasing usage of digital media by consumers, more companies are using digital marketing to reach their target markets. Millennials have been identified as a driving force behind online shopping. Their access to digital media allows them to communicate and purchase from any supplier anywhere in the world. Computers and mobile phones are common place, and you might also call them essential.

Statistics show that 96% of millennials own a smart phone, making mobile marketing a huge investment for companies targeting this young cohort. Apps and social network advertising have taken their place as some of the best marketing strategies to target youths.

Instagram, Twitter, and Facebook are among the most popular social networking and messaging apps and websites available. These technological platforms are empowering millennials to be more active in the creation and support of myriad products and brands. Word-of-mouth goes around the world these days. This generation wants to have a say in all aspects of a product, even its promotion. Therefore, there is a compelling need for marketers to realign their techniques in order to positively engage this vocal group of consumers.

The future of consumerism: the millennial perspective

Millennials' attitudes are early indicators of widespread future trends. Companies that closely pay attention today will gain valuable insights into tomorrow's opportunities and get a head start to capture a larger share of millennials' wallets.

Millennials' needs are different from those of previous generations, and perhaps companies will need to rethink their strategy to boost their brands, business models, and marketing. At the speed of today's technology breakthrough, there will be more untapped potential in the retail industry. To get ahead, companies must create and market relevant products and services that resonate with millennials to meet their dynamic expectations. The question is no longer if and when brands should embrace the digital opportunity, but how they should go about doing it. The answer lies in understanding, accepting and embracing millennials' distinct characters and values when considering their marketing and business models.

“

With the increasing usage of digital media by consumers, more companies are using digital marketing to reach their target markets.

”

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THE FUTURE OF THE



Many countries are recognising startups as the driving force of national growth. Successful startups can be achieved if healthier startup ecosystems are created.

ECOSYSTEM

The startup ecosystem consists of

6 domains



FINANCE



HUMAN CAPITAL



MARKETS



SUPPORTS



POLICY



CULTURE

The assessment

TODAY

2030

Participating countries



1

Assessment of the current quality of the six domains of startup ecosystem.

2

Assess the impact and plausibility* of the identified future issues by the year 2030.

3

Assess the possibility of implications derived from the future issues by the year 2030.

4

Assess the future quality of startup ecosystem, that is, whether each domain of startup ecosystem will have sufficient capacity by the year 2030.

Scoring:

1 highly insufficient

highly sufficient 7

This infographic shares the findings of a survey conducted in 2018 among 4 countries, South Korea, Malaysia, Taiwan & Singapore - highlighting a future scan of the startup ecosystem. The future issues and implications of startup ecosystem were identified and assessed, and the results are expected to provide new implications as well as insights as they pursue various startup policies at their respective locations and innovation levels. This will help the government in establishing policy measures to cope with changes in the startup ecosystem.

Current startup status



South Korea: The South Korean government chose the nurturing of startups as the most important strategy in the innovative growth, pledging to support 2.5 million won yearly, encouraging startups as well as small and medium enterprises. The number of startups had increased in recent years. However, the growth rate of technology-based entrepreneurship is still slow despite boasting world's fastest internet speeds as well as sophisticated consumer and financial services markets. This is firstly due to the significant difference in the average investment scale for the startup companies. Secondly, the software engineer salary is low. Thirdly Seoul's overseas market access is far below the global average which will be a challenge in reaching the global market.



Malaysia: With the population reaching 37 million in 2030, trend towards greater urbanisation of the population is indicative of growing economic opportunities. The Malaysian government supports local startups through various initiatives including policies, implementation bodies, training programmes as well as business platforms. Several ministries are involved directly and indirectly in developing and encouraging the startup ecosystem in Malaysia. In the Global Entrepreneurship Index, Malaysia performed well in areas such as process innovation, human capital, opportunities for startups, risk acceptance and networking. However, there are several areas of improvement including startups skills, technology absorption, product innovation, business growth as well as risk capital.



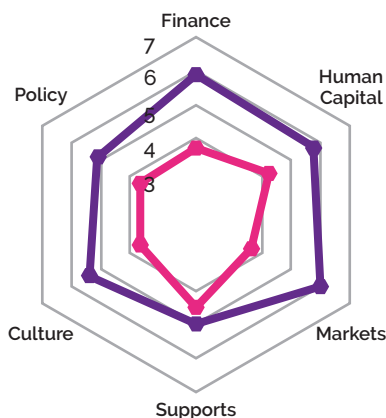
Taiwan: The Taiwan Government launched a series of entrepreneurship policies since the 2010s, offering Taiwan entrepreneurs a better startup ecosystem condition to unleash those foreground and innovation ideas fully developed. However, despite the efforts, the current Taiwan startup ecosystem is still insufficient. The entire startup ecosystem of Taiwan seems to perform moderately. But Taiwan still needs to work on all domains of startup ecosystem.



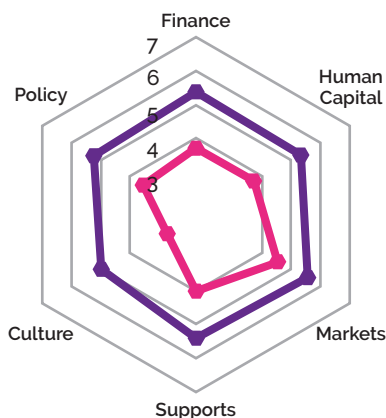
Singapore: Singapore is among the top startup ecosystems around the world. Most startups are in the area of digital technology, followed by fintech and enterprise tech startups. Enterprise Singapore will be deepening efforts with global and local partners to strengthen the startup ecosystem in Singapore. Enterprise Singapore partnered with various government agencies to encourage open innovation that startups can take part in. With the Singapore government's enterprise-friendly approach, supported by many benefits, the nation's forward-looking position towards innovation continues to attract startups and emerging technology to its shores.

The quality of the startup ecosystem in all countries was assessed to be insufficient presently but it will suffice in the future. This is an indication that respondents are **not satisfied** with the **current startup ecosystem**. This is expected to change for the **better** with the development of technology in the **future**. Hence, the need for **policy intervention**.

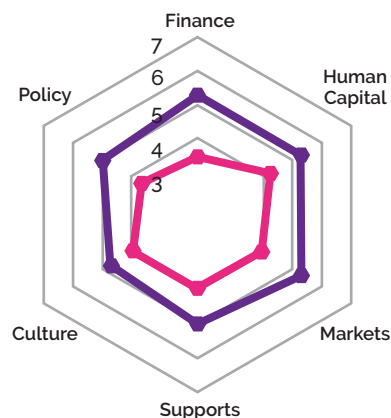
South Korea



Malaysia



Taiwan

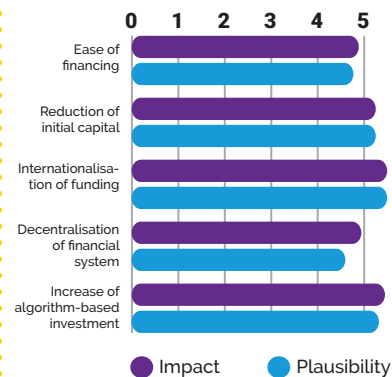


● Today
● 2030
2020 vs 2030

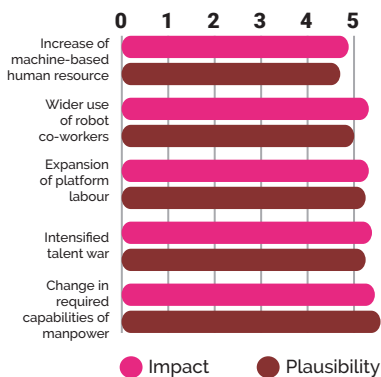
The **market** domain will be the most affected by technology development with **culture** being least affected

Issues on impact of technology development by 2030

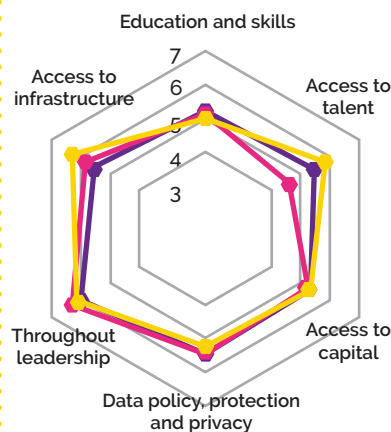
Five issues were identified in the domain of **finance**.



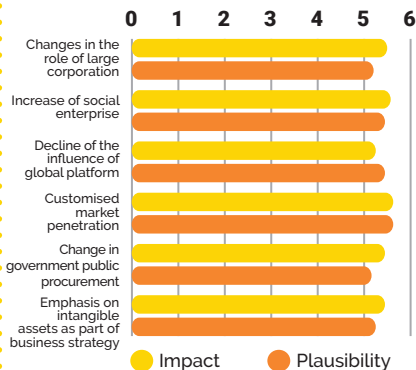
Five issues were identified in the domain of **human capital**.



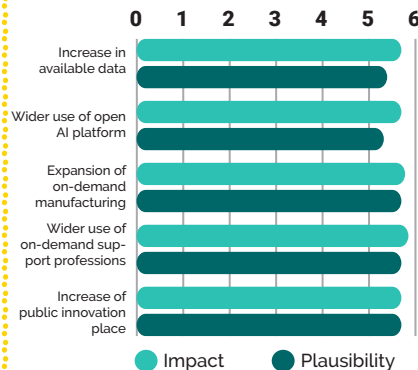
Policy issues that should be considered as priority to improve the quality of startup ecosystem by the year 2030.



Six future issues were identified in the domain of **markets**.



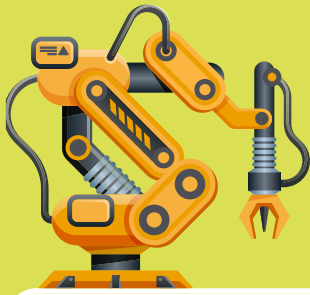
Five issues were identified in the domain of **supports**



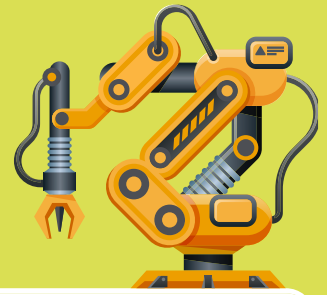
While the focus is towards the future, the implementation has to start in the present.



For more info please download here: <https://www.might.org.my/download/future-of-startup-ecosystem/>
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APPLICATIONS OF INDUSTRY 4.0



Malaysia has put in place the National Policy on Industry 4.0 - **Industry4WRD** - that provides a concerted and comprehensive transformation agenda for the manufacturing sector and its related services.

INDUSTRY 4.0 & TECHNOLOGY

will bring about fundamental changes in the way products and services are **produced, delivered and consumed.**



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ADDITIVE
MANUFACTURING
/ 3D PRINTING



ADVANCED
MATERIALS



ARTIFICIAL
INTELLIGENCE



AUGMENTED
REALITY



AUTONOMOUS
ROBOTS



BIG DATA
ANALYTICS



CLOUD
COMPUTING



CYBERSECURITY



INTERNET
OF THINGS



SIMULATION



SYSTEM
INTEGRATION

As the next wave of technology advancement promises to bring about positive changes to the industry, the **impact of adopting new technology** to improve manufacturing and related services will boost productivity in many ways including:

1

DIGITAL INFRASTRUCTURE & ECOSYSTEM

Productivity and efficiencies are boosted with the adoption of digital information.

2

HUMAN CAPITAL DEVELOPMENT & EMPLOYMENT

Employment will be affected where the demand for employees with high competencies will be increased.

3

BUSINESS ENVIRONMENT & POLICY

The introduction of new technologies is creating entirely new ways of serving existing needs thus significantly disrupting existing value chains.

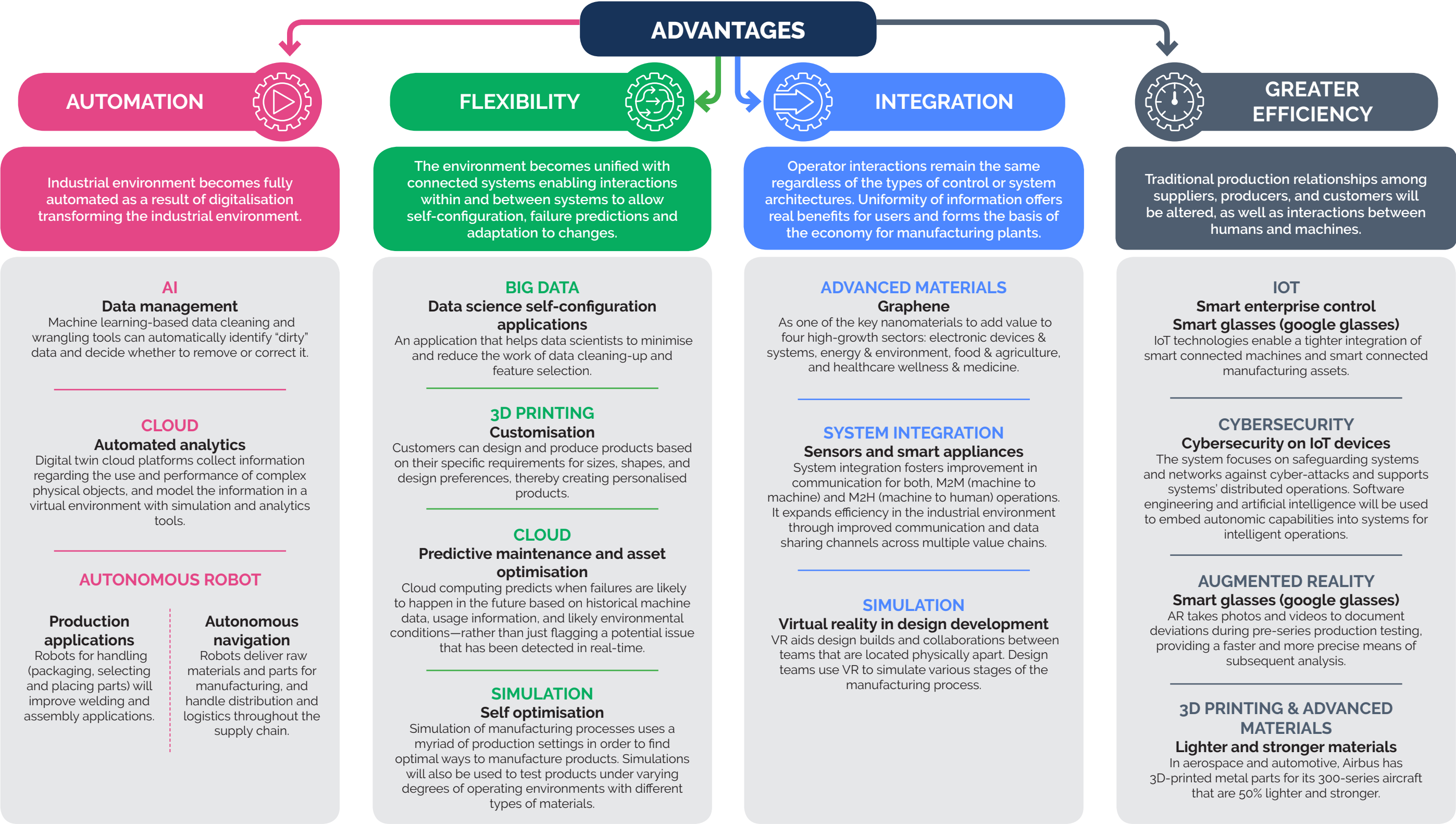
4

STRATEGIC INVESTMENT

Investment in adopting new technologies will positively impact product development and its processes in order to help industry players gain international lead.

INDUSTRY 4.0: ADVANTAGES & APPLICATIONS

Industry 4.0 will bring a new face to the manufacturing industry by creating factories that are smart, agile, flexible and more responsive.



INDUSTRY 4.0 : WHAT ARE THE CHANGES?



NEW

What new trends have shown up?



SHIFT

What has shifted from one form to another?



DISCONTINUED

What has been discontinued?

ADDITIVE MANUFACTURING/ 3D PRINTING



- Produces complex parts that require less post-processing steps.
- Brings limitless applications from preproduction to end user products.
- Cuts down on waste and cost due to overproduction and overhead expenses.



From: Over production of products.

To: Lean manufacturing; cutting down on waste and cost.



- Limitation on design to cut cost production.
- The need for tooling, moulds and dyes.

ADVANCED MATERIALS



Materials with the ability to interact with their surroundings to improve and adapt performance e.g. respond to light and other forms of electromagnetic waves, and translate related signals into behaviour.



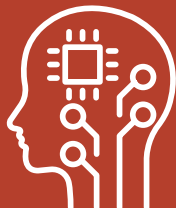
From: Producing products that are static.

To: Multi-functional products that are sensitive and reactive to their surrounding.



Limitation on product flexibility and functions.

ARTIFICIAL INTELLIGENCE (AI)



The development of programs that can teach themselves to learn, understand, reason, plan and act when exposed to new data in the right quantity.



From:

- Time consuming manual programming and analytics.
- One size fits all products.

To:

- Real-time, automated programming and analysis through advanced machine learning.
- Hyper personalisation of products and services.



- Manual programming and analysis that require human intervention and take up a long processing time to produce results.
- Data update—AI has the ability to process information and learn from input data.

AUGMENTED REALITY



- Allows augmented imaginary (virtual information) to be placed in front of physical infrastructure in real world.
- Showcases customer information about products; in terms of design, function and actual size without creating the physical copy.



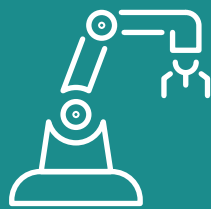
From: Workers operating machines based on information displayed on dials, gauges or screens.

To: Using sensors, cameras and motion sensors to accumulate information and displaying the images into real world during work (virtual image on top of real things or devices).



- Human error and inefficient methods.
- Decreased output and increased operation cost.

AUTONOMOUS ROBOTS



Robots can do more on their own, including learning on the job and teaming up with other robots and humans.



From: Leveraging human labour to operate.

To: Effective use of human labour that channels energy on value-added activities.



- Time limitation on production since robots can be automated and not bound to working time.
- Dangerous and risky job processes and testing, especially for prototyping.

BIG DATA ANALYTICS



- Improves customer experience and product quality, realises energy efficiency and conducts predictive maintenance.
- It is now possible to collect masses of data from several different sources to direct decisions that anticipate product or equipment failure.



From: Data for improving internal operations.

To: Using customer data to optimise products and pricing strategies.



Product failures—by correlating all of the data captured in the operational process, allowing identification of patterns helps to discharge fault early in the process and improves production quality.

CLOUD COMPUTING



- Cloud computing offers a network of remote servers to store, manage and process data.
- Brings new intelligence and knowledge to the environment that change the roles and functions of existing operating systems.



From: Managing hardware and software to operating systems.

To: Data driven processes with intelligence that change the roles and functions of existing operating systems.



High capital for data storage or servers. Cheaper and faster technologies are making cloud computing economically viable.

CYBERSECURITY



Industrial communication is expanding and it is strongly connected. As such, digital security becomes a critical aspect that must not be overlooked in the industrial environment.



From: Security of internal networks.

To: Security of networks and IoT devices.



Data exploitation and Intellectual property (IP) theft, especially on trade secrets.

INTERNET OF THINGS (IoT)



The embedding of physical devices with sensors, network connectivity and other components allows data to be collected and exchanged.



From:
Disjointed data all over the system, making it difficult to obtain a real-time view of assets, people and transactions.

To:
Enabling real-time data sharing between all parts of the system, and all connected parties.



- Human analytics for decision making.
- False communication between various working departments in production.

SIMULATION



Technology that forms imitations of situations, processes and environments by projecting it through virtual reality (VR).



From:
Complicated and time consuming tools that are unable to adapt well enough to the rapidly changing manufacturing techniques.

To:
Reflecting reality and the physical world in virtual form (virtual form of the machines, products and humans).



Training—a dangerous ecosystem can be practically trained through a virtual ecosystem that mimics the real world.

SYSTEM INTEGRATION



System integration occurs in vertical (within the industry value chain) and horizontal systems (across multiple value chains), eventually achieving end-to-end digital integration across the entire value chain.



From:
Countless devices running separately, information not being fully utilised.

To:
Improved overall communication throughout the value chain across vertical and horizontal systems.



Data redundancy or the requirement of re-entering data created by manual data entry.



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Contents

- ▶ Personalisation is the most consumer-centric megatrend facing the industry today.
- ▶ As products must cater to consumer needs and preferences at any time, players within the food and health ecosystems need to act accordingly.
- ▶ Drones, sidewalk robots, and autonomous vehicles all present means to deliver foods between a penultimate location and the consumer without human labor.

How consumerism is impacting innovations in the food and health ecosystem



Thomas Hayes

Global Food Technology & Innovation Analyst, Lux Research

Thomas Hayes is an emerging technology analyst skilful in helping industry leaders drive growth through innovation. He is proficient in creating frameworks to translate complex and ambiguous topics into easily understandable depictions that inform technology strategy. As such, Thomas Hayes blends more than five years of experience in market research, consulting, and traditional engineering settings and offers a diverse set of technical and business skills to transform research to reality.

Why does consumerism matter now more than ever

Consumerism is certainly not a new concept. We can even look back to the 1970s when a pioneer of sorts in consumerism, Burger King, famously introduced the mantra "Have It Your Way."

In 2014, Burger King ditched their age-old slogan and changed it to "Be Your Way" in an effort to create a connection with the consumer's greater lifestyle, going beyond just their food order. This encapsulates the essence of what consumerism

- What does the consumer lifestyle journey look like in terms of food and health?
- How are emerging technologies opening up new channels to make connections with consumers?
- How can players in the ecosystem capitalise on shifts in consumerism?

Lux Research defines the consumer journey as it relates to food and health in four distinct steps, occurring in a cyclical manner:

These shifts in consumerism are driving the development of emerging technologies that are transforming this consumer journey greatly, all introducing varying elements of personalisation, the most consumer-centric megatrend facing the industry today. Taking a step back, this transformation points towards consumer expectations increasing as products must cater to their needs and preferences at any time, and players within the food and health ecosystem need to act accordingly.

Inspiration & research

It all starts with how consumers decide what they want to eat. This usually means planning out meals for the following week just based on what sounds appetising. Consumers now have access to information now than ever that influence these decisions, spanning from restaurant reviews to product origin details via blockchain. Equipped with this information, consumers can make purchasing decisions that align with personal needs or preferences that are beyond taste.

Consumption & impact

Lastly, the consumer consumes the food and measures the health impact, traditionally done with rudimentary indicators like weight and the size of one's waistline. This final stage is making the most profound affect in terms of consumerism, introducing new ways to measure the health impact of our dietary decisions through real-time analysis of biomarkers (e.g. nutrient levels in the blood) and the gut microbiome.

Purchase & obtain

After making such decisions, the consumer needs to purchase and obtain these foods, which historically meant commuting to a brick-and-mortar location, physically picking items, and transporting them back home. This no longer is the case in most regards, where purchasing foods can happen with the click of a button on a mobile app and have them delivered at a time of their choice, with drones and autonomous robots presenting means to change the delivery aspect even further.

Storage & preparation

Once home the food items must be properly stored and then eventually prepared into meals in bulk or one-by-one within their kitchen before it spoils. Traditional fridges, freezers, and cabinets are evolving into smart appliances, changing storage to help maximise freshness of perishable goods.



Where you can play in the age of immense consumer demand?

Capitalising on the evolving consumer is certainly easier said than done though. Industry already has enough SKUs, is combatting razor thin margins, and needs to maintain throughput and safety when making products. It's all about evolution, not revolution, and moving at least in the direction of consumer-centric products. By first identifying the relevant opportunities within the food and health ecosystem, along with the key technologies to help seize those opportunities, one can begin that evolution.

Food: Inverting production and distribution in your supply chain to become closer to the consumer

As consumers look to obtain products more quickly and at an increased level of personalisation, the time between when the "right" formulation of a food product is identified and when that product is in the consumer hands needs be shorten drastically. This brings the cycle time of product development, production, and distribution down by a factor of at least 25, going from one to two years to one to two weeks, forcing brand owners to completely rethink how these processes are done today. It means executing these processes closer to the consumer in terms of design and location, which requires both flexible manufacturing and decentralisation of operations. The key technologies to leverage include:

- **Soft robotics.** On the flexible manufacturing front, soft robotics allows the selection of foods with non-trivial textures off a conveyor belt. This helps enable packaging of specified foods for an individual.
- **Last-mile transportation.** Drones, sidewalk robots, and autonomous vehicles all present means to deliver foods between a penultimate location and the consumer without human labor.
- **3D printing.** Albeit restricted to high-value/low-volume use cases, the ratios of ingredients can be precisely controlled when 3D printing food to arrive at a uniquely designed formulation.



As consumers look to obtain products more quickly and at an increased level of personalisation, the time between when the "right" formulation of a food product is identified and when that product is in the consumer hands needs be shorten drastically.



Health: Helping consumers optimise health with every decision

With health, the notion of being closer to the consumer is paramount. It's all about helping consumers optimise health with every decision they make throughout the day. A consumer-focused health regime will not only curb growing healthcare costs, but also shift the paradigm from reactive to preventative. The key technologies to leverage include:

- **Personalised nutrition.** As mentioned before, new ways of analysing biomarkers and the gut microbiome are opening up doors to measure the health impact of foods. Genetics can also play a role here, but in the inspiration & research phase rather than impact.
- **Electronic textiles.** Sensors embedded within textiles can offer the same functionalities as a wearable electronic, if not more, to continuously monitor and provide recommendations based on vitals.
- **Precision medicine.** On the therapeutics side, designing drugs based on genes, environment, and lifestyle of an individual can help tailor a payload in order to optimise efficacy.

How to begin your organisation's evolution

It's important to crawl, walk, then run in this evolution. Begin by offering decision support tools that navigate consumers to products that match their needs or preferences. This starts nurturing a relationship between your organisation and the consumer, while requiring no manipulation of existing SKUs. Then look to create products that align with the profiles of consumers within a targeted demographic. This will add more SKUs, but doesn't come with the challenges of customising products down to the individual level. But as the highlighted enabling technologies mature, truly consumer-centric products will become more feasible, and those organisations delivering on this will secure their place in the ever so increasingly consumer-driven world.

- Contents** ▶ Halal spending is forecast to reach US\$3 trillion by 2023.
- ▶ Halal media's appeal is growing rapidly, from the big screen to a Muslim 'Netflix' for children.
- ▶ High street retailers have recently launched their own modest fashion lines, from Macy's in the USA to Marks & Spencer in the UK and H&M worldwide.

The economics of halal industry:

More than just label marketing



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Asnam Rajo Intan**

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Evolving halal consumers

According to Worldatlas.com, the world's Muslim population is estimated around 1.8 billion, making it the largest religion in the world after Christianity. While Muslims can be found in all corners of the world, the present Muslim segment has the demographic edge: their rising incomes and elaborate spending on discretionary items provide real opportunities for businesses.

Neighbouring country, Indonesia, for example, is home to the largest Muslim population in the world with over 227 million citizens identified as Muslims followed by Pakistan and India with over 204 million and 189 million respectively. In Malaysia, out of 32 million population, more than 19 million Malaysians are Muslims. This makes the Muslim community the majority population in the country.

Synonymous with the Islamic economy is the term "halal". Broadly, it means "permissible" in Arabic and it covers everything that conforms to the Islamic law as advocated by the Quran. Some of the most commonly known rules are prohibitions of pork and alcohol consumption, but the guideline is also widely applied across all sorts of products and services.

Today, wide-ranging halal products and services include cosmetics, pharmaceuticals, clothing, financial services, and even tour packages. Given the size of worldwide Muslim population, businesses that do not cater to the needs of Muslim consumers' favourable demographics and increasing consumption volume ought to lose out significantly.

This underscores the sheer potential of the Islamic economy. The future course of the halal sector is filled with potential and in response, Malaysian exporters are focusing on gaining traction in the lucrative global halal marketplace. How lucrative is the sector? By and large, the global Islamic economy trajectory is estimated to be worth over USD 3 trillion by 2023. Riding this wave of opportunity and optimism to capture new opportunities, halal-oriented businesses are rethinking their strategy to gain competitive advantage. However, with such huge opportunity, many countries are jostling to exploit the growing rates of halal consumption, giving rise to tough competition. The majority of ASEAN countries, especially Indonesia, is pressing on to gain ground and profit from the growing sector.

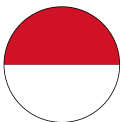





Currently, Malaysia has

22 halal parks

and **27 halal standards**

across vast retail sectors.

Country	Recent halal industry development in ASEAN
Indonesia 	Indonesia is ranked 11th in the Islamic finance indicator by Global Islamic Economic Report 2017/2018 data. Indonesian Professional Certification Institution is a trustee of the Indonesian Council of Ulama. It is a professional certification authority that regulates halal products and delivers Indonesian Halal Laws' enactment mandate regarding Guaranteed Halal Products.
Thailand 	ASEAN Mall in Pattani, southern Thailand, will serve as a one-stop centre for the promotion of halal products from all ASEAN member countries in order to penetrate the international market. Costing RM40.29mil (300 million baht), the 9,600-sq m mall, combines the concepts of "waqf" (endowment) and commercial. The mall is expected to begin operations in October this year.
Singapore 	Singapore will have a dedicated 600,000 sq. ft. halal hub in the western region of the republic costing between S\$80 million and S\$100 million. The complex will be completed in two years' time. The hub will house halal food processing units, central kitchens, cold-rooms, a Halal Excellence Centre and logistics operations in a multi-storey modern complex.
Brunei 	Brunei's halal industry has the potential to become an anchor of the country's effort to reduce reliance on hydrocarbon exports. Recently, ASEAN Briefing stated that Brunei could leverage on the high standards of its halal industry to tap into growing global halal market to diversify its economy.

Consumption trends in the halal industry

The **State of the Global Islamic Economy Report 2018/19** estimated that Muslims spent US\$2.1 trillion across the food, beverage and lifestyle sectors in 2017. It forecast spending to reach US\$3 trillion by 2023. By category, food and beverage leads global Muslim spending at US\$1.3 trillion, followed by fashion at US\$270 billion, media and recreation at US\$209 billion, travel at US\$177 billion, pharmaceuticals at US\$87 billion and cosmetics at US\$61 billion.

Key excerpts from the report highlight:

Halal food



- The most active businesses in the Islamic economy are in the halal food sector.
- There is significant opportunity to grow considering global Muslim spending on food and beverages is forecast to reach US\$1.9 trillion by 2023.

Modest fashion



- Modest fashion has firmly moved into the mainstream.
- High street retailers have recently launched their own modest fashion lines, from Macy's in the USA to Marks & Spencer in the UK and H&M worldwide.
- Malaysian actress Neelofa, became the first hijab-wearing ambassador for French cosmetic brand Lancôme.
- Global Muslim spending on clothing hit US\$270 billion in 2017 and is forecast to reach US\$361 billion by 2023.

Halal media



- Halal media is broadening its appeal from the big screen to a Muslim 'Netflix' for children.
- The Middle East is experiencing growing demand for Arabic content, with Netflix developing a local series.
- The UK held its first Muslim literature and culture festival, MFest.
- Global Muslim spending on media and entertainment in 2017 was US\$209 billion, and the number is estimated to hit US\$288 billion by 2023.

Halal pharmaceuticals and cosmetics



- Halal pharmaceuticals and cosmetics sector continues to expand along with the rise in halal certification of products and ingredients.
- A new concept, 'halalopathy' combines spiritual healing with halal-sourced medication.
- In 2017, global Muslim spending on pharmaceuticals reached US\$87 billion and is predicted to hit US\$131 billion by 2023, while halal cosmetics expenditure was estimated at US\$61 billion and projected to reach US\$90 billion by 2023.

Halal travel



- Halal travel is rapidly expanding through cultural, historical, religious and beach travel packages.
- The digitalisation of halal travel is poised to drive the sector forward.
- Customisation of tour packages is widely available as halal travel companies harvest insights from data analytics.
- The global Muslim spending on travel in 2017 was US\$177 billion, and the number is projected to reach US\$274 billion by 2023.

Islamic finance



- The Islamic finance sector is fast becoming a force to be reckoned with.
- In 2017, Islamic finance overtook conventional loans in Malaysia.
- Sukuk continues to thrive—one of the key milestones for 2017 was the first dollar-denominated sukuk worth US\$1 billion by an issuer from the GCC region.
- The value of assets was estimated at US\$2.4 trillion in 2017, and is expected to surge to US\$3.8 trillion by 2023.

Malaysia's halal industry way forward

Malaysia aims to become a global reference centre for halal integrity, product innovation and trade. As Muslim consumers around the world are composed of many different cultures, preferences and levels of affluence, Malaysia's Halal Malaysia logo and widely accepted halal standards are poised to be the engine to develop more export ready companies.

To bring focus to the effort, Malaysia is fostering a vast array of collaborations with other countries to co-develop its halal industry. Soon, Malaysia will spearhead a move to unify worldwide halal certification.

Taken together, Malaysia and other ASEAN countries account for over 60% of the world's Muslim population. By working collectively to increase trade activities, ASEAN can consolidate to be an important market for the Islamic economy. Despite world recognition of Halal Malaysia, an upsurge of new players is sparking a market leadership turnaround. And as challenges grow tougher, the country will have to redefine its halal sector ambition to stay ahead amid fierce competition in the years to come.

In the Eleventh Malaysia Plan that spans between 2016-2020, the services sector has been identified as the primary driver of economic growth. As a result, a greater focus was given to modern and knowledge-intensive industries, especially the halal industry. Given the promising outlook, in the Twelfth Malaysia Plan, 2020-2025, halal industry synergies will have to be moved to the centre stage. As technology will yield more halal-certified solutions, understanding the needs and emerging attitudes of this fast-growing consumer group will be critical. In addition, the sector holds great potential to accelerate economic impact and expand Malaysian companies' capability.

Overview of Malaysia's halal industry

Currently, Malaysia has 27 halal standards across a vast array of sectors namely:

- Production
- Preparation
- Handling and storage of food
- Halal pharmaceuticals and more.

As of June 2019

Halal Malaysia logo and standards are accepted by 57 international certification bodies.



7,204

halal certified companies are registered with the Department of Islamic Development Malaysia (JAKIM).

Halal certified exporter: The composition

962
small
enterprises

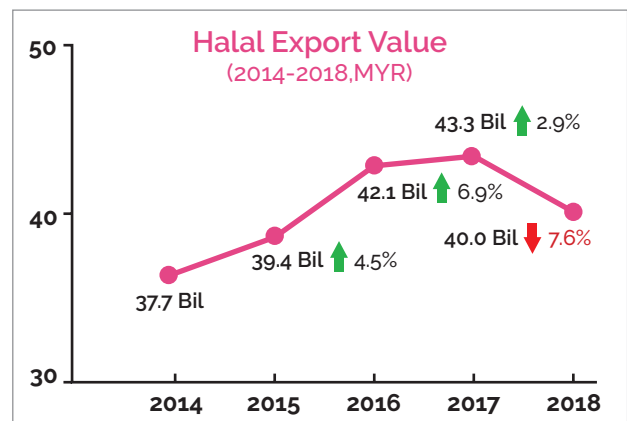
439
medium
enterprises

426
MNCs

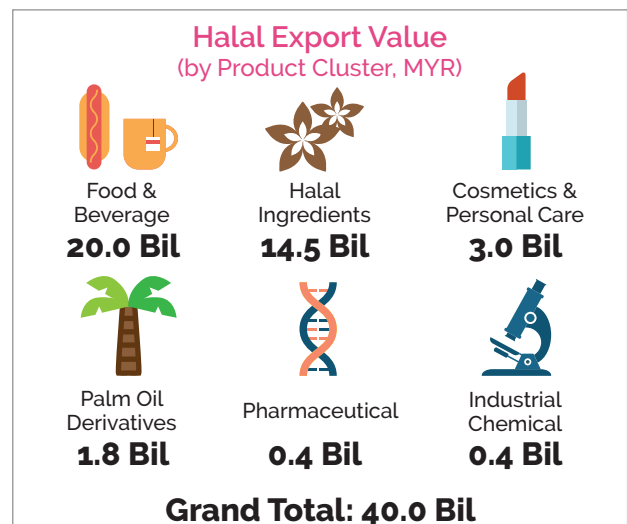
Halal parks

Malaysia's halal parks provide infrastructure and service support to accelerate halal-oriented businesses and community's growth.

- 22 halal parks
- 14 carry Halal Malaysia (HalMas) status
- Since 'HalMas' introduction, Malaysia's halal parks have attracted a combined RM13 billion of local and foreign investment.
- Total employment created is 12,766.
- Despite a 7.6% decrease in 2018, Malaysian exports of halal-certified products are valued at RM 40.0 billion and have recorded a steady year on year increase since 2014.

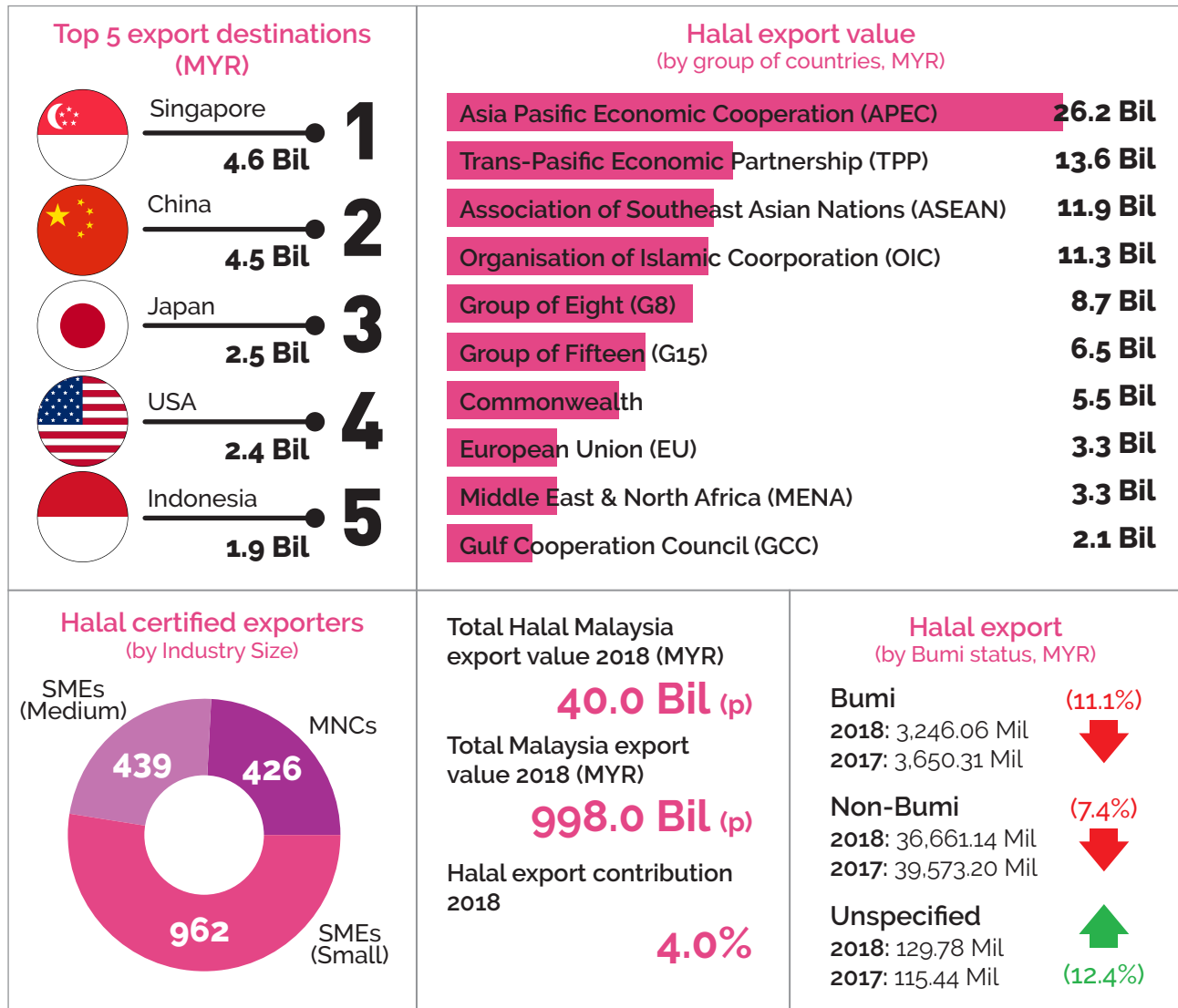


In terms of product categories, 50% of total halal exports in 2018 were food and beverages.



Malaysia's halal export market in 2018

The top 5 destinations for Malaysian halal exports include countries where the majority of their populations are non-Muslims—a positive indication of halal products' ability to penetrate any viable global marketplace.



Source : Halal Industry Development Corporation

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Contents

▶ New technologies are driving global consumption.

▶ Global geographic trends are a pivotal contributor to economic results.

▶ Modern retail channels changing consumer behaviour continue to gain ground.

Disruptive technologies shaping the future of consumerism



Azmil Mohd Amin

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In myForesight®'s 2nd edition magazine published back in 2011, we wrote about sustainable consumption. In the article, we touched on the frame and basis of an upcoming trend in consumerism. In short, sustainable consumption was discussed as a key factor to cultivate sustainable solutions based on informed purchasing decisions and a tilt in consumer behaviours.

In all sectors of the economy, governments, businesses and the global society's interests span almost every line of consumerism. All of these sectors are always looking for effective turnarounds from sustainable consumerism practices and solutions. Governments and businesses constantly rely upon new technologies as the centres of consumerism and innovation.

Of these, consumerism is coming into view as a critical measure to fulfil every sector's development needs. Educating all the agents of change to promote efficiency in the manufacturing of products and delivery of services is so important to reduce wasteful consumption.

Today, it has become a pressing matter that demands immediate attention. Fast forward 2019, a change of pace in the nature of consumerism, its dynamic,

digital, population growth and the society's purchasing power underscores the potential impact on consumerism in ways never seen before. Domestically and globally, consumerism has multiplier effects on the economy.

Here, we aim to pinpoint the effects of emerging digital and Industry 4.0 trends that will shape the economics of consumerism over the next decade. More broadly, this article explores their makeup and detail the actions that both public and private actors can act on to make the most of the opportunities that these trends carry along with them.

Against the backdrop of cyber-physical systems, the creation of Consumer 4.0 presents a big leap in the supply and demand of goods and services. This is also creating new business models.

How would these trends influence and shape the future landscape of domestic trade? What are the challenges? What are new measures that need to be put in place to cultivate a shift in thinking across governments and consumer groups? Certainly, awareness of all the trends is a key discussion matter that needs to be led by both public and private actors.

Trends that emerge and may shape the future of consumerism

Digitalisation

Digitalisation is an unstoppable trend. Storing information on cloud and physical devices such as diamonds and biological apparatus, e.g. DNA will be the sweeping digital trend in the 21st century.

Meanwhile, communicating and socialising via a virtual world using avatars, or Reality 2.0 are showing up in making the digital world a buzzing and populous space. These changes are spaces to watch, in which a lot of innovation activities take place. As a consequence, new consumerism attitudes have become a threat to traditional business models.

Purchasing of products and services are no longer carried out at physical stores. These activities however will largely take place at digital storefronts of trading apps and online shopping sites. Chart 1

For example, H&M's push notifications use past purchases to suggest additional items.

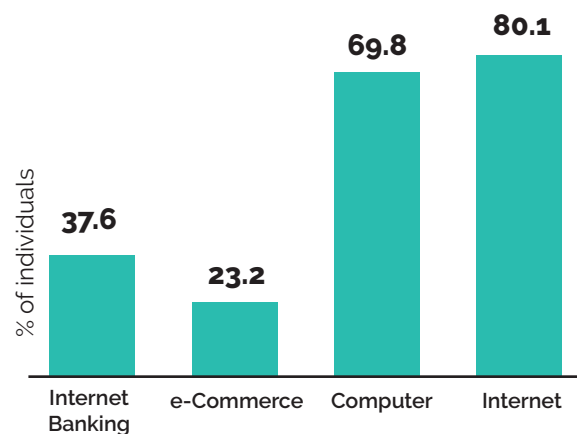
In the Malaysian context, the country's digital adoption must vastly improve to chart faster progress in order to catch up with the digital economy.

Although consumers' use of digital services such as e-commerce and internet banking is a prevailing trend,

the figures drawn by the Department of Statistics Malaysia (DOSM) showed that it is still not gathering enough pace where digital activities remain relatively low (Chart 2).

The majority of internet users in Malaysia are engrossed in the consumption of content (e.g. downloading movies/music, social media and games), without really taking part in productive activities such as the creation of new content (e.g. mobile applications) to generate any real economic values.

Chart 2 : Digital adoption in Malaysia



Source: Department of Statistics, Malaysia

Industrial revolution shaping consumer behaviour

Steam based technology



INDUSTRY 1.0

Mass production electricity



INDUSTRY 2.0

Computer automation



INDUSTRY 3.0

Cyber-physical system



INDUSTRY 4.0

1st Industrial Revolution

2nd Industrial Revolution

3rd Industrial Revolution

4th Industrial Revolution

CONSUMER 1.0



Product led

CONSUMER 2.0



Demand led

CONSUMER 3.0



Experience led

CONSUMER 4.0



Consumer led

Decentralisation

Decentralisation is creating a smarter and more connected business sector. Business deals involving purchasers and suppliers (digital currency) will soon be separated from the production of products and delivery of services by SMEs and individuals.

On the whole, machine learning and systems anchored around Artificial Intelligence (AI) competencies are taking over the decision making process. Technology is delivering astounding advances. In view of this, the adoption of Blockchain is pointing toward a transparent, authentic and trustworthy global supply chain. Walmart's veggie tracker, uses blockchain to monitor its food supply chain. Machine learning and AI are inching closer toward real adoption. An example of this is the Radio-frequency identification (RFID) technology.

It allows big chain stores the ability to oversee cattle's movement throughout the supply chain from farm to fork. This not only enables retailers to know when a consumer has used up a product, but it also makes the product comprehensibly traceable in respect of its origin, how it was produced, by whom and to what standards.

Autonomous & Inter-connected systems

The proliferation of wearables is getting more access to patient information. Information collected by these devices allow healthcare industry players to zero in on patient behaviour to improve healthcare services and build a lead in technology over their competitors. This is aided by a decision making process largely configured around machine learning or AI systems' well-rounded capability. To understand the technology trend in the broadest terms, Google recently launched its medical centre in the US. It is a first of its kind treatment facility where patients who disagree with their regular doctor's clinical diagnoses can come and freely pursue the self-diagnosis that they have googled on the internet.

Blurring boundaries

Humans and machines will create bright interaction experiences in digital and physical environments. As such, machines are beginning to encroach into non-routine cognitive domains. Machine learning, knowledge representation, M2M communication, automated reasoning and virtual reality are formidable exhibits of what machines are capable of. The convergence of both cyber and physical worlds seeks to create 'smart' objects in the forms of IoT, 3D printing, VR and AR.

A further example of this are mobile robots that enable the automation of cart handling, conveying and RFID scanning. All these can be done without requiring major changes to the existing operating infrastructure.

Collaborative solutions

Distance will matter less in the future technology landscape. 'Digital twins' enable machine operation in one country to be mirrored by the display of its 'twin' in real-time in another location.

The importance of location will dilute too. Mobile platforms will enable virtual face-to-face communication apart from allowing a vast majority of the workforce to work remotely from any parts of the world. So much so, a US-based pizza chain is currently exploring the possibility of testing a pizza delivery robot in New Zealand.

Resources

The world's resource equation is changing as technology expands resource availability and productivity. We're seeing new growth dynamics where the size of resources will no longer guarantee success. Redefining what entrepreneurs can do, crowd-sourcing platforms offer start-ups the viability to gather the resources they need at the convenience of their digital marketing channels.

Technologies are combining in new ways, with the potential to reduce resource intensity dramatically. Vehicle electrification, ride sharing, driverless cars, vehicle-to-vehicle communications, and the use of new materials are rapidly coming together tipping the scales of the world's resources. This however, is barely scratching the surface of what a new suite of connected technologies can do to impact the way we use our resources in the years to come.

The sharing economy

Khazanah Research Institute pointed out that there has been a steady increase in the number of self-employed citizens in urban areas since 2010. Since 1995, self-employed citizens have accounted for up to 12% of urban employment, but this has since increased to almost 16% in 2016, equivalent to 1.7 million people with an increase of more than 760,000 since 2010. However, fresh questions arise about governments' revenue as self-employed citizens' activities are hardly visible.

Customisation

Customisation will be a major theme in the future technology-led economic landscape. Customisation allows greater insights to be gathered on customer utilisation through real-time feedback. Consumers on the other hand play an active role in designing products and services through creative engagements designed by businesses.

The next stream of innovation will enable businesses to meet fast evolving market preferences through mass customisation. One prime example of mass customisation is Adidas' recent take on its latest shoe technology. A leader in sports apparel and accessories, Adidas has announced plans to exploit an innovative approach to shoe science and taking it to the next level by leveraging on 3D Printing technologies (4D Digital Light Synthesis) to create highly customisable shoes.

Moving forward: Impact and implications to governments

Having said the above consequences, governments must be ready to adapt and change as the terms of the digital economy are changing, government revenue will be impacted too.

Overall, we are not just being invaded by new technologies, we're experiencing a combination of technology explosion where interconnected networks of businesses, platforms, consumers, and suppliers are turning consumerism on its head.

The gig and sharing economies too are growing, while ahead of some trends, this is resulting in a business ecosystem revolution. For the public service sector, automation across a host of government functions will increase efficiency. As a result of this, many job functions will need to be revisited where reskilling and redesigning job functions within the sector needs to be carried out. Despite this, the public service sector can bring about greater personalisation and decentralisation when the applications of new technologies become more widespread.

Meanwhile, privacy and national security continue to weigh heavily on consumer sentiment ahead of the next technological breakthroughs. Significant tension runs through the society and the direction of these new technologies under way remains unclear. Yet, there are also encouraging signs amid growing acceptance of these new technologies. Nonetheless, confronting these dynamics with respect to data protection and collection can help us draft a better strategy and forge a brighter future.

Moving closer to the mainstream are new technologies such as AI, AR, drones, robotics, 3D printing. However, how long can traditional sources of competitive advantage survive in the face of technological shifts? How will changing consumer and societal expectations affect conservative business models? To cooperate in tandem with what upcoming technology trends can unleash, we would like to bring into view three key considerations.

1. The spread of digital products and services is surging. Therefore, it is important to keep abreast of the list of opportunities and challenges of tomorrow's global business landscape.
2. Individually and in confluence with other trends, traditional trade is undergoing international integration. What does it mean for local businesses? And what are the changes needed to amplify the need for this transition?
3. New technologies are driving global consumption and favourable demographics are fuelling a rise in opportunities and potential revenues. But what does it take to navigate global complexities in order to move up the value chain?

Last but not least, disruptive technologies have become increasingly evident. Soon, they will reshape consumerism as a whole. Despite substantial changes over the past decade, are we ready to keep up with the pace of change and transition to sustainable practices and solutions at international scale to grow? While the benefits of disruptive technologies changing consumerism are under intense scrutiny, the opportunity remains enormous. As a developing nation, global forces at work require us to realign our economic footprint and react to resolve our future. Given technology's role in a wide range of consumer goods and services, we must remain proactive without being too wary of avoiding technology turnaround stunting our economic growth and improve our ability to reallocate resources to face up to imminent global transition.

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Contents

► The last few years have been dismal for environmental protection.

► Businesses should be more responsible for the life cycle of their products, especially their take-back, recycling and final disposition.

► 25–30% of total food produced go to waste which results in 8–10% of total human-induced greenhouse gas emissions.

Consumerism in the age of sustainability: Green practice & mindset



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Today, we live in a world facing dire threats from environmental degradation and climate change. To some extent, climate change's effects have become more obvious by the day. So much so, some countries have to confront serious national safety concerns where rising seas threaten to wipe them off the map entirely. For example, Fiji's Prime Minister, plans to move 40 Fijian villages in the coming years to resist the assault, which globally climbed about 7.5 inches in the 20th century and could rise 3 feet more by the end of the 21st century, according to the U.N.'s climate-science arm.

Still, Asia is regularly identified as one of the regions that will be hit the hardest by global warming. The UN Framework Convention on Climate Change noted that Asia's large population, frequency of natural disasters, and a sometimes chaotic process of urbanisation, with population relocation to coastal cities, as some of the factors that make Asia especially vulnerable to the unrelenting risks of climate change.

<div>Top</div> <div>10</div> <div>risks by likelihood</div> <div>Global Risks Report</div>	1	2	
	Extreme weather events (e.g. floods, storms, etc.)	Failure of climate-change mitigation and adaptation	Major natural disasters (e.g. earthquake, tsunami, volcanic eruption, geomagnetic storms)
	4	5	
	Massive incident of data fraud/theft	Large-scale cyberattacks	
	6	7	8
	Man-made environmental damage and disasters (e.g. oil spills, radioactive contamination, etc.)	Large-scale involuntary migration	Major biodiversity loss and ecosystem collapse (terrestrial or marine)
		9	10
		Water crises	Asset bubbles in major economy

Source: WEF, Global Risks Report, NASA

Sense of urgency

Scenarios are a powerful tool to motivate firm action in order to address looming threats. Like a vision, a clear image of the future projecting how climate change can significantly impact the environment can be a spur to action. As such, behavioural psychologists explain that the underestimation of climate risks is in part a consequence of the low emotional engagement evoked by the risks.

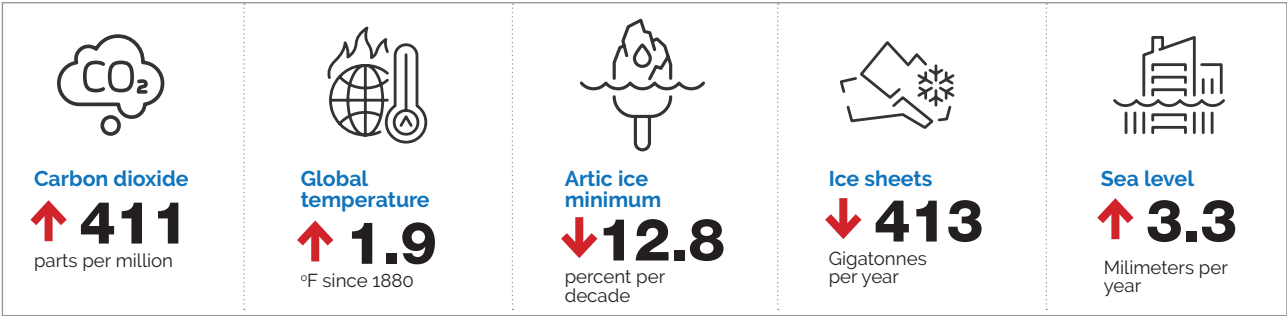
Climate risks seem too far away in both space and time to trigger the feeling of risk, and it is this feeling that causes us to take precautions. New research finds that people perceive risks to be higher when they can easily bring to mind a picture of the event. With this in mind, images of threats need to be communicated to the public with the adoption of behavioural insights.

The World Bank predicts that if action on waste is not taken, waste could grow 70% by 2050, jumping from 2

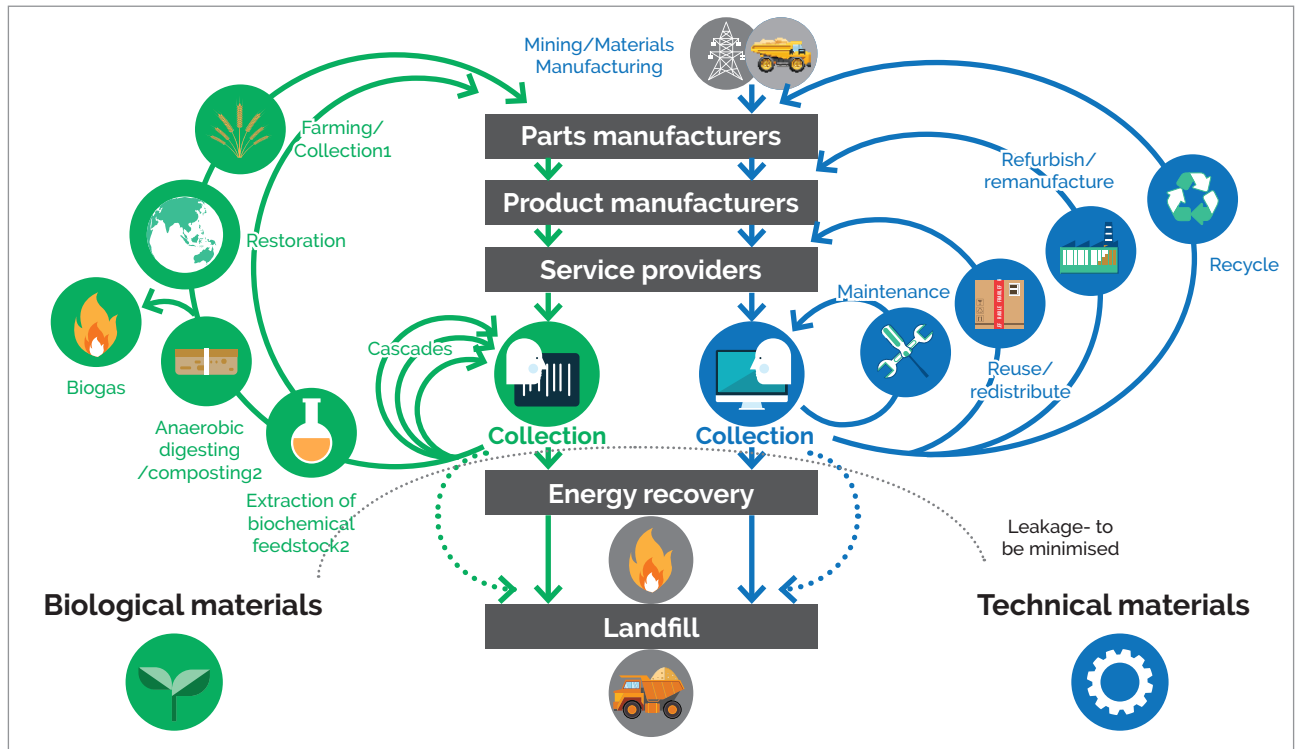
billion tonnes in 2016, to 3.4 billion tonnes in the next 30 years according to “What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050” report.

With growing pressures on ecosystems, the world’s success in tackling environmental issues has been dismal. In the last quarter of the century, rainfall patterns have dramatically changed to a point where water scarcity is looming large. Natural disasters are occurring at a far higher frequency than ever. Organisms are rapidly developing resistance to antibiotics and humans are helpless in the face of this onslaught.

A special report on climate change and land by the Intergovernmental Panel on Climate Change (IPCC) states that the way we use land drives climate change. Human activities in agriculture, forestry and other land uses are a big source of human-induced greenhouse gas emissions which is around 23% of the global total. Thus, this makes it one of the biggest drivers of climate change. Reducing emissions from land can be a big part of the solution.



Source: NASA



Source: Ellen MacArthur Foundation circular economy team drawing from Braungart & McDonough and Cradle to Cradle (C2C)

Ethical consumption

The big question is—how can we infuse a culture of green mindset and ethical consumption? At the same time, the question also holds some significant answers to the problem as a source of salvation. It's a role that must be played by both producers and consumers. In a circular economy as illustrated below, tackling environmental issues must begin with thinking of resources. Can resources be renewed or replaced by better alternatives?

As consumers, try to think about this; Netflix uses up to 15% of all the internet bandwidth on earth; shoppers return 35% of the goods they buy online, which is as much as six times more than when they shop in stores. Producing polyester for clothes emits as much carbon dioxide as 185 coal-fired power plants; a single fleece garment can shed 100,000 plastic microfibers in one washing.

July 29 marked the Earth Overshoot Day for 2019. Earth Overshoot Day (EOD) or previously known as the 'Ecological Debt Day' marks the time of year when we have consumed all the resources that this planet could have provided for that year.

At this rate, it would take 1.75 earths to sustainably meet the current demands of humanity, according to a UN data. Meanwhile, consumers' role in consumption must be tackled in terms of the products they buy, their

consumption behaviour and how their consumption is disposed.

But who should be responsible for the life cycle of a product, especially its take-back, recycling and final disposition? In 1990, Thomas Lindquist first introduced a concept in Sweden where he proposed that product manufacturers and distributors should be responsible for the life of their products and packaging after consumers are through with them. Wasted food has a shockingly high impact. We don't consume 25–30% of total food produced which results in 8–10% of total human-induced greenhouse gas emissions.

Global mission

In achieving sustainable consumption, the United Nations (UN) through its Sustainable Development Goals (SDGs) effort, places a specific goal in tackling consumption in Goal number 12;



Goal 12: Ensure sustainable consumption and production patterns. Sustainable consumption and production is about promoting resource and energy efficiency, sustainable infrastructure, and providing access to basic services, green and decent jobs and a better quality of life for all.

Gearing Malaysia toward sustainable consumption

Malaysia's vision for 2030 or better known as Shared Prosperity Vision 2030 intends to ensure every rakyat enjoys economic prosperity in a fairer, equitable measure.

Currently, Malaysia is articulating an action goal toward shared prosperity. To this end, tackling environmental issues is crucially beneficial to the society's overall wellbeing. Therefore, its Green Technology Master Plan

has outlined the nation's commitment in addressing its economic and population growth. It seeks to heighten pressure concerning the nation's depleting resources and impact on the environment.

Here is a quick give on Malaysia's target as highlighted in its Green Technology Master Plan:

Sector		Current status	2030
Energy	Installed capacity of Renewable Energy (RE) in energy mix Percentage of RE within Malaysia, Energy mix (coal, natural gas, diesel, oil and RE)	18.4% (2016)	30%
	Reduction of electricity intensity Electricity intensity is total electricity consumption in Malaysia per GDP	<2%	15%
Manufacturing	Number of manufactures in green manufacturing Transformation via utilisation of green energy, developing and production of green products, and deployment of green processes in manufacturing activity	3,400	17,000
Transport	Energy efficient vehicles for private transport Percentage of energy efficient vehicles out of total private vehicles	32.6%	100%
	Rail-based transport modal share Percentage of energy efficient vehicles out of total private vehicles	20.8% in Klang Valley	40% in cities
	Palm oil base of biodiesel utilisation Volume of palm oil based biodiesel mix in petroleum diesel	230,000 tonnes	576,000 tonnes
Building	Number of certified green building Certification from GBI, MyCREST, pHJKR, and GreenRE only	370 (2016)	1,750
Waste	Increase of recycling Percentage of municipal solid waste (MSW) recycling rate captured.	17.5% (2016)	28%
	Waste-to-Energy Plant (WtE) Wte plant required in waste treatment and management	1 (2020)	3
	Increase of Sanitary Landfills Sites Numbers of unit sanitary landfills available and percentage to increase for waste disposal.	23 unit (2020)	80%
Water	Water Treatment & Distribution Technology Percentage decreased of Non-Revenue Water (NRW).	35.5% (2015)	20% (2030)
	Wastewater Treatment Technology • Sludge to be recycled • Treated effluent to be recycle.	-	• 100% • 33%
	Freshwater Extraction Percentage of freshwater extraction rate for intergrated river basin management.	2% (2015)	15%
	Water Harvesting Technology Percentage of towns in Malaysia to be installed with Rainwater Harvesting Systems.	60%	-
	Water Utilization Technology Increase number of labelled water efficient products.	Mandatory of WEPLS by 2019	-

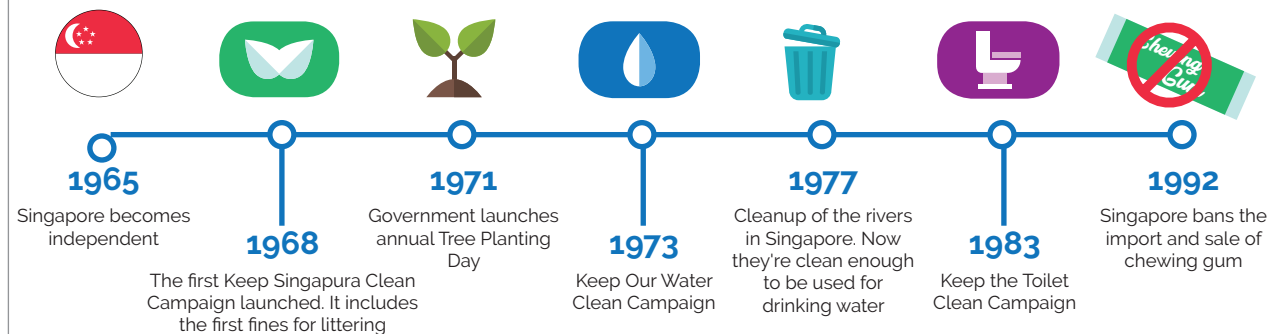
Source: The Green Technology Master Plan (GTMP), Malaysian Green Technology Corporation

Policy implications

- While most of us have been focusing on the energy and transportation sectors in the climate change fight, we cannot ignore the role that our food production has on cutting emissions and curbing climate change. Thus, the government needs to rethink how to shift public behaviour on consumption.
- In policy transition, governments can move their policy adoption from a voluntary approach to a compulsory requirement. In 1963, the Singaporean government imposed strict regulations to get a handle on how its citizens dispose their waste. In effect, the high fine exerted positively resulted in low waste litter. The country's first Prime Minister, Lee Kuan Yew kicked off the Keep Singapore Clean campaign some 50 years ago and now the government still uses fines as a method of social control.
- Sustainable policy should not stop at extended producer responsibility (EPR). Governments must encourage adoption of technology and sustainable new business models. Technology can make manufacturing processes more flexible, allowing higher product customisation by consumers. Nike, for example, offers online services that allow customers to design some aspects of their own shoes. The Internet of Things (IoT) can aid in the production process by analysing machinery and goods and ensuring that the process is run optimally. Logistically, IoT can help producers track goods during transit. AI and machine learning can aid product forecasting and increase efficiency during production. It also enables predictive recommendations and deliveries. In addition, robotics can be utilised in various ways. Robotics increases production efficiency and can be used in various customer service scenarios. Digital traceability can aid in logistics by tracking goods all the way from raw materials to finished products.

The war on dirt

Singapore has spent the last 50 years trying to persuade people to keep the country clean



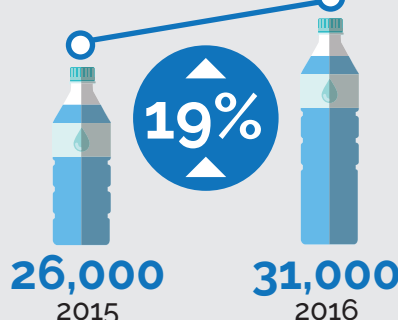
Singapore's cleaning regime

Minimum fine for littering

\$300

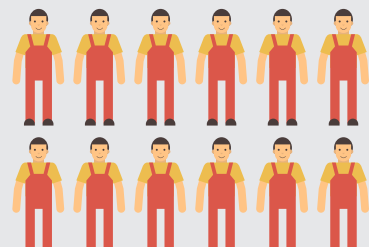


Littering fines



Registered cleaners

56,000



Source: The Green Technology Master Plan (GTMP), Malaysian Green Technology Corporation

Business implications

- EPR has been adopted by big corporations like Coca Cola, McDonalds, Samsung and Huawei. Companies are required to be responsible for the collection, treatment and disposal of their products after they've been used, helping to reduce waste and create a market for discarded plastic, paper and metal that would otherwise be destined for landfills.
- In this case for example, McDonalds has ordered a ban on plastic straws, while Huawei collects back e-waste with incentive. Businesses can take this opportunity to produce alternatives of plastic straws.
- If environmental issues are taken seriously, perhaps by reducing waste and emissions during production, producers will appear more favourable to consumers and are more likely to build consumers' trust and loyalty.
- Businesses could make or adopt technological advances in the way we use and reuse materials. Businesses could avoid unnecessary travel by using modern communication methods. Moving materials around the planet will be more difficult and one way to get around this is by doing more with 3D printing. Adopting traceability technology like blockchain could provide information for consumers to buy based on the history of the product.
- The diverse nature of the trends driving consumer change will require companies to manage increasingly complex issues. "Business as usual" is an approach that is unlikely to work any longer for consumer goods producers.
- As consumer interest in customised products grows with the technology that will make the manufacturing of those products easier and cheaper, companies will need to continually invest in both product and process innovations.
- Collecting consumer data from sources like Google and Facebook will not be enough when determining what consumers want. Companies will need to actively engage with consumers and actually listen to them. This type of outreach could enable producers to shape consumer trends, not just react to them.
- Building trust with consumers requires more than public relations effort; transparency and ethical corporate behaviour are particularly important for consumer goods producers and retailers. Negative publicity can lead to boycotts and other consumer actions that can permanently damage a brand.
- Rapid innovations across all aspects of business are essential for consumer goods producers to remain competitive.

Society implications

- The society and its citizens need to foster a fundamental shift to promote a better way of consuming products and services. We can lessen the impact on the environment and reduce greenhouse gas emissions significantly by adopting a new green lifestyle.
- In terms of food, wastage must be reduced. Consumer preferences must change and farmers must be educated to adopt ecologically sustainable practices. We need to do more about learning to live sustainably. The society needs to reduce overall demand—and that ultimately means changing our consumption behaviour and lifestyle.



Robotics increases production efficiency and can be used in various customer service scenarios. Digital traceability can aid in logistics by tracking goods all the way from raw materials to finished products.



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Contents

► E-waste is the most intrinsically valuable type of waste.

► Without sustainability, we would be solving a problem by creating a bigger one.

► In 2018, China imposed a ban on foreign waste import.

A circular solution to e-waste recycling:

Treasures from trash: The story of an e-waste recycling hero



The world produces approximately 50 million tons of electronic waste (e-waste) each year. Half of which come from personal consumer electronics, such as smartphones and laptops. If buried in the landfills, e-waste could contaminate water and earth with a hazard lasting thousands of years. E-waste business is not new in Malaysia, but the concept of e-waste recycling is new to the public. This is what ERTH (E-waste Recycling Through Heroes) is trying to mobilise—to help consumers dispose e-waste in an environmentally safe and convenient way and in return, get paid for recycling old electronics.

I spent almost two weeks in Hangzhou (half of which during a workshop organized by Ant Financial (Alipay)) and the other half simply exploring the city and tracing the footsteps of Jack Ma. I asked around the West Lake where his old translation kiosk used to be and took a walk around the apartment where Alibaba started. I tried to imagine what this place was like 20 years ago and how fast it has changed due to technology. I don't see many people left behind, it was like a well-orchestrated concert where manufacturing supported trade, trade supported digital, and digital supported payments. Now I believe the next step will be payments supporting sustainability (which is a game



Mo Tarek is a social entrepreneur in the electronic waste recycling industry. To Mo, taking action against environmental damage is a business issue. To impact change in the long run, Mo has since kickstarted a start-up to further his electronic waste recycling endeavour called ERTH, short for 'e-waste Recycling Through Heroes'. Attempting to break the inertia in raising electronic waste recycling rate in Southeast Asia, ERTH pays citizens and businesses to recycle their electronic waste. To date, ERTH has recycled over 50 tons of electronic waste in 2019 from consumers in Malaysia including the United Nations, Dell, NTT MSC and more than 1000 households. Next, ERTH aims to expand to the rest of SEA and beyond. In the years since, Mo, who is a serial entrepreneur, has gathered numerous awards such as the Future Green Leadership Award and the Internationalisation Award of the President of Finland.

inside the Alipay app which helps people plant trees). I also learned that one of the best strategies to grow as a small organisation is to collaborate with a bigger, faster moving one, and to stand on the shoulders of industry giants. Furthermore, I now understand what roles start-ups have to play in order to build trust and confidence and critically, how to be focused on horizontal and long-tail growth, without hastily rushing towards profitability.

I recently participated in the **10x1000 Tech for Inclusion** workshop with Alipay team. I shared my impressions of the trip on my LinkedIn: Mohamed "Mo" El-Fatary; entitled 10x1000 Tech for Inclusion Program & Visit to Hangzhou China.

Here are some snippets of my impressions from the article:

Mobile payments & the Chinese tech sector	The widescale adoption of mobile payments in China is already evident from the moment you step into the country. No sight of the usual Visa/MasterCard logos anywhere, and almost every shop has an Alipay or a Wechat QR code. Even the wet-market is cash-less.
Tech life in Hangzhou	Alipay has reduced the burden of digital financial inclusion to the cost of a piece of paper to print your Alipay QR code. No wonder I have even seen beggars with their own Alipay QR codes. It has become a universally inclusive, seamless and trustworthy service shared by all. It is an amazing story, how in a mere 20 years, China has transformed at this speed and scale.
Impression on China vs. International media coverage	As an entrepreneur in the recycling industry, I have followed media coverage where China caused a shock around the world for imposing a ban on foreign waste import in 2018. China started many anti-waste smuggling campaigns, starting from 2013 with "Green Fence", "National Sword" and the "Blue Sky". Prior to this, China has sent many signals over the years that each country needs to take responsibility of its own waste and recycling. Southeast Asia has also had its challenges following the Chinese ban (as much of the waste originally destined for China, ended up there), but instead of blaming China, many countries followed China's lead and enacted more elaborate regulations to improve the quality of imported recyclables (Malaysia for example sent back a few containers to their countries of origin to convey that it is serious about the issue).
Impression on Ant Financial, HQ and the people at Ant	I strongly believe Ant Financial will be the world's leading inclusive fintech platform in the future. This is evident from the massive momentum, growth and adoption it has driven in a mere 5 years of its existence. It is the world's largest blockchain patent holder, as well as its commitment to inclusion and sustainability make it the most future-ready fintech company in the world.
Impression on Alipay-NUS Challenge & 10x1000 Tech for Inclusion Program	The comprehensive (10x1000) program helps shape as well as structure our strategic vision and execution in driving the adoption and increase of electronic recycling rate. It was extremely reassuring that the leadership and trainers have all shared EARTH's concerns. It was noted that the 4 th Industrial Revolution needs a strong sustainability foundation so that we don't solve one problem (digital inclusion) by creating another (polluting our planet with toxic).
Impression on Ant Financial's CEO, Eric Jing & the Alibaba ecosystem	It was refreshing to hear that he spends a lot of time thinking about green innovation, and at first was not sure if the Ant Forest idea would create value for users. He shared how he used his upbeat energy to absorb his team's failures and encouraged them to pick themselves up and try again after a failure. He said it is important to forget about failures quickly. I am grateful for the opportunity to be addressed by such an impressive leader of an impressive organisation.

Here are my top takeaways from the workshop.

Upon my return, I was greeted by the sight of Malaysian flags everywhere in preparation for the Malaysia Day. It felt extra special because I arrived in Malaysia to start EARTH a year ago, around Malaysia Day 2018. My main objective was to share my learning from the 10x1000 Tech for the Inclusion program with our extended team and to create a plan for what to do next at EARTH. Driven by our team's value phrasing during the challenges: "If not now,

when? If not me, who?". As I am a citizen of Finland which has a 99% recycling rate, I now understand that it is our responsibility to lead the way toward a similar recycling rate for Malaysia and build the tools to enable this.

Another important wisdom was how inclusion and sustainability need to be the core of everything we do, and it should be our company's DNA. The 4th industrial revolution will bring about great progress in productivity, but without sustainability, we would be solving a problem

by creating a bigger one. This was an important concern raised by all the top leaders at the Luohan Academy, Alibaba and Ant Financial (this was why Ant's CEO supported the idea of Ant Forest in the first place, which has resulted in the planting of more than 122m trees).

But this time, I didn't worry about raising recycling awareness or how to launch our services in the most sparsely populated regions. I had a plan. After seeing how TaoBao was launched across thousands of villages in China and how small the transaction values were, which may seem meaningless to big businesses, can add up to create a tremendous long-term value for us.

In fact, the idea of looking at the value of waste, made the difference in winning the 10x1000 real-world challenge in a Chinese wet-market, when our team got an additional 10% advantage over the other teams by negotiating with the sellers to buy their "close to expired" produce i.e. waste.

And finally, the idea that helped us win the 10x1000 hackathon was how to transform the centralised recycling service we built in Cyberjaya, to be infinitely scalable and inclusive across all regions of the country, and eventually the world. Our next step is to build the ERTHx platform around three key pillars:

Public

Using AI to enable any citizen with a smartphone camera to be able to identify all types of waste and understand what is recyclable. For some types of waste like e-waste, a convenient button to request an on-demand pickup will be available and by connecting to users' e-wallets, we will pay them cash rewards for successful recycling transactions.

Ecosystem

Building a reverse-supply chain cloud platform that enables any citizen or company in Malaysia to earn an income from recycling activities. The system will enable widescale adoption and awareness of the value of recycling when real wealth can be generated from the nation's waste. Additionally, the system will introduce transparency and traceability into the recycling supply chain for the first time.

Backend

The platform's backend will utilise powerful algorithms to make collection routes more efficient and increase the value of recyclables through better sorting (for example, e-waste less than five years old will be refurbished or sold as spare parts to extend its life before being sent to material recovery centres eventually). It will also produce detailed reports that can assist the government's efforts in tackling problems such as unemployment, illegal recycling, and landfill overcapacity.

Three months after we started ERTH, we were delighted to find out about the Prime Minister's remarks on the 18th of December 2018 that Malaysia needed a new innovation to transform waste into wealth. We have already been working on it, powered by the understanding that 1 million ton of e-waste produced in Malaysia every year could easily create 100,000 jobs. As we approach 100 tons of waste collected and processed at ERTH, seeing the economic value it has created for us, we now know that e-waste is the most intrinsically valuable type of waste (due to its precious metal contents) and Malaysia has all the infrastructure required to become a regional if not a global player in the e-waste recycling industry. Therefore, it should be the most straightforward recycling challenge to solve in the near future.



Credit : Ant Financial

myForesight® in the news

Foresight Interconnect: Creating a forward-looking, resilient and anticipatory organisation

*MIGHT, Cyberjaya
22nd April 2019*



On the 22nd of April 2019, Foresight Interconnect invited the Managing Director of the School of International Futures or SOIF, Cat Tully to conduct a sharing session on future readiness. Foresight Interconnect is a platform established to encourage discourse on foresight and related subject matters among Foresight experts, practitioners and enthusiasts.

This time around, with the title, 'Leading into the Futures: integrating foresight into our strategies and organisations', the session was structured around how strategic foresight can help leaders manage organisational objectives optimally under conditions of uncertainty. Tully then spoke about making strategic choices to shape a desirable future and why organisations need to build preparedness for alternative possible futures.

Given her broad perspective on global events, attendees all agreed that the expectations of delivering the private and public sectors' expectations are a real challenge. In response, Tully recommended exploring emerging edges in leading foresight methods, where people can create future-ready and alert organisations that can adapt as the future evolves.



As pressures are growing on governments and businesses, organisations need to operate along two horizons: capturing quick advantages to build momentum while keeping sight of longer-term, ground-breaking applications. Apart from this, the recent tide of swirling uncertainties requires government agencies and policy makers to act now. The sharing session not only gave attendees new ideas to implement, but also forged a good relationship between the two foresight movers. Tully also shared with the attendees the value of long term thinking across almost every planning measure that matters. Finally, the event ended with a brief networking session for the attendees.

Scenario Planning: UTHM Blueprint review workshop 2019

*Function Room, MIGHT, Cyberjaya
17th & 18th July 2019*



On the 17th and 18th of July 2019, myForesight® was engaged to facilitate a full scenario planning course for the Universiti Tun Hussein Onn Malaysia (UTHM). To strengthen UTHM's Blueprint 2015-2025, the university has since established a dedicated working team to mobilise the initiative.

With disruptive forces on the rise, UTHM is currently working on formalising a development blueprint to outline its effort in



preparing future ready graduates. Through a scenario planning exercise, the team was guided to explore plausible future scenarios for UTHM and the education ecosystem as whole. The blueprint draft was then challenged against the scenarios created as a means to re-strategise UTHM's way forward in order to keep pace with changes in technology and evolving global environment.

12th Malaysia Plan: KPDNHEP & MITI (Manufacturing)

Grand Lexis, Port Dickson
4th - 6th August 2019



In conjunction with the development of the 12th Malaysia Plan, MIGHT was recently involved in joint-effort with various ministries as a working group member and content contributor. For this, MIGHT-myForesight® was engaged to facilitate two workshops with the Ministry of Domestic Trade and Consumer Affairs (KPDNHEP) and the Ministry of International Trade and Industry (MITI). The two separate workshops were held in Port Dickson.

The workshops brought together 60 participants from various government agencies, industry associations and academia to prepare groundwork in relation to distributive trade and manufacturing.

As part of the strategy formulation, discussions on distributive trade were divided into three clusters as follows:

Thistle Hotel, Port Dickson
7th - 9th August 2019



1. Modernisation and technology adoption
2. Professionalism and productivity
3. Balancing environment and empowering consumerism

Meanwhile, the MITI (Manufacturing) discussion group looked into the following agendas:

4. Setting national manufacturing aspirations 2025
5. Translating sub-sector issues & challenges into national key challenges
6. Defining key strategies (government responses)

Finally, the outcomes from these workshops were then submitted to the Ministry of Economic Affairs (MEA) for further deliberation on the 12th Malaysia Plan development.

Introducing foresight and futures thinking at the United Nations University

International Institute for Global Health, (UNU-IIGH)
21st August 2019



How can foresight and futures thinking be applied into global health? This was the ultimate question posed by the United Nations University - International Institute for Global Health (UNU-IIGH, a designated UN think tank on global health) to MIGHT's foresight and futures thinking team.

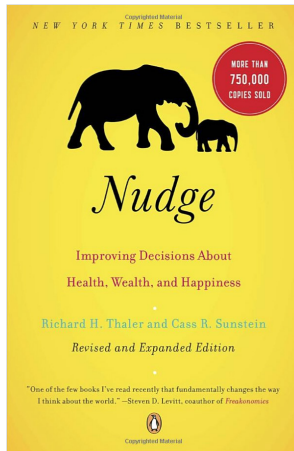
In a recent industry engagement practice held on the 21st August 2019, MIGHT's very own in-house futurists, Mr. Rushdi Abdul Rahim and Dr. Liz Alexander shone light on the question and its potential among UNU-IIGH's international team of researchers. During the sharing session, Mr. Rushdi Abdul Rahim and Dr. Liz Alexander detailed the importance of engaging leadership, partners and champions to cultivate long-term strategic thinking synergies.

Both futurists pointed to the practical use of foresight to unleash the collective power of people to identify future opportunities and risks. Talking about the most important way to prompt change, both speakers alluded to injecting critical thinking into the university's long term development as one place to start. In addition, both speakers discussed how to shape a brighter future by rallying participatory engagement and timely policy intervention.

Sharing real case applications of foresight through games, both futurists encouraged the university's researchers to go the next step. By thinking out of the box to, the conversation captivated the attendees to formulate dynamic solutions for any given challenge that otherwise would only produce a linear narrative. Finally, the session eased UNU-IIGH researchers into mindfulness of foresight and futures thinking's importance, with a potential collaboration agenda to be furthered in the future.



myForesight® book club



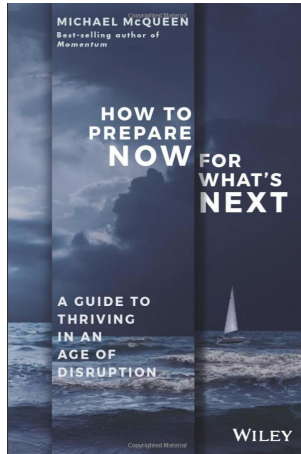
ISBN-10: 9780143115267
 ISBN-13: 978-0143115267
 Author: Richard H. Thaler
 Cass R. Sunstein
 Publisher: Penguin Books ; Revised
 & Expanded edition
 (February 24, 2009)

Nudge:**Improving Decisions About Health, Wealth, and Happiness**

From the winner of the Nobel Prize in Economics, Richard H. Thaler, and Cass R. Sunstein: a revelatory look at how we make decisions—for fans of Malcolm Gladwell's *Blink* and Daniel Kahneman's *Thinking, Fast and Slow**

- More than 1.5 million copies sold*
- New York Times bestseller*
- Named a Best Book of the Year by *The Economist* and the *Financial Times*

Every day we make choices—about what to buy or eat, about financial investments or our children's health and education, even about the causes we champion or the planet itself. Unfortunately, we often choose poorly. *Nudge* is about how we make these choices and how we can make better ones. Using dozens of eye-opening examples and drawing on decades of behavioral science research, Nobel Prize winner Richard H. Thaler and Harvard Law School professor Cass R. Sunstein show that no choice is ever presented to us in a neutral way, and that we are all susceptible to biases that can lead us to make bad decisions. But by knowing how people think, we can use sensible “choice architecture” to nudge people toward the best decisions for ourselves, our families, and our society, without restricting our freedom of choice.



ISBN-10: 9780730349846
 ISBN-13: 978-0730349846
 Author: Michael McQueen
 Publisher: Wiley; 1 edition
 (January 23, 2018)

How to Prepare Now for What's Next:**A Guide to Thriving in an Age of Disruption**

Disruption is changing the playing field – keep your successful business on top

Thriving businesses on top of their game are targets for disruption. But for savvy business owners and managers who understand the coming changes, the time to future-proof their successful companies is now. Following over a decade of research into future trends, business reinvention and disruptive innovation, author Michael McQueen presents *How to Prepare Now for What's Next*, a blueprint for top companies to thrive in turbulent times.

McQueen brings rare insight to the topic of business disruption. The book first explores the notion of disruption itself, and confirms that the term is much more than just guru-speak. The book outlines the four primary forms of disruption that McQueen sees playing out over the next 5-10 years, and quickly moves on to the in-depth tools, tips and techniques that healthy businesses will need to stay on top.

- Use a simple tool to assess just how vulnerable to disruption your company is
- Read case studies, research and trend reports that highlight real-world examples to complement the book's concepts
- Understand the four forms of disruption, namely widescale automation, empowered consumers, unconventional competition and emerging generations
- Apply the 9 keys to future-proof your business against disruption and make it impervious to change

The time to act is now for the businesses who want to keep their edge, and *How to Prepare Now for What's Next* is the guide to continue thriving.



Map the future

As a stakeholder and strategic policymaker, you can contribute by voicing out your opinion to help us map out the desired collective future for Malaysia.

This is an invitation by **myForesight®** to every member of the public. If you think we could have done better or perhaps you would like us to cover a specific topic in the study of Foresight or better yet, you would like to contribute an article, we would love to hear from you.

Send your feedback and get in touch with us at foresight@might.org.my

Website: www.myforesight.my

We look forward to hearing from you.

myForesight® team.

