



Business models
of the future:
emerging value
creation

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This report explores why business models matter. From technology to demography, the global economy is entering a new era. Reappraisal of value proposition, value creation and value capture can open up new opportunities for companies to thrive.

AUTHOR CONTACT DETAILS:

Jimmy Greer

Senior subject manager: business focus
ACCA Professional Insights

jimmy.greer@accaglobal.com

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Companies are finding new ways to unlock value through new business models of all shapes and sizes. As we can see all around us, the methods used by companies for more effective problem solving and the ability to take advantage of new opportunities are being accelerated by technology. The rise of platforms, the changing nature of work, the means by which services are provided and the digitisation of manufacturing are just some of the shifts that technology is making possible. But new business models are not just about technology.

Around the world new markets are emerging and old ones are evolving. Unquestionable economic certainties are being challenged. What were intangible environmental impacts are now daily healthcare problems for millions. What people value is changing. All these factors, and many more, have made continued and renewed thinking about business models an imperative for companies looking to

thrive and create lasting value and ongoing success. In this report ACCA explores the emerging contours of a changing global economy alongside a set of new business models that provide the reader with a practical, future-fit lens for exploring new opportunities.

What is the future for online platforms and digital marketplaces? What are frugal business models and how can they help companies to better innovate? What will personalised local manufacturing mean for the way we live and work? Will new forms of exchange based on barter and other types of payment find a way into people's lives? While the answers to these questions will differ depending on a range of circumstances, the role for professional accountants is clear. Their unique vision of how a new business model can create value for a company, coupled with their responsibilities to provide strategic forward thinking, actionable advice will see them needed more than ever.

Boon Yew Ng

Executive Chairman,
Raffles Campus Pte Ltd
and Chairman, ACCA
Accountancy Futures Academy

As economies and societies adjust to new horizons and opportunities, space opens up for businesses to imagine ways of doing things that solve problems for their customers better than has been possible before.

As economies and societies adjust to new horizons and opportunities, space opens up for businesses to imagine ways of doing things that solve problems for their customers better than has been possible before. Sometimes they uncover new, updated ways of creating value, giving them the continued ability to make a meaningful impact on the way people live and work.

Across a range of geographies and industries, today's world appears both to be replete with opportunities for better problem solving and facing a mounting set of interconnected challenges that affect people's ability to prosper and live well. Together they demand consideration of fresh approaches and an exploration of emerging business models that engage with possible futures. New business models can provide better blueprints for creating value, which economies and societies can use to tackle the challenges they face and allow them to flourish.

This report examines six business models and assesses their characteristics and the world in which they operate. The report will:

- present the six selected business models: platform-based, mass customisation 2.0, frugal, modern barter, 'pay what you want' and mega-hyperlocal;
- outline a framework for assessing the potential of new business models to create value – the 'Full Stack' framework;
- explore the potential of each of the six models, and
- provide a set of recommendations to consider when thinking about business models of the future and their role in the 21st century.

This report is based on findings from workshops held in Hangzhou, Lagos, Singapore, Bangalore, Hong Kong, Kuala Lumpur and London. This geographic spread of the workshops provides a global view of the models and their future potential across a wide range of horizons and opportunities.



1. Stories that explain how businesses work

Thinking about how business models work has risen from a 'modelling' exercise to a more expansive journey for companies to engage with to define their purpose and potential to create value.

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Its relatively recent emergence began in the early internet years. The late 1990s, while giving rise to a wave of internet companies with new business models, a few of which joined today's household names, often gave rise to stories that seemed like satires of corporate life. This was the era of the 'Dotcom bubble', when new digital opportunities wrapped up in investment-attractive management hyperbole were attracting enormous valuations. And these valuations were often built on sand. Does anyone remember Pets.com?

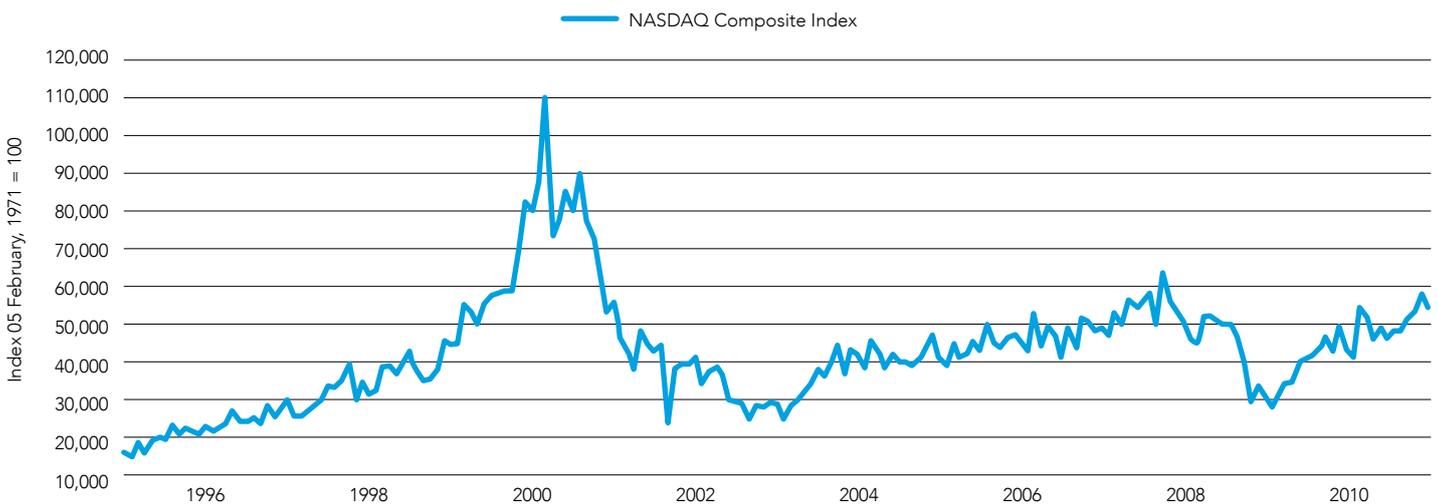
Nasdaq Composite Index, the US-based stock exchange traditionally the home of tech-related companies, grew five-fold between 1995 and its peak in 2000. By 2002, \$5 trillion worth of market value had been wiped out as investors rushed for the exits. It turned out that despite the growth of the internet, 16 million users in 1995 to

361 million in 2000 (Internet World Stats 2016), the prefix 'e' and the suffix '.com' were not adequate substitutes for real customers and actual revenues.

Business models have been described as 'stories that explain how enterprises work' that answer fundamental questions, including 'who is the customer and what does the customer value?' In the wake of the crash of the early 2000s weariness about using the term business model, described as 'stretched to mean everything – and end[ing] up meaning nothing', was understandable (Magretta 2002).

After 15 years, distress at overuse and lazy attribution is unlikely to have reduced. Problems of ephemeral revenues and lack of paying customers still exist. As the joke goes, 'A million guys walk into a Silicon Valley bar. No one buys anything. The bar is declared a massive success'. Yet, today, the continued and renewed thinking about business models is evolving. In the process, it is opening up new pathways for reconfiguring what lasting value creation can look like in the 21st century.

Figure 1.1: NASDAQ Composite Index, 1996–2010



Source: Federal Reserve Bank of St Louis n.d

From technology to demography, the global economy is entering a new era.

Why does the business model matter so much today? From technology to demography, the global economy is entering a new era. Reappraisal of value proposition, value creation and value capture that make up the essence of business models can open up new opportunities for business to thrive.

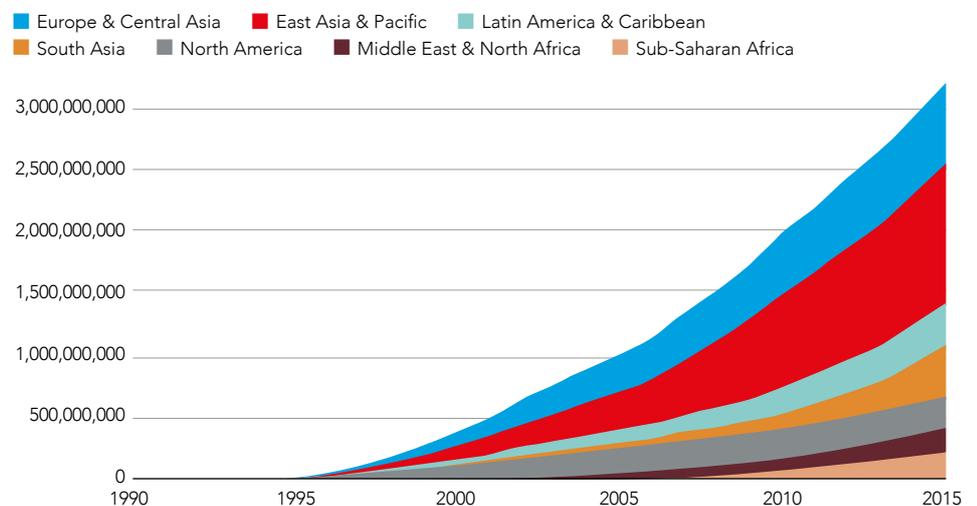
This report will explore this terrain. The remainder of Section 1 will outline some of the reasons why business model thinking has gained in prominence. Section 2 will describe six business models that form the basis of this report's enquiry. Section 3 will outline a framework for analysing business models and their component parts. Section 4 will apply that framework to the six models. Finally section 5 will provide a set of recommendations to consider when thinking about new business models and 21st century value creation.

YES, IT'S ABOUT TECHNOLOGY BUT NOT JUST TECHNOLOGY

This report explores the role of technology and its impact on business models. Throughout this report, technology is recognised as a creator of new opportunities and woven into the fabric of many of the models and issues that are set to be discussed. Hence it is impossible to ignore the impact of the extremely rapid global growth of internet use, followed by the more recent spread of mobile technology as the number of smartphones in use exceeds 3.7bn by one estimate (Ericsson 2016).

Nonetheless, technology is also only one of a collection of value-creation enablers that, when combined with other factors (eg 'the value of networks') in a variety of different contexts (eg 'a growing middle class'), leads to the reshaping of business models.

Figure 1.2: Number of internet users by world region, 1990 to 2015



Source: Murphy and Roser 2016

Founding a business has experienced a steady global rise as the career aspiration du jour, usurping the long unchallenged 'job for life'.

Five of the most significant factors that have brought business models to the attention of entrepreneurs and established companies include:

1. TUMBLING TECH COSTS ARE BRINGING IDEAS TO THE FORE

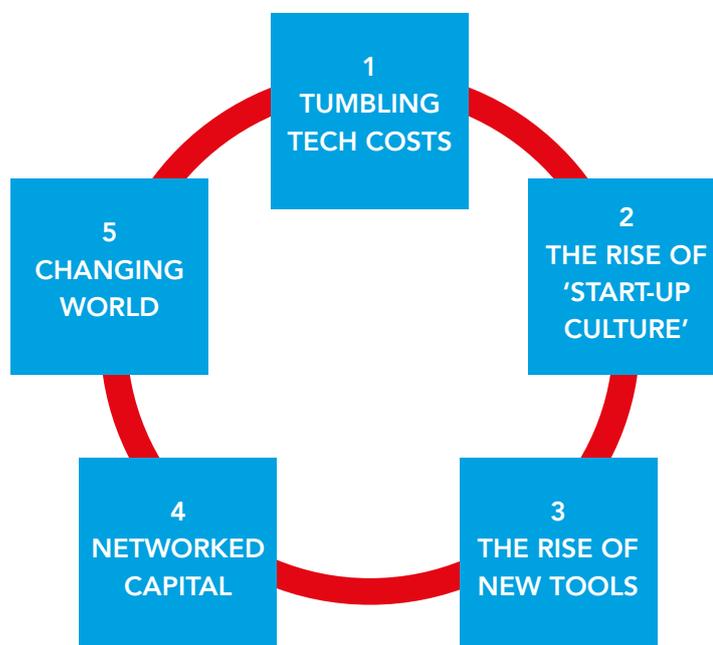
Falling computing costs have accelerated the new developments. This factor has gone hand in hand with increasing digitisation of almost all areas of commerce. Once entrenched barriers to entry, including expensive processing power and proprietary software, have been evaporating. This has allowed a generation of Davids, armed with only limited financial means and their ideas, to take on Goliath incumbents at their own game. They can do this for a fraction of the cost of the previous generation of technology that once powered the 'big beasts' to dominance, without the legacy trappings that now encumber those large players.

From being able to access software as a service (SaaS) to reaching customers on data-enabled mobile devices, technology has unleashed ingenuity as the principle engine of value creation.

2. THE RISE OF 'START-UP CULTURE'

Founding a business has experienced a steady global rise as the career aspiration du jour, usurping the long unchallenged 'job for life'. This is not just occurring among millennials, for whom 'start-up founder' might be one of a myriad of what-were-formerly-known-as careers that they will undertake over the course of their working lives.¹ It applies equally to professionals, living longer and retiring later, looking to use their contacts and experience to exploit new opportunities, pursue their passion, or make a career change. This phenomenon is global and growing particularly in emerging economies (Figure 2.2).

Figure 2.1



¹ Millennials are defined as those born between 1981 and 1997, <www.pewresearch.org/fact-tank/2016/04/25/millennials-overtake-baby-boomers> accessed 11 January 2017.

Many new tools have emerged to meet this new interest.

3. THE RISE OF NEW TOOLS TO MEET GROWING INTEREST

Many new tools have emerged to meet this new interest. The Business Model Canvas became the de facto planning standard for aspiring start-ups around the world for plotting their ideas and shaping their futures. It lays out, on a single sheet of paper, nine components needed for starting a business. Described as ‘the business tool that revolutionised how to think about new ventures’, it provides tangible, simple steps for turning ideas into concrete reality. Since its launch, the Business Model Canvas has been downloaded over 5 million times and has been customised to serve the needs of a wide variety of communities.

4. NETWORKED CAPITAL

From start-ups to SMEs and even larger entities, access to finance has long been a stumbling block for businesses. The growth of digitally enabled networks has seen individuals start to come together to pool resources directly with each other to fund new opportunities. The evolution of networks has seen them occupy an increasing number of spheres and with greater degrees of sophistication and value. Take crowdfunding: in its early days, people wanting to turn their ideas into reality could raise the money needed by turning to sites such as Kickstarter and Indiegogo.

Figure 2.2: Entrepreneurial ambitions

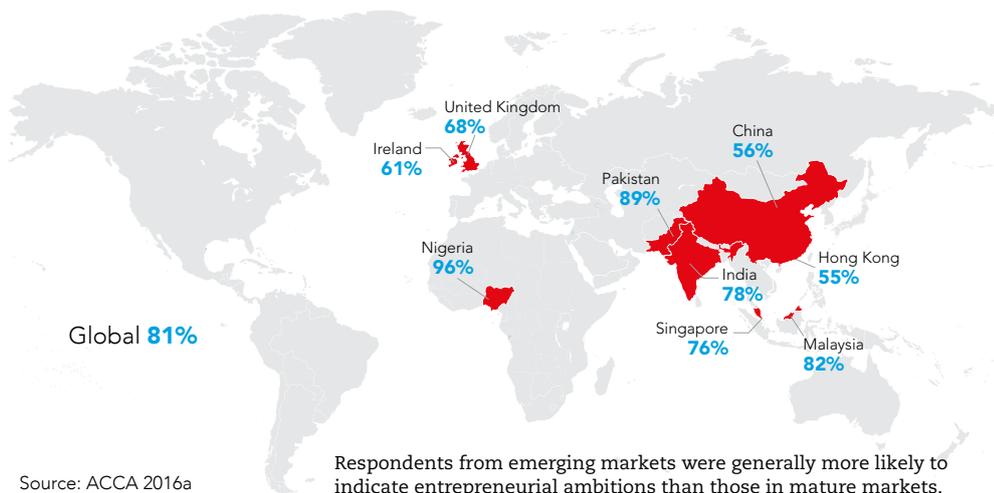
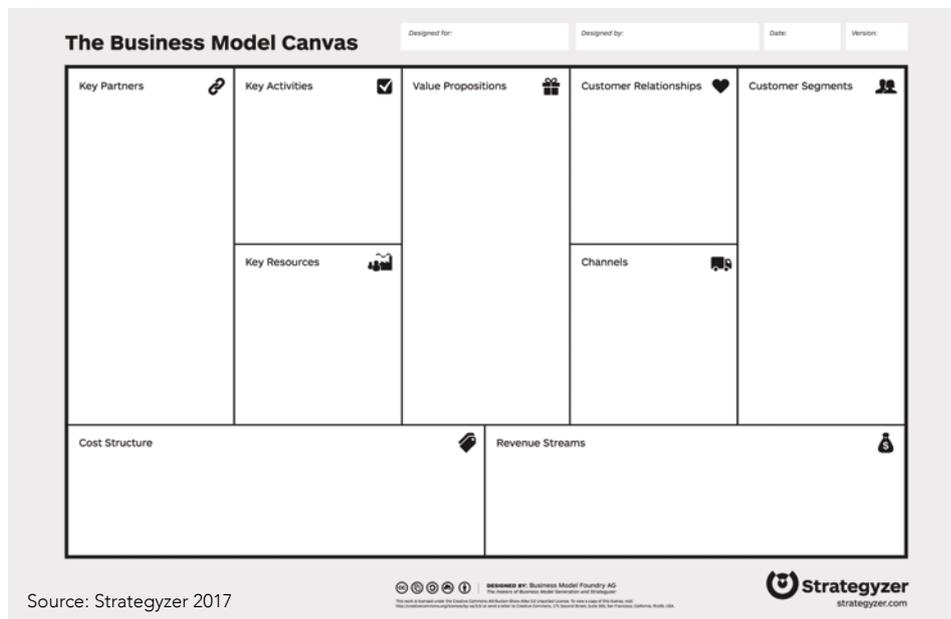


Figure 2.3: The business model canvas



Over two decades, rising incomes across lower-income and middle-income countries have opened up new opportunities and, hence, space for new models to thrive.

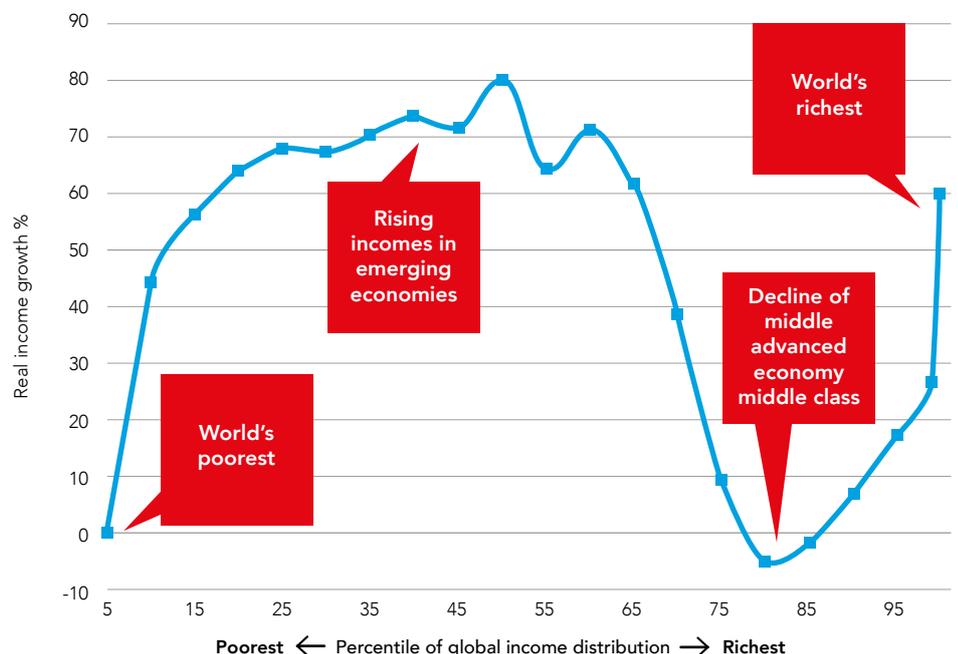
In 2009, the year Kickstarter was launched, the most backed project, a collection of crowdsourced stories called 'New York Makes a Book!', raised \$3,329 from 110 backers, beating its \$3,000 target (Kickstarter 2017a). Four years later, virtual reality video gaming headset, Oculus Rift, used the platform to raise \$2.4 million from 9,522 backers. By 2014 Oculus Rift had been bought by Facebook for \$2 billion. Since it was launched in 2009, almost 118,000 projects have been funded via Kickstarter by over 12 million backers to the tune of \$2.8 billion (Kickstarter 2017b).

In 2017, individuals can come together as networks of peers to take part in a wider range of business funding activities. For example, businesses can directly crowdfund equity (using Antsdaq in China or Crowdo in Singapore), individuals can make loans straight to other people at the interest rate of their choice (by lending platform Zopa) and they can access capital via peer-to-peer (P2P) invoice financing (via CapitalMatch in Singapore).

5. THE CHANGING WORLD NEEDS NEW MODELS

Over two decades, rising incomes across lower-income and middle-income countries have opened up new opportunities and, hence, space for new models to thrive. This has created new marketplaces that are not well served by traditional models designed for older markets. At the same time, engines of prosperity have stalled and incomes have stagnated for the middle classes in advanced economies. Persistent post-financial crisis unemployment, stagnant wages and underinvestment by organisations are now features of many advanced economies. The development of this new order has been exemplified by what has become known as 'The Elephant Chart' (Figure 2.4), which plots changes in real income between 1988 and 2008 across the global income distribution from poorest to richest. From left to right the chart shows the very poorest locked out of growth, followed by the rising incomes of those in emerging economies. Next, there is a steep decline in income for the developed-world middle classes and, finally, sharply rising incomes among the global top earners. Smarter means of more equitable value creation that, for example, produce less waste and are more responsive to new demands are now being built into business practices. This new reality has recalibrated the business model barometer.

Figure 2.4: Growth in global income between 1988 and 2008



Source: Milanovic 2016

What are the business models of the future? The six models chosen for this report have been selected for their breadth, diversity and interconnectedness.

This report explores a set of business models referred to as 'business models of the future'. What are the business models of the future? The six models chosen for this report have been selected for their breadth, diversity and interconnectedness. Together, they represent a range of areas that have the potential to alter the way people live and work. Some models have already given rise to billion-dollar businesses that have become household names. Others are addressing customer needs in less high-profile but still value-creating niches that have the potential to create even more value in the future, in a way that responds with ingenuity to changes taking place around the world.

with each other and increasing the volume of transactions. It also allows value to be created from data that is generated by people using the platform – a radical change in how feedback from users of a product or service is generated and then operationalised. This feedback can be used to shape service design and improve customer experiences.

Example: Airbnb

Airbnb is an online marketplace for people wanting to list or rent short-term lodging in residential properties. The company receives percentage service fees from both guests and hosts in connection with every booking (Airbnb n.d.).

1. PLATFORM-BASED BUSINESSES

Platform-based businesses, two-sided or multi-sided markets, are digitally enabled marketplaces for directly matching buyers and sellers. The platform owner typically receives a fee from the platform users. Platforms serve specific communities and customers and in most cases benefit from scale and network effects. This is not just as a means of putting more people in touch

2. MASS CUSTOMISATION 2.0

First-generation customisation involved businesses tailoring their products to the specific wants and needs of their customers. For example, PC maker Dell, offering a limited range of specifications for customers to choose from to build a computer that suits their needs. Mass customisation 2.0 has seen this model untethered. Increasingly sophisticated



These models, or a combination of elements of them, present routes to changing the ways that people live and work.

personalisation and assembly can now happen at home, or not far from it. Once, transnational supply chains were required to bring a product together and deliver it to the customer's doorstep. Today, 'on-demand' is replacing 'in-stock' as digital designs, hosted in the cloud, can be sent to the customer on request. This digitally enabled fabrication also permits customers to make specific alterations to the design before either assembling the product themselves or having it created at a nearby facility. The proliferation of access to lower-cost hardware such as 3D printers, coupled with rise of a do-it-yourself, 'maker' culture and the preference of craft and experiences over passive, one-size-fits-all mass market consumerism is drawing this model further into the mainstream.

Example: Opendesk

Opendesk is a global network of makers and a collection of furniture created by a range of international designers. Because pieces of furniture are designed for digital fabrication, they can be downloaded as a digital file and made locally – on demand, anywhere in the world. A chair designed in Sao Paulo, for instance, can be bought by a customer in downtown Shanghai and can be manufactured and assembled at a local co-working space (Opendesk n.d.).

3. FRUGAL

'Frugal' originated as low-cost fixes in lower-income economies, where a lack of resources drives people to use their ingenuity and what they have to hand to solve their problems. It is now deeply woven into the business models of some of the world's largest companies. Frugal businesses can respond to new customer demand for affordable, high-quality products and services and create entirely new market segments.

Example: Renault

Renault's 'no-frills' \$6000 Logan car, launched in 2004, embraced frugal design, assembly and maintenance principles. It has gone on to become a leading seller in Europe, making a new market segment for an affordable car. In 2015 Renault launched the \$4700 Kwid. This was the culmination of a frugal innovation challenge to design and build a car in Chennai, India, for the highly competitive Indian compact-car market. Renault adopted much of the learning from its experience of developing the Logan to keep the costs down and produce a desirable vehicle (Radjou and Prabhu 2015).

4. MODERN BARTER

Exchanging goods or skills with others instead of paying for something, or using digital and alternative currencies to transact instead of central-bank-backed money is on the rise. This is as much owing to wider access to the (digital) tools to enable it as it is to a response to changing economic circumstances. Benefits include the ability to access products and services without affecting personal and household finances and the building of a sense of community that non-pecuniary exchange can engender.

Example: TimeRepublik

TimeRepublik is an online timebanking community. Users earn 'timecoins' for completing a task which they can then spend on services that they desire. Users can post requests describing the service that they need and posting skills sought to fulfil that request. The service relies on trust and reciprocity between users and the value of their reputation. Users exchanging services are encouraged to actively communicate with each other to ensure expectations are met. All feedback is public to the rest of the community (TimeRepublik n.d)

5. 'PAY WHAT YOU WANT'

Customers pay what they think is right, or want to pay, for a product or service. This can be anything from zero to an amount that exceeds the price desired by the seller. Profitability is based on attracting new customers and on the desire of customers to become a part of the success of the business. 'Pay what you want' can be employed in a number of digital forums. For example, it can be used as part of a 'freemium', or tier-based, model whereby a basic version is offered free of charge but subsidised by a premium version, with more features offered at a higher cost.

Example: Humble Bundle

Humble Bundle offers customers video games for download, often made by independent developers. These are grouped together in 'bundles'. At the checkout customers are given a range of suggested payment options, for example, \$1 and over, \$5 and over and \$10 and over. Each tier accesses a larger bundle of games. Customers are then able, via a set of sliding bars that they control, to allocate the amount of money they wish to distribute between the game developers, a chosen charity and to Humble Bundle itself (HumbleBundle n.d.).

Who customers are and what they want have fed into an iterative, nimble dialogue with those looking to solve their problems.

6. MEGA-HYPERLOCAL

First-generation hyperlocal businesses are typically digitally enabled local delivery or home utility services. In pre-digital days, these could have been sourced by customers through a local classified advertising section of a newspaper or word of mouth. Next generation hyperlocal goes one stage further. Components for a product or service are (part or wholly) sourced and assembled within a local area and then also sold locally. Mega-hyperlocal businesses can create brands with a strong local identity, build genuine ecosystems of local economic opportunity, cultivate strong personal relationships with customers, enhance neighbourhood quality of life and have a low environmental footprint.

Example: Kernel Brewery

Based in central London, less than a mile from Tower Bridge, the Kernel Brewery, a pioneer of a micro-cluster of London breweries based on the banks of the Thames, values its position in the community over scale. Its founder has remained resolutely connected to the firm's roots and has resisted expansion to larger premises even though demand has

outstripped its over 10,000 bottles per week sales. According to its founder, where it is from is what matters: 'We've got to take into account the community that has built up around the brewery. We've limited space but we've [good] neighbours and this is really important to us. It's like terroir'² (Kernel Brewery n.d.).

These models, or a combination of elements of them, present routes to changing the ways that people live and work. Many of the models overlap, or elements of one are present in others. That they overlap points to an emerging, 'plug and play', culture where features can be combined to create hybrid solutions that apply to specific opportunities for meeting customer needs in the 21st century. This contrasts with the rigidity of a one-size-fits-all past. Who customers are and what they want have fed into an iterative, nimble dialogue with those looking to solve their problems.

Using these six models as focal points for further thinking and analysis, this report will now explore factors that affect how business models generate value and wealth and how societies and economies around the world are changing.



² Terroir is defined by the Oxford English Dictionary as: 'The complete natural environment in which a particular wine is produced, including factors such as the soil, topography, and climate'. It can also be the basis for the classification of region in which a wine is made, the 'appellation d'origine controlee' which regulates wine provenance; see <beerinsider.com/to-expand-or-not-to-expand-that-is-the-big-question>, accessed 9 January 2017.

The 'Full Stack' is an end-to-end framework to support the understanding and assessment of the value creation potential of business models of the future.

Do these business models, or components of them, give companies that use them what it takes to succeed? What lessons about business models can be drawn from thinking about the forces that shape them and those that are set to shape them further into the future?

The 'Full Stack' is an end-to-end framework to support the understanding and assessment of the value creation potential of business models of the future.³ It is made up of two sections: a back-end and a front-end. The back-end comprises five layers, which, when taken together, combine to create the foundations for business models of the future. The front-end brings together some of the key socio-economic horizons faced by businesses today and also comprises five layers.

Operating together, the back-end and front-end combine to provide a comprehensive tool for exploring the potentialities of the business models and the contexts in which they will operate.

BACK-END

The five back-end layers are: **waves, disruption, networks, limits and socio-productivity.**

1. WAVES

From the steam engine to electricity and the semi-conductor, technological innovation has been the driving force of a series of waves of economic growth. These 'long waves' are made up of phases. They begin with a period of fast adoption and high growth, followed by a mature period of lower growth where the technology is in widespread use, then there is a decline that is quickly followed by fresh innovation, upending the previous wave and setting off another one (Schumpeter 1942).

Why does it matter?

Waves matter because the global economy could be at the end of one wave and on the cusp of another technological leap. Understanding this and creating the enabling environment to support the change can reduce potentially negative externalities.

2. DISRUPTION

To some people, disruption might be an overused 'buzzword', but understanding disruptive innovation enables us to grasp a groundbreaking shift in why some companies are able to produce only incremental, sustaining innovation while others are able to disrupt the existing order and prosper. Incumbent companies, which may have grown up on the back of a ground-breaking innovation made some time ago, are unlikely to repeat the feat of producing the type of market-making, 'disruptive' innovation that once propelled them to become large, dominant firms. Instead, they are stuck producing sustaining innovations. Unable to break free of the shackles that their success had bestowed upon them, they watch as new entrants reshape their industries with new ideas. When this concept was set out for the first time by Clayton Christensen, he noted that it was not technology that was the driving force of disruption. Instead, as he put it, 'it is rather the business model than the technology that enables and creates the disruptive effect' (Christensen 1997).

Why does it matter?

Disruptive innovation, rather than disruptive technology, forces a focus on the questions that matter rather than the latest piece of hardware or software.

Table 4.1: The back-end and front-end of the 'Full Stack' framework

BACK-END	FRONT-END
Waves	Growth
Disruption	Work
Networks	Deindustrialisation
Limits	Resources
Socio-productivity	Experience

³ The framework's title derives from software development terminology, where a 'full stack' refers to a collection of programming languages that work together to create an 'end-to-end' product. The back-end contains the databases and the applications that make the program work behind the scenes. The front-end is made up of components that combine to build the outward-facing software interface with which a user engages.

Today, networks of peers are pooling their wisdom, sharing their experiences and learning from each other as never before.

3. NETWORKS

Today, networks of peers are pooling their wisdom, sharing their experiences and learning from each other as never before. From committing programming code into a global free repository, Github, to taking part in challenges to solve some of the world's biggest problems at X-Prize, networks are finding ways to create more effective value outside traditional centralised structures.

Why does it matter?

Peer-to-peer (P2P) networks are allowing for a level of self-organisation and pooling of resources that are challenging long-established norms and behaviours. By doing away with the need for middlemen incumbents or centralised power structures, more and more people can benefit from frictionless, disintermediated exchange.

4. LIMITS

Valuing the ability to work with limited resources and within constraints has moved into the mainstream in a number of interconnected spheres. Firstly, lean and agile development has established itself as one of the de rigeur approaches to 21st century business model design. This favours fast deployment, iterative design and user feedback loops over costly and long development.

Secondly, limits also involve valuing grassroots innovation that eschews the over-engineered and champions creativity. Inherent ingenuity employed to solve problems with what is available to hand has

long been a commonplace, go-to practice by societies around the world lacking the means to pay for costly commercial applications. From Schumacher's articulation of appropriate technology (Schumacher 1973), Gupta's exploration and cataloguing of grassroots innovation in rural India (Gupta 2016) to the more popularised concepts of the Indian 'jugaad' or the Brazilian 'gambiarra',⁴ practices that emanate from areas not traditionally valued for their contribution to innovation are increasingly finding their way into global consciousness.

Finally, 'limits' concern planetary environmental buffers and product and service design. The rise of circular business models, lifecycle analysis and more accurate measurement of the environmental and social footprints of businesses is enhancing understanding of working within limits.

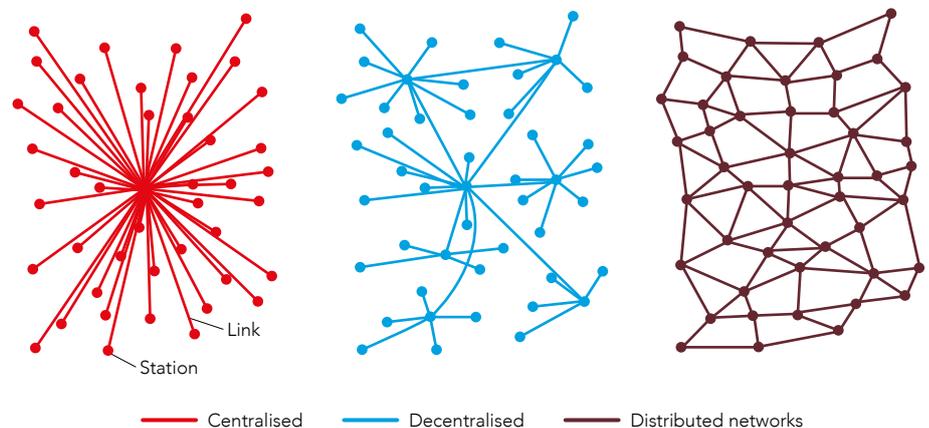
Why does it matter?

Limits and constraints emphasise the need for compelling alternatives to late-20th century industrial capitalism: alternatives more in line with contemporary realities expressed by positive feedback loops, and aspirations for an inclusive and environmentally conscious economy.

5. SOCIO-PRODUCTIVITY

From ideas such as Shared Value Creation and the UN's Global Goals for Sustainable Development to Integrated Reporting's focus on capitals and the growth of impact investing, better understanding of corporate performance and measurement

Figure 4.1: Baran's three types of network



Source: Baran 1964

⁴ 'Jugaad' and 'gambiarra' are used in India and Brazil respectively to describe a type of low cost do-it-yourself fix, using whatever is available to hand. Both terms have entered everyday culture and have become symbols of low cost, home-grown innovation culture.

Methodologies for measuring social returns are calling into question long-held assumptions about how value is created.

of so-called 'non-financial' returns are becoming mainstream. Tim Cook, CEO of Apple, questioned about return on investment (ROI) for climate-change-related spending, responded, 'When we work on making our devices accessible by the blind I don't consider the bloody ROI' (Chaffin 2014). With recognition of the limitations of the narrow metrics of financial returns to shareholders as the benchmark of success, there is a wider shift taking place in creation and measurement of value and returns to society. Socio-productivity is about creating markets and industries where 'the least well off are made the most better off' (Haque 2011).

Why does it matter?

Methodologies for measuring social returns are calling into question long-held assumptions about how value is created. Greater rigour, comparable data and increasing adoption of these methods will further enhance this movement.

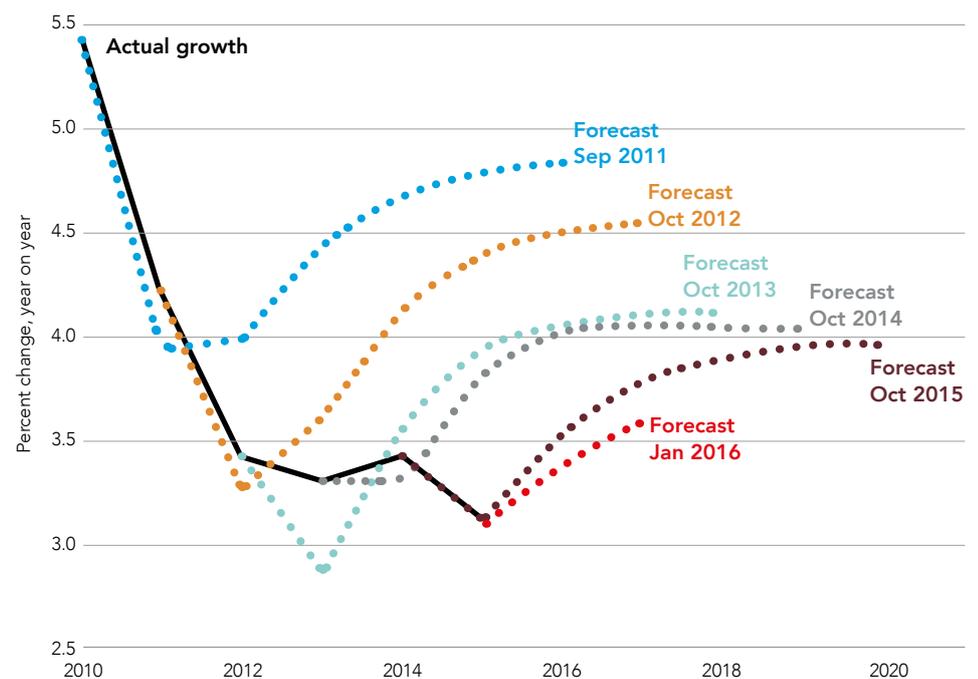
FRONT-END

The five layers of the front-end stack are: **growth, work, deindustrialisation, resources and experience**. They represent five key elements of the operating environment today. This is the world's 'user interface'.

1. GROWTH

The global economy is stuck in a 'low growth trap' (OECD 2016). From China's continued slowdown to the end of the commodities supercycle, global rates of growth have not made meaningful recovery since the 2008 financial crisis. For advanced economies, this has been called a sign of secular stagnation that occurs when a lack of investment by companies goes hand-in-hand with a desire among cautious households to save rather than spend (Summers 2016). To solve this, economists across advanced economies have been clamouring for more spending by their governments, which are able to borrow at historically low rates, to boost aggregate demand in the face of underinvestment by the private sector.

Figure 4.2: IMF's assessment of undershoot of growth since the financial crisis



Source: IMF 2016, from Furman, Black and Shambaugh (2016)

Has the global economy reached an inflection point where 20th century growth rates are never coming back?

Has the global economy reached an inflection point where 20th century growth rates are never coming back? Perhaps more pertinently, even if they could come back, is GDP growth an adequate proxy for the challenges of 21st century prosperity creation? Is it an appropriate measure for faster-growing emerging economies? After all, though inequality, weakening social mobility and other factors are growing features of advanced economies, much of the world is playing catch-up: but catching up to what? New composite indicators are emerging to provide evidence for the claims that pursuit of GDP growth alone will not create an advanced economy. For example, the Social Progress Index, an index that scores countries across a range of indicators around three themes of Basic Human Needs, Foundations of Wellbeing and Opportunity, points to factors that lie outside GDP as being needed for countries to do well (Social Progress Imperative 2017). Up to a certain level, GDP per capita and the Social Progress Index neatly correlate with each other, but reaching the upper echelons of the index cannot be achieved with GDP growth alone.

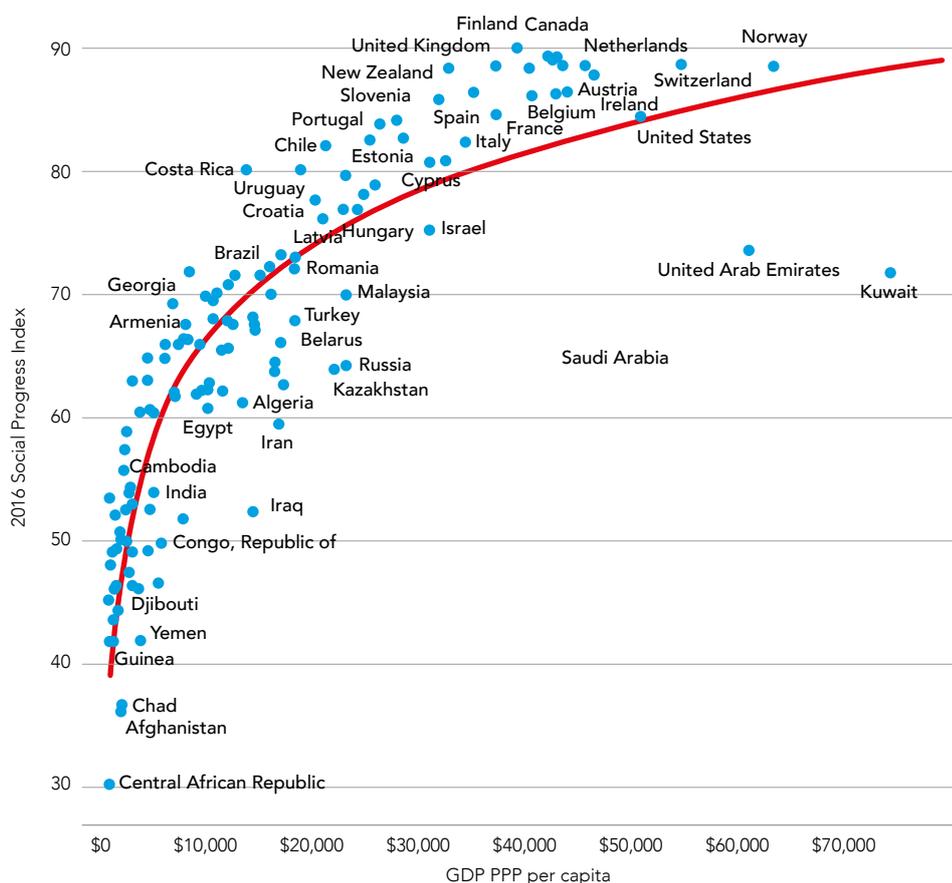
Why does it matter?

Both stagnant global growth and its limitations as an indicator of prosperity have profound implications for value creation in the 21st century.

2. WORK

In his essay *'The Economic Possibilities for our Grandchildren'* written in 1930, the economist John Maynard Keynes predicted that 100 years later, the 'economic problem' would be solved. People would share what work remained among themselves – 3-hour shifts and 15-hour working weeks – to retain a sense of worth (Keynes 1930). Published in the aftermath of the 1929 Great Crash and the start of the Great Depression, optimism about the future from one of the world's greatest thinkers would have been a welcome tonic. In 2017, 13 years from 2030, when his prediction would reach maturity, 'work' is in the process of being redefined. One study has found that 162m people in Europe and the US, approximately 30% of the working age population, engage in some form of

Figure 4.3: Social Progress Index v. GDP per capita



Source: Social Progress Imperative 2016

Climate change and environmental degradation have been transformed from intangible, minority concerns, to real world problems.

independent or 'gig' work, usually mediated through a digital platform (McKinsey 2016). This new type of work revolves around new relationships. For example, work is more flexible but earnings are often lower, less predictable and offer fewer protections than traditional employment. This type of work can offer advantages if income is supplemental but presents a serious market imperfection if a broad swathe of society relies on this income to cover essential spending. Alarmingly, this is what appears to be the case. A survey carried out in the US found that more than half of 'digital gig workers' use their earnings to cover basic needs (29%) or as an essential part of their overall budget (27%) (Pew 2016).

Why does it matter?

New forms of work and increasing flexibility will, alongside automation, reduce the total volume of employment and the guarantees that once came with it.

3. DEINDUSTRIALISATION

The reduction of traditional manufacturing has structurally transformed many advanced economies whose companies moved production to lower-wage countries. Governments have struggled to redress the balance and successfully reskill workers and provide new opportunities of a similar calibre. This process is entering a new stage. A combination of automation of work, growth of the service sector and rising wages has meant that premature deindustrialisation is now happening in emerging economies too (Rodrik 2015). The export-led growth that famously powered Asian economies, such as South Korea, to middle-income status can no longer be emulated.

Why does it matter here?

As the service sector grows to dominate emerging as well as advanced economies, the scale of the reskilling and reorganisation task facing governments will require fresh approaches.

4. RESOURCES

Climate change and environmental degradation have been transformed from intangible, minority concerns, to real world problems. From Delhi and Beijing's unprecedented air pollution levels, to the rising incidence of extreme weather events, lives and livelihoods around the world are being put at risk by humankind's impact on the planet. National and local government action from, for example, the Paris mayor's 2016 green commitments to reduce pollution in the city (Mace 2017), to historic global agreements, including the Paris Climate Accord (UNFCCC 2015) and the UN's Global Goals for Sustainable Development (UN Stats 2016), underpin an emerging institutional architecture for addressing the challenges posed. The acceleration of a transition to a low-carbon economy is upending industries once reliant on fossil fuels for growth. For example, global sales of electric vehicles are estimated to reach 41 million by 2040, displacing 13 billion barrels of crude oil (BNEF 2016). This is shifting investment and markets as new sectors rise and old ones fall.

Why does it matter?

Natural resource use patterns are shifting at the same time as exposure to environmental shocks is increasing for an ever-growing proportion of society.

5. EXPERIENCE

People value experiences, from well-judged retail customer service to the user interface with which they engage through an app on their phones. The rise of the value of experience over, for example, volume of material possessions is as much about the appreciation of how design matters as it is about a desire for authenticity, connection and meaning. Experiences can also be shared with others in a way that many objects cannot. In the digital world, the quality and application of a service is only as good as the quality and usability of its user experience (UX).

Why does it matter?

From provision of a well-thought out service to providing a sense of meaning, the rise of experience as an engine of transformation has deepened the role of design in today's world.

5. Real world application of business models of the future

Given the implications of the 'Full Stack' framework, what are the possibilities for the presented business models?

Given the implications of the 'Full Stack' framework, what are the possibilities for the presented business models? There are a range of factors that influence their take-up, expansion and future. The 'Full Stack' provides a method of assessing certain key characteristics for each model.

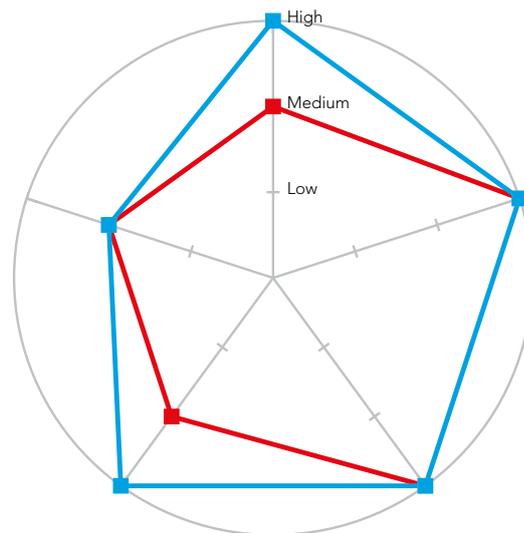
The models are rated across all the 'Full Stack' layers as high, medium or low, according to how well they reflect each layer and the possibilities presented by them. This rating is a combination of collated reflections from global workshops and desk-based research.

PLATFORMS

Around the world, the proliferation of platform-based businesses has changed the way services are offered. Many methods of implementing the business models of the future in this report also rely on platforms as a delivery method.

Platform-based businesses have been grouped together in often confusing categories. For example, the early use of the term 'sharing economy', while useful in comparison with what came before, has proved a misnomer for describing businesses where no sharing is taking place. Other terms,

Figure 5.1: Platforms



BACK-END:

WAVES	DISRUPTION	NETWORKS	LIMITS	SOCIO-PRODUCTIVITY
High	High	High	High	Medium

FRONT-END:

GROWTH	WORK	DEINDUSTRIALISATION	RESOURCES	EXPERIENCE
Medium	High	High	Medium	Medium

Platforms are fast-enabling an acceleration in the changing nature of work as they match buyers and sellers of work to create new types of employment.

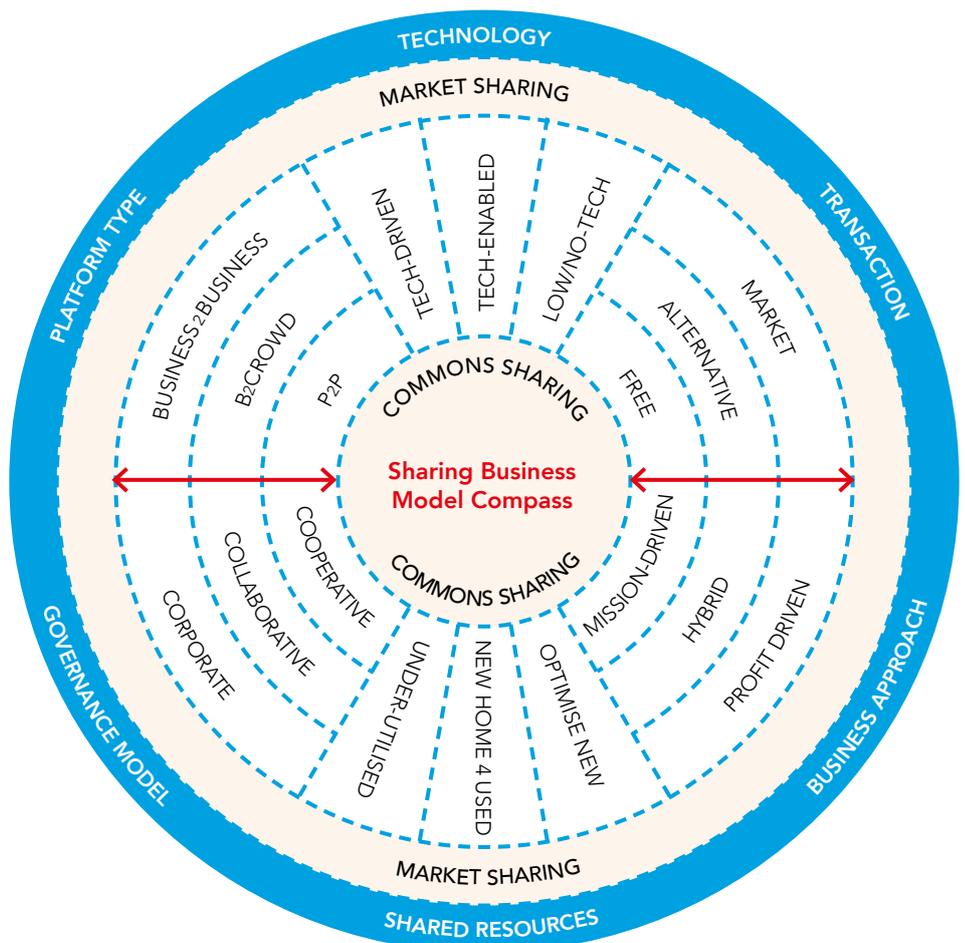
including 'on-demand economy', 'crowd-based capitalism', 'collaborative consumption' and 'collaborative capitalism', are all actively used and demonstrate the complexity of the ecosystem and its all-encompassing reach.

A number of attempts have been made to categorise platform-based business models. The sharing business model compass (Figure 5.2) provides six useful lenses for categorisation of the different phenomena an actor in this complex ecosystem might embody. These include technology, transaction type, business approach, shared resources, governance model and platform type as key differentiators and the compass provides

a continuum, from 'market driven' to 'mission driven', to describe the commercial intentions of the organisation.

Platforms are fast-enabling an acceleration in the changing nature of work as they match buyers and sellers of work to create new types of employment. This is calling into question a number of long-held assumptions about employee rights, employer responsibilities and the role of regulation. From the high-profile example of ridesharing platform Uber, to smaller scale task-oriented platforms, such as the Nigerian home repair service Wesabi, the shift to this type of working is redrawing norms and expectations around work.

Figure 5.2: The sharing business model compass



Source: Cohen 2016

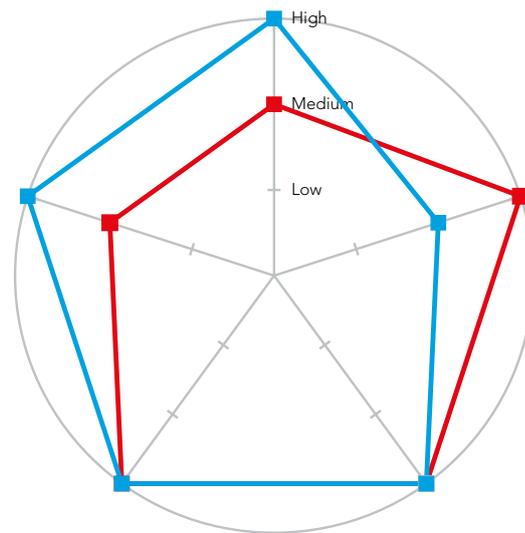
Local fabrication, be it at home or in a neighbourhood facility, is becoming a reality as sophisticated digital and physical tools combine.

MASS CUSTOMISATION 2.0

Mass customisation 2.0 has the potential to upend traditional manufacturing, build new skills bases upon new centres of economic dynamism, and engender a digital-to-real-world connection based on the culture and practice of making. It is more than a manufacturing renaissance in the sense of reviving what has come before (as explored in Section 4, that is unlikely to return). It has been called a movement that ‘is proving that anyone can be a maker and that genuine progress on the nation’s most pressing problems can be made from the bottom up’ (Brookings 2016).

Mass customisation 2.0 has the ability to harness digital opportunities and lower hardware costs to dematerialise supply chains and put fabrication power in the hands of people. Local fabrication, be it at home or in a neighbourhood facility, is becoming a reality as sophisticated digital and physical tools combine. ‘On-demand’ (in contrast to ‘in stock’), local fabrication of the type of high-quality products, which previously would have only been accessible through large commercial organisations with complex, globe-spanning supply chains, is becoming a reality. For example, over 1,000 small-scale workshops called Fablabs (fabrication laboratories), which provide

Figure 5.3: Mass customisation 2.0



BACK-END:

WAVES	DISRUPTION	NETWORKS	LIMITS	SOCIO-PRODUCTIVITY
High	Medium	High	High	High

FRONT-END:

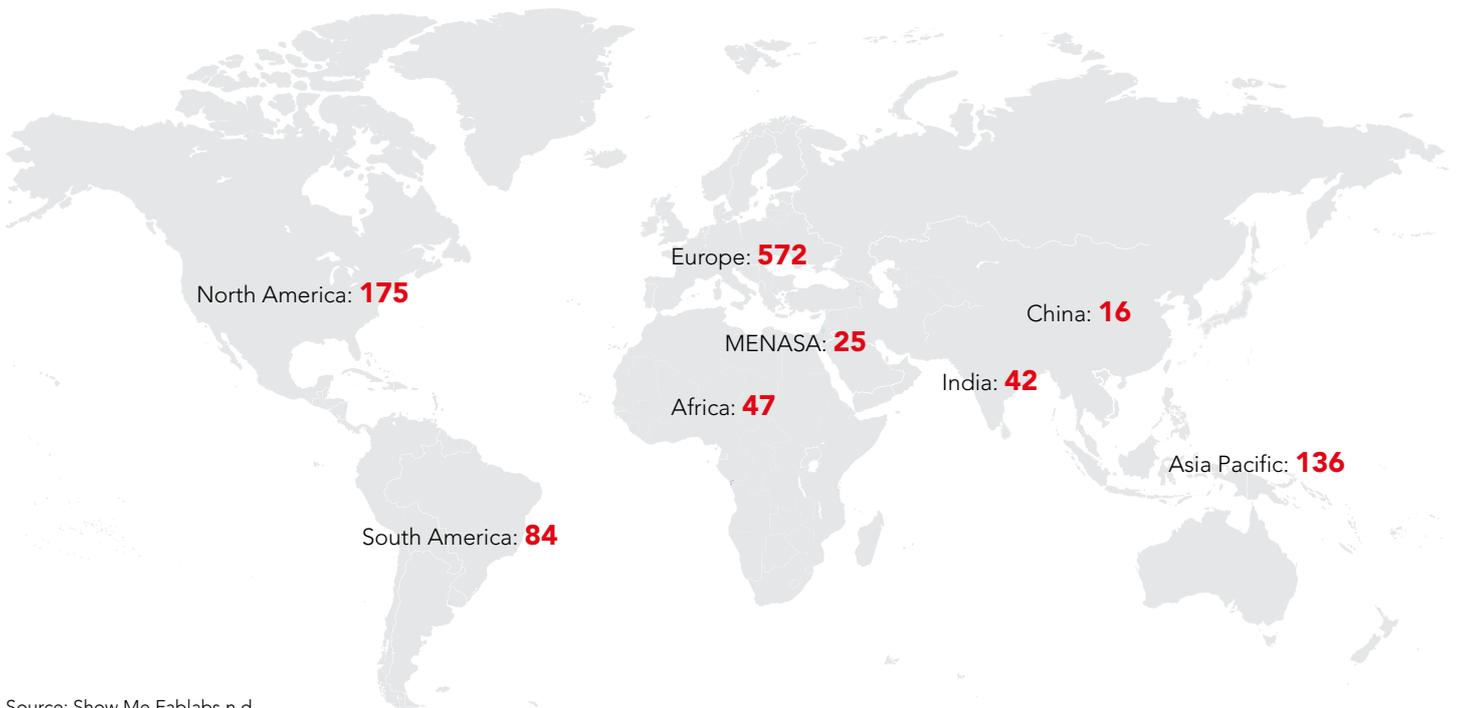
GROWTH	WORK	DEINDUSTRIALISATION	RESOURCES	EXPERIENCE
Medium	High	High	High	Medium

The appreciation of maker culture and opening up of new learning opportunities is changing norms and behaviours that accompany the access to tools.

access to tools and knowledge to allow people to make things, are in operation all over the world. From the ARC Hub in Phnom Penh to Workbench Projects in Bangalore, fablabs are supported by a network that provides tools such as online tutorials and advice for members. The mission of the Fab Foundation that runs the network is 'to provide access to the tools, the knowledge and the financial means to educate, innovate and invent using technology and digital fabrication to allow anyone to make (almost) anything, and thereby creating opportunities to improve lives and livelihoods around the world' (Fab Foundation n.d).

The appreciation of maker culture and opening up of new learning opportunities is changing norms and behaviours that accompany the access to tools. This cultural element has the potential to ensure that mass customisation 2.0 endures. Makerfares, a cross between a science fair, a festival and an exhibition, take place all year around the world, from Shenzhen to Lagos, attended by tech enthusiasts hobbyists, fixers, scientists and makers of all ages. Elsewhere, whole city districts are taking this a step further. The Poble Nou neighbourhood in Barcelona, for example, has become a 'maker district', aiming to meet residents' needs from within the city and consciously reducing and reusing materials by focusing on three areas of fabrication, food production and energy (Fab City 2016).

Figure 5.4: Global fabrication laboratories (Fablabs) map



Source: Show Me Fablabs n.d.

Frugal models can offer resilient solutions that champion ingenuity and creativity with a fraction of the infrastructure or resource inputs previously required.

FRUGAL

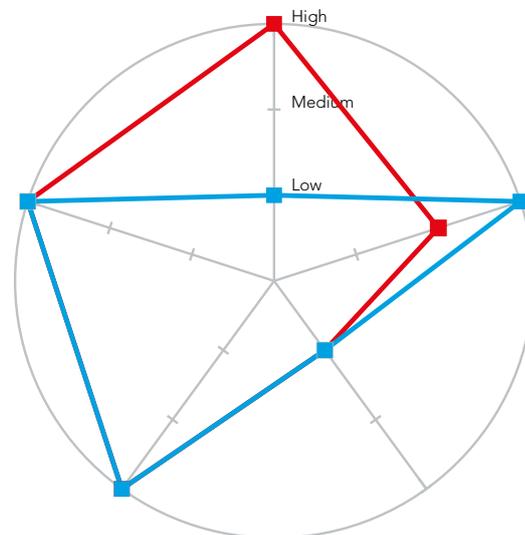
Frugal models can offer resilient solutions that champion ingenuity and creativity with a fraction of the infrastructure or resource inputs previously required. They can apply as much to advanced economies where incomes are stagnant as to new middle classes in emerging economies with newfound access to disposable income and the world's poorest.

Frugal-based products and services can be characterised as 'lean, clean, simple and social' (Leadbeater 2014). Take the growth of pay-as-you-go solar energy, as offered by companies such as M-Kopa and Azuri Technologies in countries across East Africa. Off-grid lighting to areas without access to reliable, affordable electricity can improve working conditions, family life and educational outcomes. These companies have been able to leverage existing

micropayment architecture and the popularity of mobile money systems that allow people to send money to each other by their mobile phones. They have built a market that is generating increasing returns for customers. In the words of Azuri Technologies' CEO, customers 'begin to see the opportunities that they can get from having more solar power and progressively people want more. They want more lights, they want outside lights to keep on the whole night for security [and] they want larger systems' (Mulupi 2016).

Hence frugal models truly have the power to disrupt by reducing bloated research and development processes and building new market segments with lower-frills products and services. The frugal model can drive competitiveness and, in the search for cost savings, environmental performance is often improved.

Figure 5.5: Frugal



BACK-END:

WAVES	DISRUPTION	NETWORKS	LIMITS	SOCIO-PRODUCTIVITY
Low	High	Low	High	High

FRONT-END:

GROWTH	WORK	DEINDUSTRIALISATION	RESOURCES	EXPERIENCE
High	Medium	Low	High	High

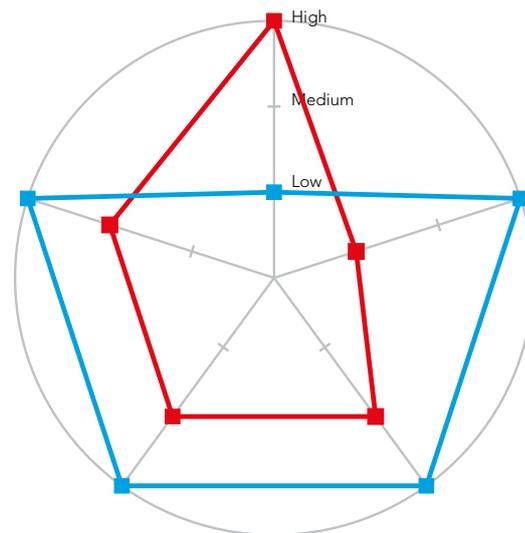
Sharing of underused resources, in exchange for something else, often enabled by a digital platform, can form the basis of new types of non-monetary exchange.

MODERN BARTER

Reimagining barter for the 21st century opens up a range of possibilities. Sharing of underused resources, in exchange for something else, often enabled by a digital platform, can form the basis of new types of non-monetary exchange. It enables networks and communities to coalesce around the sharing activity in a way that a financially driven set of transactions might not permit and, where skills are being exchanged, enables providers to develop new capabilities. For example, Trade School is a self-organised school that runs on barter. Anyone can teach, and ask what

they would like to receive in exchange for a class. People sign up by agreeing to bring along a barter item for the teacher. Today there are more than 30 chapters around the world coordinating local gatherings with over 19,000 students having attended classes (Trade School n.d.). Elsewhere, digital forms of currency that are not central-banked-backed, have the potential to form meaningful value systems. Fungible, alternative currencies, for instance, UK's Brixton Pound and Brazil's Banco Palmas, have physical notes and digital money systems.

Figure 5.6: Modern Barter



BACK-END:

WAVES	DISRUPTION	NETWORKS	LIMITS	SOCIO-PRODUCTIVITY
Low	High	High	High	High

FRONT-END:

GROWTH	WORK	DEINDUSTRIALISATION	RESOURCES	EXPERIENCE
High	Low	Medium	Medium	Medium

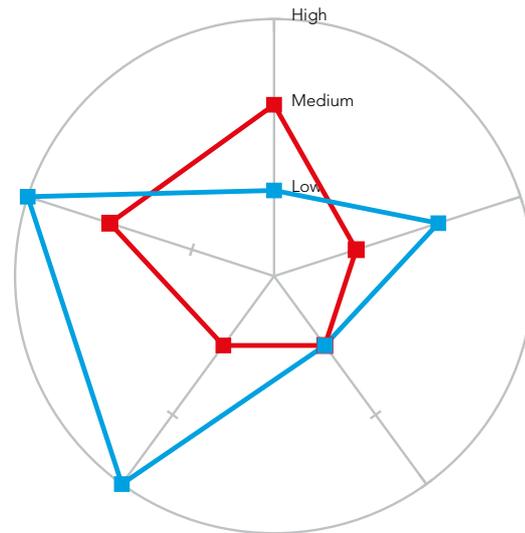
The potential to open up access to new customers both in digital and physical spheres and allow for experimentation and market testing with new products and services.

PAY WHAT YOU WANT

'Pay what you want' models are more than pricing strategies. They can open up access to new customers both in digital and physical spheres and allow for experimentation and market testing with new products and services. For example, the freemium model, whereby a basic product is free and additional services require payment, can offer potential customers the chance to try a basic service and upgrade to access higher-quality versions. 'Pay what you want' can work as part of a dual-pricing strategy, where a service is paid for in full by most customers allowing for a selection of customers to be offered a subsidised rate.

'Pay what you want' can work to encourage discovery. This works well for cultural production. For example, online music platform Bandcamp provides artists with the option to offer their material for sale at 'pay what you want' prices. This promotes experimentation and allows users to pay over the odds to actively support their favourite musicians to continue their work. Theatres also experiment with 'pay what you want' to broaden access and attract new audiences. It can also be put to use challenge assumptions. For example, The 'pay what you feel' Real Junk Food Project supermarkets, based in the UK, sell food that would have gone to waste that is sourced from other supermarkets and restaurants.

Figure 5.7: Pay what you want



BACK-END:

WAVES	DISRUPTION	NETWORKS	LIMITS	SOCIO-PRODUCTIVITY
Low	Medium	Low	High	High

FRONT-END:

GROWTH	WORK	DEINDUSTRIALISATION	RESOURCES	EXPERIENCE
Medium	Low	Low	Low	Medium

Companies that rely and thrive on local inputs, production and customers and that do not seek scale beyond a limited area, have the opportunity to build loyalty, trust and sustainable businesses.

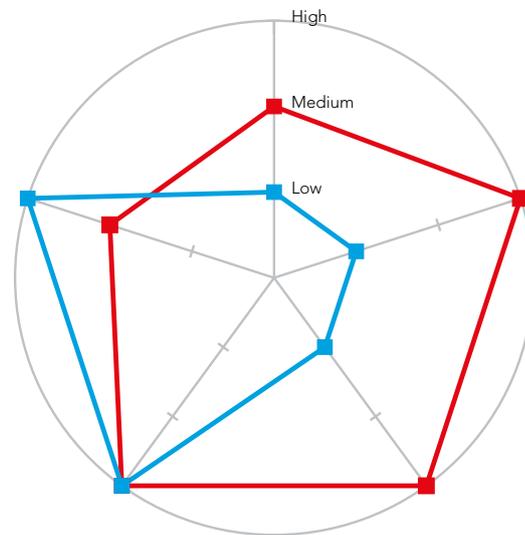
MEGA-HYPERLOCAL

Companies that rely and thrive on local inputs, production and customers and that do not seek scale beyond a limited area, have the opportunity to build loyalty, trust and sustainable businesses. They also can make a meaningful contribution to local economic development and can be part of a strengthening of a range of local businesses that support each other as an ecosystem. From dense urban neighbourhoods to rural communities with limited-sized markets, they can provide high-quality employment that promotes entrepreneurialism and community dynamism in areas where that might not have previously been possible.

Not-for-profit organisations can also take advantage of elements of this model to deliver their services. The Restart Project, for example, is a network dedicated to community electronics repair. Not only do they save people money by helping their products last longer and stop e-waste from going to landfill, they also build fixing skills within neighbourhoods. They provide free community workshops staffed with professional fixers and also offer paid-for workplace fixing plans for organisations.

Cities services can be transformed by mega-hyperlocal businesses. In China, the rapid growth of app-enabled, bike-sharing services that do not require docking stations, including ofo, Ubike and Mobike, are changing mobility possibilities and opening up new solutions for problems related to congestion and pollution.

Figure 5.8: Mega-hyperlocal



BACK-END:

WAVES	DISRUPTION	NETWORKS	LIMITS	SOCIO-PRODUCTIVITY
Low	Low	Low	High	High

FRONT-END:

GROWTH	WORK	DEINDUSTRIALISATION	RESOURCES	EXPERIENCE
Medium	High	High	High	Medium

6. The role of professional accountants and recommendations

Companies engaging with new business models, as they adapt to the shifting contours of the global economy, require technical support from professional accountants in addition to relevant, strategic advice that helps them face contemporary and future challenges.

Companies engaging with new business models, as they adapt to the shifting contours of the global economy, require technical support from professional accountants in addition to relevant, strategic advice that helps them face contemporary and future challenges. Across three spheres of the business model, value proposition, value creation and value capture, professional accountants can provide a multidimensional set of skills that allow for opportunities to be realised.

Four critical areas – regulation and governance, technology, the expectations of stakeholders and globalisation – have been identified as likely to have a significant impact on professional accountants in the future (ACCA 2016b). Furthermore, expanding competency areas for professional accountants, including digital awareness, creativity, emotional intelligence and vision, will all be valuable in meeting emerging demands (ACCA 2016b). These impact areas and new competencies map neatly onto the ‘Full Stack’ framework and demonstrate the spheres where professional accountants, with their unique understanding of how a company works, can support new value creation through business model innovation.

Opportunities and challenges presented by technology, and what they mean for business models, require an evolving level of digital literacy and an understanding of the new interconnections between digital components of the operating environment. Automated systems, cloud computing and new digital tools are already changing the work of professional accountants. This digital transformation is also happening at a

range of velocities in almost all other fields. Providing relevant, decision-useful analysis to ensure that the right technological applications are adopted in the best interests of the business, not simply for the sake of implementation of the latest innovation, will require additional technological smarts.

From a legislative perspective, new business models present opportunities for professional accountants to provide relevant advice on shifting regulatory landscapes that is both sector specific, and often, in an increasingly interconnected world, multijurisdictional. This will be amplified further where multiple business models, or combinations of elements of models, are employed potentially crossing multiple sectors and multiple territories.

Professional accountants also have a key role to play in reporting on how new types of value is created. Set against the new operating environment outlined in this report, this will demand a growing set of competencies. This could be related to, for example, social impact assessment, environmental accounting or other non-financial capital valuation techniques. Capturing, evaluating and then translating this reporting information into actionable material through well considered engagement, for both internal and external audiences, will be a defining challenge of the coming decades. For example, the Global Goals for Sustainable Development have been referred to as ‘a purchase order from 2030 for business and government action today’ (Volans 2016). Professional accountants will be central to making this action a reality now and into the future.



From digital to physical, be it cloud-based manufacturing or mega-hyperlocal enterprises, it is ecosystems made up of people, resources and tools that in most cases make the difference and provide the potential to thrive.

Business models of the future that are able to solve problems that new social and economic horizons present can tackle contemporary challenges and also provide fertile opportunity for experimentation to build a new generation of sustainable companies and long-term success. This report highlights a number of interconnected implications

ECOSYSTEMS OVER SOLO OPERATIVES

Going it alone is no longer an option. From digital to physical, be it cloud-based manufacturing or mega-hyperlocal enterprises, it is ecosystems made up of people, resources and tools that in most cases make the difference and provide the potential to thrive. Recognition of the value of actors within an ecosystem and finding ways support their growth and development can be challenging when they are not directly tied directly to a business, particularly where a new model is employed. The problems are evident in many 'gig' work arenas. For example, in October 2016 a UK employment tribunal found that drivers who use the ride-sharing platform Uber are not self-employed and, hence, could be due national living wage rate of pay and other employment protections (Hodges and Khan 2016).

BETTER WORKING

The wider implications behind the ruling point to a possible future for 'gig' working that is more mutualised, where profits are more evenly shared among those doing the work who also collectively agree on wider distributions. A number of initiatives are rising to address the challenges posed. Platform cooperativism is an emerging global movement responding to this ownership conundrum aiming to bring co-operative ownership and governance to the online platforms (Schneider 2016). Its goal is to bring together and nurture cooperative-based models for platforms from music streaming and ridesharing to freelancing and homestay. The Workable Futures Initiative is another multidisciplinary programme to design 'positive' platforms and find ways to mitigate against their imperfections, which include 'reputation effects, price-setting anomalies, platform-worker discrimination issues, and global labour arbitrage' (Institute for the future 2016). Alongside these initiatives, new tools are emerging, such as the Platform Design Toolkit. Loosely inspired by Business Model Canvas it provides a practical mapping framework to address new challenges that a platform intersects with, for example, governance activities,



Finding ways to support companies' multiple and hybrid uses, and wider experimentation with models without them fearing adverse commercial consequences would be a welcome endeavour for policy makers.

ownership challenges and enabling services (Cicero 2016). Finally, technology is being put to use to serve low wage earners. Tech-enabled support for low-paid workers, through campaign platforms used to hold employers to account, such as US-based co-worker.org, are gaining traction and widening access to the means to make new types of work less insecure.

IDENTIFICATION AND VALUING OF RESOURCES

Valuing ecosystems also matters in relation to resources in use, such as a city's green space, its breathable air or the value of its cultural diversity. Having relationships with these resources that are not extractive but instead generate positive returns will set businesses up for long-term, sustainable value creation. This will require a better grasp of stakeholder identification and broader adoption of materiality assessments by businesses to evaluate different types of capital (eg financial, social, environmental) that are used and created (IIRC 2015).

SPACE AND SUPPORT FOR EXPERIMENTATION AND GROWTH

The six business models of the future share elements with each other and can be in use simultaneously for different products or services in the same business. For example, a platform can be used in a mass customisation 2.0 setting and employ a type of 'pay what you want' pricing structure. Finding ways to support companies' multiple and hybrid uses, and wider experimentation with models without them fearing adverse commercial consequences would be a welcome endeavour for policy makers.

Learning from approaches in other sectors could prove valuable. FinTech, for example, has seen technology transform finance at a phenomenal pace, sometimes creating challenges as service innovation comes up against legislative barriers. To remedy this, FinTech regulators in certain jurisdictions have set up regulatory sandboxes – 'safe spaces' for business to experiment with the regulatory implications of their services in a live environment before taking them to market (FCA 2016). This type of arrangement is spreading to other domains. Singapore recently announced plans for a big data 'sandbox' to create more room for different parties to experiment with a wide

range of data-related opportunities in a cooperative environment (McSpadden 2017). Providing similar 'safe spaces' and institutional support for other sectors, particularly those that come into contact with issues such as workplace rights, can help them build genuine mutually beneficial outcomes from the outset, and hence have a greater chance of creating long-term equitable value.

Better access to capital and resources, particularly for small or micro-scale businesses in emerging sectors, can also provide welcome shelter to nurture new economic activity. For example, in the US, small scale manufacturing, enabled by the growth of platforms and other tools, is on the rise. By 2014 there were more than 314,000 manufacturing establishments with no employee other than the owner, up almost 17% from 2004 (Sparshott 2016). New means of supporting this type of business to experiment, take risks and prosper will require a different mindset.

In countries with less developed commercial sectors where single employee, owner businesses make up the vast majority of businesses, innovative new financing competitions can seed longer-term success. An evaluation of Nigeria's 2011-2015 business plan competition YouWiN!, which distributed US\$50,000 grants to 1,200 entrepreneurs, found that it led to 'greater firm entry, higher survival of existing businesses, higher profits and sales, and higher employment' (Mckenzie 2016). Replicating and expanding these types of grant programmes across emerging economies could further improve risk sharing and increase opportunities.

COLLABORATION AND SCALING UP

Finally, finding ways for new businesses models to emerge through collaboration between small businesses and larger corporates can enhance the prospects of both entities. The start-up can be given the tools to scale-up and the larger corporate can benefit from sharing new innovations and the entrepreneurial mindset of their collaborator. Larger companies can proactively take steps to make successful collaboration happen by, for example, simplifying requests for proposal (RFP) demands and shortening payment terms (Bannerjee, Bielli and Hayley 2016).

- ACCA (2016), 'Generation Next', <www.accaglobal.com/content/dam/ACCA_Global/Technical/Future/generation-next-full-report.PDF>, accessed 9 January 2017.
- ACCA (2016), 'Professional Accountants – The Future', <www.accaglobal.com/content/dam/members-beta/docs/ea-patf-drivers-of-change-and-future-skills.pdf>, accessed 9 January 2017.
- Airbnb (n.d.) [website] <<http://airbnb.com>>, accessed 12 January 2017.
- Bannerjee, S, Bielli, S and Hayley, C (2016), 'Scaling Together: overcoming barriers in corporate-startup collaborations', <www.nesta.org.uk/publications/scaling-together-overcoming-barriers-corporate-startup-collaborations>, accessed 12 January 2017.
- Baran, P. (1964), 'On Distributed Communications', <www.rand.org/content/dam/rand/pubs/research_memoranda/2006/RM3420.pdf>, accessed 12 January 2017.
- Blank, S. (2013), 'Why the Lean Start-Up Changes Everything', <<https://hbr.org/2013/05/why-the-lean-start-up-changes-everything>>, accessed 12 January 2017.
- BNEF (2016), 'Electric vehicles to be 35% of global new car sales by 2040', <<https://about.bnef.com/blog/electric-vehicles-to-be-35-of-global-new-car-sales-by-2040/>>, accessed 12 January 2017.
- Cicero, S. (2016), 'From Business Modelling to Platform Design', <<http://platformdesigntoolkit.com/wp-content/docs/Platform-Design-Toolkit-Whitepaper-ENG.pdf>>, accessed 12 January 2017.
- Chaffin, B. (2014), 'Tim Cook Soundly Rejects Politics of the NCPPR, Suggests Group Sell Apple's Stock' <www.macobserver.com/tmo/article/tim-cook-soundly-rejects-politics-of-the-ncppr-suggests-group-sell-apples-s>, accessed 12 January 2017.
- Cohen, B. (2016), 'What's a "Responsible Sharing Economy Startup"', Shareable, 14 March, <<http://www.shareable.net/blog/whats-a-%E2%80%9Cresponsible-sharing-economy-startup%E2%80%9D>>, accessed 12 January 2017.
- Dacia (2017), [website] 'New Logan' <www.daciagroup.com/en/car-models/new-logan>, accessed 12 January 2017.
- Christensen C. (1997), 'The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail'. Boston, MA: Harvard Business School Press.
- Ericsson (2016), 'Global Mobility Report', <www.ericsson.com/res/docs/2016/ericsson-mobility-report-2016.pdf>, accessed 12 January 2017.
- Fab City Initiative (2017), 'Co-creating the Fab City Poblenou roadmap at Ouishare Fest Barcelona 2016', <<https://blog.fab.city/co-creating-the-fab-city-poblenou-roadmap-at-ouishare-fest-barcelona-2016-afb418c5a151>>, accessed January 12 2017.
- Fab Foundation (n.d.), [website], <www.fabfoundation.org/index.php/about-fab-foundation/index.html>, accessed January 12 2017.
- FCA (2016), 'Financial Conduct Authority Unveils Successful Sandbox Firms on the Second Anniversary of Project Innovate', <www.fca.org.uk/news/press-releases/financial-conduct-authority-unveils-successful-sandbox-firms-second-anniversary>, accessed 12 January 2017.
- Gupta, A. (2016), 'Minds on The Margin are Not Marginal Minds', Penguin Random House.
- Federal Reserve Bank of St Louis (n.d.), [website] <<https://fred.stlouisfed.org>>, accessed 12 January 2017.
- Furman, J., Black, S. and Shambaugh, J. (2016), 'The 2016 Economic Report of the President', <www.whitehouse.gov/blog/2016/02/22/2016-economic-report-president>, accessed 12 January 2017.
- Haque, U. (2011), 'The New Capitalist Manifesto'. Boston MA: Harvard Business School Press.
- Hodges, J. and Khan, J. (2016), 'Uber Loses U.K. Ruling, Entitling Drivers to Minimum Wage', <www.bloomberg.com/news/articles/2016-10-28/uber-loses-london-lawsuit-over-drivers-rights-law-firm-says>, accessed 12 January 2017.
- Humblebundle (n.d.) [website] <<http://humblebundle.com>>, accessed 12 January 2017.
- Institute For The Future (2016), 'Work, Interrupted The New Labor Economics of Platforms', <www.iftf.org/fileadmin/user_upload/downloads/wfi/IFTF_Work-Interrupted_FullReport.pdf>, accessed January 12 2017.
- IFAC (2015), 'Creating Value with Integrated Thinking', <www.ifac.org/publications-resources/creating-value-integrated-thinking>, accessed 12 January 2017.
- Internet World Stats: Usage and Population Statistics, <www.internetworldstats.com/surfing.htm#1>, accessed 9 January 2017.
- Kernel Brewery London (n.d.) [website], <<http://thekernelbrewery.com/>>, accessed 12 January 2017.
- Keynes, J.M. (1930), 'The Economic Possibilities for our Grandchildren', <www.econ.yale.edu/smith/econ116a/keynes1.pdf>, accessed 12 January 2017.
- Kickstarter (2017a), 'New York Makes a Book', <www.kickstarter.com/projects/nymab/new-york-makes-a-book>, accessed 12 January 2017.
- Kickstarter (2017b), 'Stats', <www.kickstarter.com/help/stats>, accessed 12 January 2017.
- Leadbeater, C. (2014), 'The Frugal Innovator: Creating Change on a Shoestring Budget', Palgrave Macmillan UK.
- Mace, M (2016), 'From green bonds to solar roads: France's low-carbon revolution is taking shape', <www.edie.net/news/6/Green-bonds-and-solar-roads-France-low-carbon-revolution-is-taking-shape>, accessed 12 January 2017.
- Magretta, J. (2002), 'Why Business Models Matter', *Harvard Business Review*, <<https://hbr.org/2002/05/why-business-models-matter>>, accessed 9 September 2016.
- Mckenzie, D. (2015), 'Identifying and Spurring High-Growth Entrepreneurship Experimental Evidence from a Business Plan Competition', <<http://documents.worldbank.org/curated/en/210491468178154286/pdf/WPS7391.pdf>>, accessed 12 January 2017.
- McKinsey (2016), 'Independent work: Choice, Necessity, and the Gig Economy', <www.mckinsey.com/global-themes/employment-and-growth/independent-work-choice-necessity-and-the-gig-economy>, accessed 12 January 2017.
- McSpadden, K. (2017), 'Singapore Government Plans to Roll Out a Big Data 'Sandbox' This Year', <<https://sg.news.yahoo.com/singapore-government-plans-roll-big-data-sandbox-052723280.html>>, accessed January 16 2017.
- Milanovic, B. (2016), 'Global Income Inequality by the Numbers in History and Now', <<http://heymancenter.org/files/events/milanovic.pdf>>, accessed 9 January 2017.
- Mulupi, D. (2016), 'Four Things to Know about Africa's Pay-As-You-Go Solar Energy Market', <www.howwemadeditinafrica.com/four-things-know-africas-pay-go-solar-energy-market>, accessed 12 January 2017.
- Muro, M. and Hirschberg P. (2016), 'Five Ways The Maker Movement Can Catalyze a Manufacturing Renaissance', <<https://www.brookings.edu/blog/the-avenue/2017/01/04/the-maker-movement-can-catalyze-a-manufacturing-renaissance>>, accessed 12 January 2017.
- Murphy, J. and Roser, M. (2016), OurWorldInData.org, [Online Resource] <<https://ourworldindata.org/internet/>>, accessed 12 January 2017.
- OECD (2016), 'Global economy stuck in low-growth trap', <www.oecd.org/economy/global-economy-stuck-in-low-growth-trap-policy-makers-need-to-act-to-keep-promises.htm>, accessed 12 January 2017.
- Opendsk (n.d.) [website] <<http://Opendsk.cc>>, accessed 12 January 2017.
- Radjou, N. and Prabhu, J. (2015), 'The Frugal Way to Grow', <www.strategy-business.com/article/00368?gko=40fca>, accessed 12 January 2017.

Restart Project (n.d.), [website] <<https://therestartproject.org>>, accessed 12 January 2017.

Rodrik, D. (2015), '*Premature deindustrialisation in the developing world*', <<http://voxeu.org/article/premature-deindustrialiation-developing-world>>, accessed 12 January 2017.

Schneider, N. (2016), '*The Rise of a Cooperatively Owned Internet*', <www.thenation.com/article/the-rise-of-a-cooperatively-owned-internet>, accessed 12 January 2017.

Schumacher, E. (1973), '*Small is beautiful: Economics as if people mattered*', Harper Perennial; Reprint edition (October 19, 2010).

Schumpeter, J. (1942), '*Capitalism, Socialism and Democracy*', Routledge 1994.

Show Me Fablabs (n.d.), [website] <<http://fablabs.io/labs>>, accessed 12 January 2017.

Smith, A. (2016), '*Gig Work, Online Selling and Home Sharing*', <www.pewinternet.org/2016/11/17/gig-work-online-selling-and-home-sharing/>, accessed 12 January 2017.

Social Progress Imperative (2016), '*Are Social Progress and the Social Progress Index Connected?*', <www.socialprogressimperative.org/are-gdp-and-the-social-progress-index-connected>, accessed 12 January 2017.

Social Progress Imperative (2017), '*2016 Social Progress Index*', <www.socialprogressimperative.org/global-index/>, accessed 12 January 2017.

Sparshott, J. (2016), '*Big Growth in Tiny Businesses*', <www.wsj.com/articles/big-growth-in-tiny-businesses-1482953786>, accessed 12 January 2017.

Strategyzer (2017), '*The Business Model Canvas*', [online resource] <<https://strategyzer.com/canvas/business-model-canvas>>, accessed 12 January 2017.

Summers, L. (2016), '*The Age of Secular Stagnation*', <www.foreignaffairs.com/articles/united-states/2016-02-15/age-secular-stagnation>, accessed 12 January 2017.

Timerepublik (n.d.) [website] <<https://timerepublik.com>>, accessed 12 January 2017.

Trade School (n.d.), [website] <<http://tradeschool.coop>>, accessed 12 January 2017.

UNFCCC (2015), '*Paris Agreement*', <http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf>, accessed January 12 2017.

UN Stats (2016), '*The Sustainable Development Goals Report 2016*', <<http://unstats.un.org/sdgs/report/2016/The%20Sustainable%20Development%20Goals%20Report%202016.pdf>>, accessed January 12 2017.

Volans (2016), '*Breakthrough Business Models*', <http://volans.com/wp-content/uploads/2016/09/Volans_Breakthrough-Business-Models_Report_Sep2016.pdf>, accessed 12 January 2017.

