

# A new operating system for a new operating environment

## Why this book, and why now?

Writing my first book on digital transformation<sup>1</sup> was something of a cathartic exercise for me, having worked for many years to help corporates of all types become more native to the digital empowered world in the way that they think and operate. At the time there was plenty of material that talked about the ‘why’ of transformation, but precious little that talked about the ‘how’. The book was designed to fill this gap. And thankfully it seems to have struck a chord.

The work that I’ve undertaken since that first book came about, working with a broad range of large global businesses, has served to validate a lot of the approaches that I set out in that book but it has also opened the opportunity to go deeper into some of the fundamental areas of change and opportunity. I fully expect this book to also be a means to catharsis as, whilst the business environment has fundamentally changed forever, many companies still haven’t truly adapted to face this challenge.

Digital technologies have impacted in countless ways to create a climate of rapidly changing competitive and consumer dynamics, heightened unpredictability and disruptive new market entrants, and yet many businesses remain stuck. Stuck in outdated modes of working that keep them from moving fast. Stuck with structures that originated in a different era and that actively hinder agility and horizontal collaboration. Stuck with processes that make bold innovation difficult if not impossible. Stuck with cultures that reward conformity and status rather than entrepreneurialism and originality. Stuck with approaches that celebrate efficiency over learning.

After several years of corporate focus on digital transformation many organizations still pursue rigid, linear change management programmes that are doomed to fail. Many still prioritize chasing shiny technology over empowering their people to drive lasting change. Many pay lip service to new ways of operating without ever really changing the fabric of how the organization works or building the culture that can genuinely support change.

More recently the potential of agile working and principles to generate business value far beyond technology teams has been recognized by some enlightened companies as a route to greater organizational agility. And yet in so many cases these principles remain poorly understood, undervalued, or badly applied. In some organizations the word ‘agile’ has become overused and abused to the point where it is no longer helpful, and where it fails to represent the true potential of what is possible. Many businesses are playing at the edges, or scratching the surface, or still failing to grasp the scale of change that is really needed.

If we are to truly reshape organizations for the new world we need to take a more sophisticated, adaptive approach to transformation. We need to rethink embedded assumptions about structures, processes and leadership that were born of a legacy, industrialized world. We need to understand how we can scale agile principles and culture appropriately to support lasting change. We need to take a far more sophisticated approach to the application of different ways of working, both new and old. There is a need to build on what has come before, to go beyond most interpretations of ‘digital transformation’ and to go deeper into fundamental aspects of organizational structure, process, culture and leadership to help define what organizational agility really means and help leaders of all kinds to build a practical roadmap for lasting change. There is a wider need to reimagine what the organization is, how it operates, and how it is led.

This book is about helping businesses to become unstuck. It is about generating an entirely new level of organizational agility. It is about transforming business to become truly fit for purpose for a very different world.

## The new operating environment

The narrative is, by now, familiar. It is expressed in conference talks that speak of the ‘Uberization’ of entire industries, or in catchy soundbites like: ‘the pace of change has never been this fast, yet it will never be this slow again’.<sup>2</sup> It is captured in visualizations like the one famously created by Nicholas Felton for the *New York Times* that shows how technology

adoption is spreading faster than ever (the telephone took decades to reach a penetration of 50 per cent of US households yet the mobile phone took less than five years).<sup>3</sup> It is supported by studies such as that conducted by strategy and innovation consultancy Innosight (based on work originally done by Professor Richard Foster at Yale University) that showed that the average tenure of companies on the S&P 500 reduced from 33 years in 1964 to just 24 years in 2016 and is forecast to shrink to just 12 years by 2027.<sup>4</sup>

Just about every business is faced with an operating environment that is riven with heightened unpredictability and rapidly changing consumer, competitive and market contexts. And yet most businesses have grown up in a very different world. A world of greater stability in which contexts changed more slowly and allowed for greater time to sense and respond. A world where advantage came from leveraging scale and locked-down, hierarchically driven efficiency. A world characterized by rigidity in process and structure. A world of top-down leadership where all the answers flowed from the top of the organization downwards.

This new operating environment requires a very different organizational response. More than that, it requires a very different type of organization. Current structures and the dominant ways of thinking are the legacy of a very different world, and are no longer fit for purpose for the modern world. Businesses of all types have an urgent need to transform to become far more adaptive and responsive to rapid change. They need to innovate not just episodically, but continuously. They need to optimize for the present whilst also designing and creating for the future and they need to do this continuously. They need leadership and cultures that support moving fast, greater experimentation and a wholly different way of operating.

This is beyond setting up an innovation lab or a few agile teams. It is beyond sending the board for a trip to Silicon Valley. It is beyond investing in a big piece of new technology.

This is about agile transformation of the entire organization.

### *Evolving digital disruption*

The IBM Global C-suite Study<sup>5</sup> (based on interviews with more than 12,500 CxOs worldwide, including 2,000+ CEOs) has painted a revealing picture of the shifting nature and sources of disruption.

In a previous iteration of the survey in 2015<sup>6</sup>, a majority of executives reported that they were expecting significant disruption from new market entrants outside their sector but in the latest survey in 2018<sup>7</sup> when asked what types of enterprises were leading the disruption in their industry

(the question was ‘select all that apply’), 72 per cent said that it was industry incumbents, 34 per cent named digital giants like Google and Apple, a further 23 per cent said companies from other industries, and 22 per cent smaller companies or startups.

What’s clear is that whilst the discussion around the ‘uberization’ of entire industries has been the focus of recent attention, disruption seems to be coming at organizations from all sides, not least from nimble, forward-thinking incumbents who are able to rapidly develop disruptive propositions.

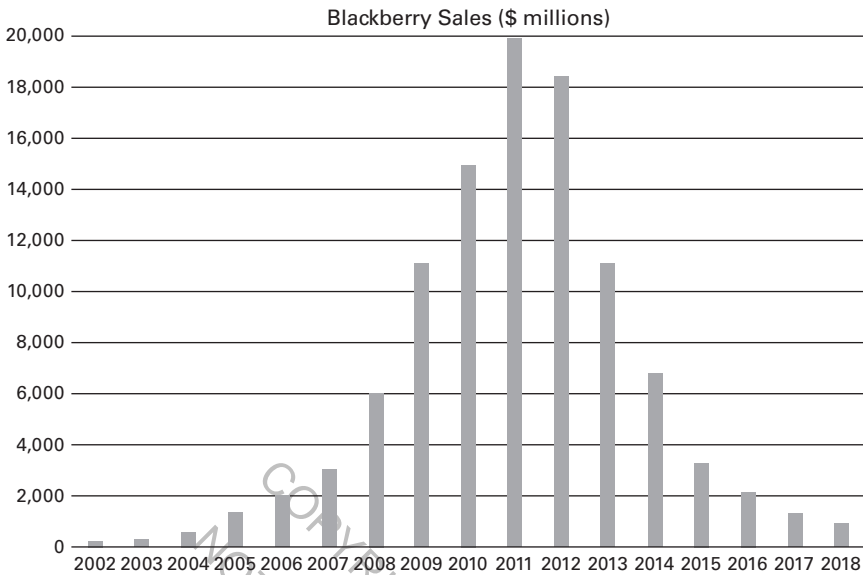
### *Avoiding the Wile E Coyote effect*

One of the challenges inherent in digital disruption is that by the time it becomes widely evident that your business is being disrupted it is often already too late to do anything meaningful about it. Analyst Benedict Evans has described this as the ‘Wile E Coyote effect’ – the problem of lagging indicators and how headline metrics that companies often focus on tend to be the last ones to start slowing down. This can ultimately mean that at the point when it is most critical for an incumbent to innovate, everything can still look pretty good for that business and the leadership sees no reason to change trajectory. This is, however, precisely the time when a new technology or model enters the market and starts to rapidly erode the dominance of the existing model. Hence the Wile E Coyote effect:

you’ve run off the cliff, but you’re not falling, and everything seems fine. But by the time you start falling, it’s too late<sup>8</sup>

Ben points at ex-Apple executive Michael Mace’s analysis of Blackberry, written just at the point of their collapse. Mace noted at the time that Blackberry’s market was saturating, they had seemingly lost the ability to create great products, and were drifting into a situation where they could not afford the investments needed to succeed in the future (a line that is easily crossed and very difficult to rectify).<sup>9</sup> The history of failed computer platforms, he says, tells us that the early symptoms of decline are typically very subtle and easily rationalized away by executives. Like Wile E Coyote, by the time the symptoms become obvious, you’re hanging in mid-air with nothing beneath you:

Nokia and Blackberry were skating to where the puck was going to be, and felt nice and fast and in control, while Apple and Google were melting the ice rink and switching the game to water-skiing.<sup>10</sup>

FIGURE 1 Blackberry sales (US \$ millions)<sup>11</sup>

In Ernest Hemingway's 1926 novel *The Sun Also Rises* the character Mike Campbell is asked about his money troubles:

'How did you go bankrupt?' Bill asked.

'Two ways,' Mike said. 'Gradually and then suddenly.'<sup>12</sup>

The point is that disruption is the same. When it begins you don't necessarily notice it because all your leading indicators are still pointing in the same direction, but then it can happen very quickly.

Tracking simple measures such as revenue over time can hide the real picture of what is about to happen. Mace, for example, writes about how the key symptoms to watch are small declines in two key metrics: the rate of growth of sales, and gross profit per unit sold (gross margins). As products move through the traditional diffusion curve from early adopters, through early and late majority to late adopters, pricing incentives may well be used to help boost sales and growth.

In the early stages as the product moves from innovators to early adopters, for example, we may introduce a pricing incentive to accelerate growth. Then as we reach the transition from early adopters to early majority we may cut prices in order to enter the mainstream. As the technology matures and the middle portion of this curve gets consumed the company may intro-

duce another price incentive, perhaps to hit short-term sales targets, and this may still act to boost sales and so lead to the belief that the product is truly hitting the mainstream. Yet without realizing it (and bearing in mind that the market for any given product is finite), rather than reaching the real mainstream market you are instead consuming the late adopters. This, in effect means that you can then fall off the cliff:

Companies tend to assume that because the adoption curve is drawn as a smooth-sided bell, your demand will tail off at the end as gradually as it built up in the beginning. But that isn't how it works.<sup>13</sup>

It may take a good deal of time and effort in the early stages to build up momentum, but as the technology or product matures and you begin to saturate your market the momentum you have built up through well-optimized brand, marketing and distribution means that you 'gulp' through the late adopters rapidly and sales continue to grow until they suddenly drop. Hence the Wile E Coyote effect.

In this scenario, gross margin has declined over time but sales may still improve until they drop very quickly. The key then, is to tack a broader set of metrics to enable a more rounded picture, and to be adept at recognizing those early signals and be prepared to reorient the organization towards experimentation rather than simply efficiency.

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## CASE STUDY

### *Kodak and Fujifilm*

Kodak is one of those totem exemplars of digital disruption, often characterized as a business whose leaders ignored or failed to recognize the impending developments in (and implications of) digital technology. Yet the reality is far more nuanced and enlightening.

Famously, it was Steven Sasson, an engineer who worked for Kodak, who invented digital photography and made the first digital camera in 1975. Management were, it seems, initially sceptical about the early prototype. But as Willy Shih a former Kodak staffer noted, when the technology began to develop further and gain scale Kodak management were very aware of the encroachment of digital and continuously tracked the rate at which digital was replacing film.<sup>14</sup> The disruption, however, brought challenges on multiple fronts which, rather than catalysing change, contributed to inertia. Most notably:

- Making film was an enormously complex manufacturing process meaning that barriers to entry were high, competition limited. In short, it was characterized by scarcity.
- Digital imaging on the other hand, based on general-purpose semiconductor technology that had its own scale and learning curves but also broad applicability, had commoditized the market and had far fewer barriers to entry.
- The technology was well outside Kodak's core capability, making it difficult to compete and to offer something distinctive.
- The modularity of digital cameras meant that you no longer needed highly specialized skills and experience. Modularization commoditizes – any engineer could put one together with component parts.
- A large incumbent business like Kodak had invested over time in manufacturing and distribution efficiencies and benefited from economies of scale – when sales and production decline, those benefits matter less, and many of the gains that you could once capitalize on work against you as volumes decline.
- The problem of declining scale and securing sufficient shelf space through its retail distribution network was exacerbated since, in Kodak's case, the cause wasn't new competitors – the entire category was disappearing.
- Management didn't talk about the issues publicly for fear of making it a self-fulfilling prophecy but Kodak was caught – it couldn't abandon billions of dollars of profits when it didn't have any new products to capture demand.
- Kodak's entire ecosystem that had been built over decades was one that only supported film-based photography (retail partners made large profits from photo finishing, for example, which brought customers in-store multiple times). As these advantages reduced, management underappreciated the rapidity of the decline in photo printing, and retailers became less loyal to the Kodak brand.
- Kodak did actually have a separate division (unconstrained by legacy approaches) that was established to explore and develop the digital opportunity. This did see some success, achieving a good share position in digital cameras, only then to be consumed in the tsunami of smartphones with built-in cameras.
- Kodak experienced great difficulty in managing the complex (and emotionally charged) people issues surrounding a business in decline – thousands of staff who knew that they were managing decline but struggling with transferable skills, managers fighting for control of diminishing resources, or feeling entitled to be reassigned, which fuelled internal politics and strife.

Kodak faced huge challenges on multiple fronts – competitive, category, operational and ecosystem – but it is too simplistic to say that its downturn to eventual bankruptcy protection was solely down to its inability to recognize that digital was coming. Yes, Kodak failed to look ahead and anticipate the level and type of impact that the next wave of technology (and its application) would have. But along the way, there was a litany of compounding factors that made change difficult, and which are instructive for any legacy business.

Large businesses need to retain the capacity for bold thinking and a willingness to reinvent, even if that means that you will be misunderstood. As Jeff Bezos of Amazon once said:

A big piece of the story we tell ourselves about who we are, is that we are willing to invent. We are willing to think long-term. We start with the customer and work backwards. And, very importantly, we are willing to be misunderstood for very long periods of time. I believe if you don't have that set of things in your corporate culture, then you can't do large-scale invention.<sup>15</sup>

Kodak is the classic case study of a large business getting stuck. In his account of the decline, Willy Shih says that, in hindsight, one approach that Kodak might have taken would be to refocus the business to compete on capabilities rather than on the markets it was in.<sup>16</sup> This kind of thinking is helpful in that it might allow the business to apply its skills and knowledge in different ways to explore new value, but also to challenge the kind of toxic assumptions that Kodak fell victim to.

The story of how Fujifilm responded to exactly the same challenges that Kodak faced is a stark contrast to this. Like Kodak, digital technology presented an existential threat to Fujifilm's core business and advantage. Under Shigetaka Komori and Kenji Sukeno, the leadership team recognized early on that demand for conventional film was going to disappear within a decade and so they focused on how the company might apply its technical expertise that had been garnered over decades in completely new ways. They began with an inventory check of Fujifilm's technological expertise and considered multiple options for how they might reapply and leverage that capability before deciding to build two separate but connected businesses in life sciences and cosmetics.

Moving into beauty products was no small leap for the company but management realized that their knowledge of collagen, the material that is used to stop film from deteriorating and fading, could be used to create an anti-aging skincare product line that they called Astalift. With pharmaceuticals, they realized that alongside realigning their technical expertise they would need to acquire an entirely new customer base and so they acquired Toyama Chemical, a poorly performing mid-sized drugs manufacturer, to help accelerate their capability. They



then built on this acquisition by improving the efficiency of the plants and launching new drugs to combat influenza and Ebola. Alongside beauty and pharma, the company also started producing computer storage devices and printing hardware.

This radical diversification helped to not only cushion the impact of falling film sales but maintained their profitability. The transition was not without its difficulties. Along the way they cut costs by over US \$500 million, shut down manufacturing facilities and had to sacrifice 5,000 jobs.

Healthcare and cosmetics are now Fujifilm's most profitable divisions, yet the company hasn't forgotten its heritage, nor the photography culture that came with it, and it still produces film even though it contributes less than 1 per cent of the company's profits. In 2012, the year that Kodak filed for Chapter 11 bankruptcy protection, Fujifilm's diversified revenues were more than US \$21.4 billion. That same year the company re-launched the Instax mini camera, recognizing that not everything is digital, and now sells millions of Instax cameras worldwide.

A key task of the leadership was bringing their people on the journey with them and encouraging a more open and transparent approach to creating value rather than the closed, protective approach that had characterized filmmaking. They realized that they needed to become far more attuned to the needs of their potential customers and how they might solve their problems. Fujifilm have built three open innovation hubs to support this continuing diversification and creation of new value. As company president Kenji Sukeno said more recently of the story that he told to people in the business:

What I suggested was that we open Fujifilm's technical capability to the world, so that the world can look at it and then come to us saying, 'If we combine Fujifilm's technology and our technology, we can come up with this particular solution'. This is what I suggested to them.<sup>17</sup>

Fujifilm's story provides an excellent counterpoint to that of Kodak. Fujifilm was willing to think big, to be bold about setting a new direction and then invest in taking the company firmly in that direction. Kodak got stuck. Fujifilm didn't.

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### *The nuance of radical change*

Many things around us are changing quite profoundly, and faster than ever before. But not everything changes. In order to make smarter decisions about the response to change and avoid becoming overly distracted or tactical in chasing the latest new shiny technology with questionable value, we need to understand both what is changing and what is not.

As Jeff Bezos once said:

I very frequently get the question: ‘What’s going to change in the next 10 years?’ And that is a very interesting question; it’s a very common one. I almost never get the question: ‘What’s not going to change in the next 10 years?’ And I submit to you that that second question is actually the more important of the two – because you can build a business strategy around the things that are stable in time.<sup>18</sup>

Bezos talks about how fundamental customer needs like access to a great product range, good value, cheap prices and fast delivery remain constant. Fundamental needs change slowly, if at all. So that affords the opportunity to invest energy and focus in areas that you know will pay dividends over the long term. Essential elements like these should be the guiding North Star for any business.

Yet the way in which we may deliver to these fundamental needs has been affected by rapid and dramatic change, so let’s be clear about these changes are and what they mean.

#### CAPABILITY ACCESS

The democratization and widespread availability of new and potentially transformational enterprise and automation services and means that even the smallest startup now has access to scaled capability that was once only the domain of large, well-funded businesses. Barriers to entry have been vastly reduced. For example, with the right approach any business regardless of scale can access some of the best digital infrastructure technology, analytics tools and open-source machine learning capability currently available (simple examples include the suite of services available via Amazon Web Services and Google Tensorflow).

This radical democratization and proliferation of digital technology infrastructure enables early-stage businesses to combine the nimbleness and adaptiveness of a smaller company with the scaled capabilities of a much larger one. The impact has been compounded as the adoption rate for each wave of new infrastructure technologies has become ever faster, and this has been amplified by increasing economic liberalization and globalization. Economic activity can now be effectively coordinated at global scale in far more cost-efficient ways enabling more rapid scaling within and across markets.

#### ACCESS TO KNOWLEDGE AND EXPERTISE

The democratization of information has fundamentally changed the value dynamic. The value of specialist expertise has not diminished but when we can find the answer to pretty much any question on Google, and harness internal and external expertise more easily than ever (and even access some of the best teaching online for free, like courses from Stanford University), advantage shifts from being focused on the stocks of knowledge that we have built up in the business over time to being more about the flow of ideas and knowledge, how we apply it, and what we choose to do with it.

The democratization of information has led to far more empowered consumers, changing the dynamic between company and customer forever. Greater transparency in pricing, brand provenance, company culture and peer review has led to new margin and reputation pressures and broken down the information asymmetry between organizations, their customers and employees.

#### DATA

An elemental part of this shift in the information dynamic is, of course, the ability to access, filter and utilize the wealth of data that are now being continually generated. This is clearly not new news but businesses need to get better at extracting value from data by structuring good quality data, interpreting patterns and meaning, and originating processes that can execute against actionable insights quickly. And we've yet to scratch the surface of how machine learning will take this to a completely different level. Gartner's model for maturity in data analytics represents this as a progression of value from basic descriptive analytics (what happened) to diagnostic analytics (in which we understand why it happened), to predictive analytics (where we can predict what will happen), and eventually to prescriptive analytics (understanding how we can actually make it happen).

#### NETWORKED VALUE AND CONNECTIVITY

With the explosion in the connection of things and people, network dynamics have changed some fundamental ways in which we think about value creation. This is writ large in a diverse set of impacts from the development of platform business models and ecosystems that have changed competitive dynamics considerably in some sectors, an exponential growth in the flow of data through APIs, the operational efficiency gains that can be derived from connected machines, the rapidity in which ideas and content can spread

through networks, the eroding of traditional barriers like geographical borders and market boundaries, and the ease with which collaboration can happen.

#### LOWERING TRANSACTION COSTS

Digital has completely changed the cost dynamic in many areas of value chains, reducing key elements of some chains to zero marginal cost and enabling dramatic changes in efficiency and new entrants to compete at relative scale from a small base. The concept of value chains, originated by Michael Porter in the 1980s, has long been a way to express the set of activities undertaken by a business to deliver value to market in the form of a product or service. Competitive advantage comes from the sum or the average of its transaction costs across the string of components that make up the value chain, and the ability of the company to lower transaction costs through standardization and improvements in efficiency. New digital infrastructures and technologies have enabled dramatic changes in cost efficiency and differentiation to the extent that it has resulted in the rewiring of entire value chains, not only changing competitive dynamics but opening up markets to wholly new types of competitors. Growing automation will continue to generate significant opportunity in this way.

#### THE SHIFT FROM PRODUCTS TO SERVICES

As connection between people, objects and machines becomes ubiquitous, and digital technologies are integrated into an ever-increasing number of products in new and ingenious ways, more and more products are becoming services – characterized by connection, continual iteration and improvement, enhanced propositions and deepening relationships over time. So we have the Tesla car that improves its performance over time as its software continually updates. We have digitally connected thermostats and door locks that enable you to control your home remotely. And we have connected toothbrushes that as well as telling you how to brush better give you discounts on dental insurance when you do. In a relatively short space of time we have had a proliferation of ‘as a service’ offerings in everything from software, manufacturing, shopping, transportation, content, health and education.

For organizations this presents both opportunity in the form of the advantage that can come from exceptional customer experience combined with dramatically lowered transaction costs, but also significant challenge for businesses not well practised in service design and innovation. Now product/service improvement is continuous rather than episodic. Fixes and

enhancements are continuous and frequent, requiring a different rhythm to the business. The role of data, analytics, customer experience and content become a key differentiator, but this also runs alongside continually increasing customer expectation, the need for ongoing adaptability and greater responsiveness in direct to consumer relationships and supply chain, shortened cycles and more transient advantage, new aggregation possibilities, and greater risk shifting to the value generation rather than consumption side.

A succession of industries from retail, entertainment and media to now banking, insurance, education, automotive, logistics, and even consumer packaged goods are being disrupted by new market entrants, new customer relationship dynamics, and nimble, digitally focused propositions. For incumbents the danger of being disintermediated (where market intermediaries are usurped or replaced) or 'unbundled' (where a multiplicity of smaller, nimble competitors attacks a product or service portfolio) has never been greater.

For many, the threat of 'horizontal innovation', or the rapid entrance and scaling of new, digital-native players into the market looms large, making it hard to see where your next competitor is going to come from. The potential for technologically adept and nimble young and not so young (Amazon was launched in 1994) businesses reconfiguring a market through software and then reapplying their capabilities horizontally by moving into entirely new markets is very real. The development of new digital infrastructure and highly adaptive ways of working enables them to move fast and scale fast.

#### SCALING DYNAMICS

Digital networks have brought with them a dramatic shift in scalability that gives individual people access to a global market, small teams the ability to originate and scale transformational ideas, and businesses with finite resources to have disproportionate impact. Pre-digital, for example, it would potentially have taken decades for a business to expand to a global scale yet in a little over six years Netflix was able to complete an international expansion that has taken them into no fewer than 190 countries worldwide.<sup>19</sup> At the same time ease of access to global markets, global talent and capability has transformed approaches to outsourcing and talent networks enabling far greater scalability and flexibility in resourcing.

Ray Kurzweil used the phrase the 'second half of the chessboard' to describe how exponentially growing factors can significantly impact business strategy. The 'wheat and chessboard problem' is a mathematical problem based on identifying the total number of grains of wheat that you would end up with if

you were to place one grain of wheat on the first square and double it every subsequent square on the board. The story is often told of how the inventor of chess (who some say was an ancient Indian minister) requested that his ruler give him wheat according to this rule as a reward for his invention. The ruler scoffed at this apparent meagre reward, until his court treasurers came to him and said that there was not enough wheat in the kingdom to fulfil the request. This is because the number of grains rises exponentially. For the first half of the board the total number is large but manageable, at 4,294,967,295 grains, or around 279 tonnes of wheat. The numbers in the second half rapidly become too vast to manage. And by the time you'd finished the entire chessboard would have 18,446,744,073,709,551,615 grains of wheat, equivalent to about 1,199,000,000,000 metric tonnes. To give some context, that is over one and half thousand times as big as the total global wheat production in a year.<sup>20</sup>

Not everything that digital enables becomes exponential, of course, but network effects and compounding loops have the potential to bring very different scaling dynamics to bear in critical areas.

#### CUSTOMER EXPECTATION

Whilst some areas of consumer behaviour are changing rapidly, more fundamental needs are arguably not. But customer expectation is changing fast and changing all the time. Services like Lemonade Insurance, Monzo, Revolut, Netflix, Uber and Amazon set a new bar for customer experience that raises customer expectation (not only in category but more broadly across sectors) for how easy to use and convenient services should really be.

In spite of the promise of technology to simplify, the reality is that technology also creates growing interdependencies and challenges with competing ecosystems that can result in poor interoperability and unnecessary friction. In spite of there being more insight and data available than ever into customer's needs, wants and frustrations, many customer journeys are broken and many interactions designed around the needs of the business rather than the end user.

This continuously rising benchmark for customer experience creates a significant challenge to businesses that are not able to operate in adaptive, customer-centric ways, but also significant advantage for those that can deliver well and use raised expectation as a catalyst for innovation. Jeff Bezos (in his 2018 annual letter to shareholders) said:

One thing I love about customers is that they are divinely discontent. Their expectations are never static – they go up. It's human nature.<sup>21</sup>

Bezos describes how the cycle of improvement required to serve customer appetite for better solutions is happening faster than ever, but the phrase ‘divinely discontent’ demonstrates how the real opportunity is to use continually rising customer expectation to challenge your teams to do it better or do it differently.

As we’ll go on to discuss, digital is, of course, exceptionally adept at rewriting the rules of competitive advantage but when rapid disruption can come from anywhere, markets and environments are becoming increasingly unpredictable, and disintermediation is happening quicker than ever before, we need to reimagine our response and reorientate our organizations towards a new and consistently higher level of organizational agility.

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## CASE STUDY

### *Digitally native vertical brands (DNVBs)*

The rise of so-called ‘digitally native vertical brands’ or DNVBs has demonstrated how nimble digital-native startups can gain a foothold in a market and then scale rapidly by reducing transaction costs, leveraging scaled digital infrastructure to sell direct to consumers, and changing the way that physical products are sold across multiple markets.

DNVBs like Dollar Shave Club, which Unilever bought in 2016 for a reported US \$1 billion in cash, and This is L, one of the fastest growing feminine care brands in the United States, which Procter & Gamble bought in 2019,<sup>22</sup> have scaled rapidly with direct-to-consumer propositions empowered by digital that have disintermediated retailers.

A plethora of other direct-to-consumers such as Glossier Cosmetics, Warby Parker glasses, Eve and Casper Mattresses, Everlane Fashion and Beam dental are all similarly creating a significant foothold in a succession of markets by not only specializing in doing one thing well, but also by leveraging e-commerce infrastructure platforms like Shopify, developing consumer relationships based on subscription, exceptional customer experience, content and data. Andy Dunn, founder of direct-to-consumer clothing brand Bonobos, has defined the key characteristics of DNVBs as:

- 1 The primary means of interacting, transacting, and storytelling to consumers is via the web. The brand is born of the internet.
- 2 The brand is targeted squarely at younger audiences, digital-natives, millennials.
- 3 The brand is ‘maniacally focused on customer experience, driving greater brand intimacy, supported by direct-to-consumer relationships and data.

- 4 DNVBs are vertical brands in that they do one thing really well and the name of the brand features on both the product and the website.
- 5 DNVBs are startups, with higher potential margins than general e-commerce operations.

DNVBs are able to capitalize on lower transaction costs, higher margins, and a brand that is immersed in the digital world.

Whilst these direct-to-consumer brands still represent only a small portion of the overall market share they are growing quickly, have shown how quickly a market can be reshaped by new models, and are developing in some interesting ways. A study by IRI market research, which analysed 90 goods categories, found that startup brands account for only 2 per cent of current market share across 45 product types that have been disrupted between 2012 and 2016. But it was also notable that these brands captured a quarter of the market growth in that time and many long-standing brands are feeling the squeeze. Dollar Shave Club, for example, acquired an 8 per cent share of the US shaving market by 2018, and whilst Gillette once commanded a 70 per cent share of the same market, by 2017 this had dropped to below 50 per cent.<sup>23</sup> Another study by Accenture found that the market share of large CPG firms in the United States has declined by 2.7 per cent since 2011, with growth of only 3 per cent compared to the 49 per cent growth of small CPG businesses.<sup>24</sup>

As they mature, these direct-to-consumer brands are capitalizing on accessible venture capital, vertical integration and nimble supply chains, and increasingly moving into bricks-and-mortar retail. Notable commercial real estate business JLL has forecast that DNVBs will open 850 stores in the next five years in the United States.<sup>25</sup>

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### *Responding to unpredictability*

It is clear that organizations need to recognize the multiple sources of disruption in the modern climate but also to consider how they can shape their organizations to be more adept at responding to it when it happens or even before it happens. Increasingly, it's useful to think about the impact of change in terms of heightened unpredictability, and the ability of businesses to be responsive to rapidly changing contexts and to reorient themselves to becoming far better at fast adaptation.

If you can't easily predict how market, competitive and consumer dynamics will change in a world where some of them may change quickly and at scale, then the organization needs to always be exploring, learning and inventing. This means evolving structures, strategies, processes and culture



towards enabling continual reinvention of value. The reality, however, is that most businesses are still structured and organized for a very different world.

It was notable that the IBM C-Suite study,<sup>26</sup> discussed earlier in this book, found that the most successful businesses that were part of the study were those that weren't waiting for disruption to hit before making change happen:

The organizations that are prospering aren't lying in wait to time the next inflection point – the moment when a new technology, business model or means of production really takes off. Remaking the enterprise, they recognize, isn't a matter of timing but of continuity. What's required, now more than ever, is the fortitude for perpetual reinvention. It's a matter of seeking and championing change even when the status quo happens to be working quite well.<sup>27</sup>

Cluster analysis of the research outputs led IBM to categorize three main types of organization according to where they were on their journey towards reinvention:

- **Reinventors:** 27 per cent of the total, these are the standout businesses that are successfully re-engineering their businesses to lead the way in innovation and disruption and outperforming their peers in revenue growth and profitability.
- **Practitioners:** 37 per cent of the total, this represented those businesses with big ambitions (notably to take on more risk or to launch new business models) but yet to develop the real capability to bring those ambitions to life.
- **Aspirationals:** comprising 36 per cent of the total, these organizations still have some way to go in their digital journey and in changing their companies to be able to move rapidly to adapt or capitalize on new opportunities.

Looking at those organizations that are more advanced on the journey to reinvention and the incumbents that are successfully leading disruption there were some consistent attributes. IBM classifies a range of factors that separate the 'reinventors' from the 'practitioners' and the 'aspirationals', most notably:

- continuous adaptation and the ability to evolve rapidly alongside a well-defined strategy to manage disruption;
- strong alignment between IT and business strategy in order to deliver the technology infrastructure and foundation to optimize business processes and support new strategies;

- redirection of resources towards deriving new scaled value from ecosystems and networks of partners, a willingness to explore opportunities for co-creation with partners and customers;
- an ability to derive exceptional value from data and analytics to inform business strategy, to support prototyping and fast feedback loops, to successfully iterate innovative products and services, and to build compelling customer experiences;
- investment in and attention to developing people and leadership skills, structures and culture to support and empower greater experimentation and adaptiveness.

These ‘reinventors’ are demonstrating the way in which incumbent organizations can not only learn but apply that learning to adapt capabilities, structures and ways of working to the new environment.

### *The future of disruption: solving the big problems*

As the sources of disruption broaden, so the types of disruption are evolving too. With new waves of technological capability and application such as machine learning, the ‘internet of things’ and predictive analytics becoming increasingly democratized and widespread, they are enabling a new generation of challenges to be addressed. We are, as renowned analyst Ben Evans of venture capitalist firm Andreessen Horowitz has eloquently described it, reaching ‘the end of the beginning’ of digital disruption.<sup>28</sup>

Evans has pointed out that three-quarters of the people in the world are now digitally connected and the rest will follow, meaning that the ‘access story’ of the internet age is approaching its end but instead the ‘use story’ is just beginning. The first 20 years of the internet has largely been about comparatively easier, albeit disruptive, jobs that digital has enabled us to do based on aggregation, information arbitrage, comparison and new routes to market. As connection between people and things becomes truly ubiquitous the nature of disruption moves from reimagining the easier, more obvious areas towards harder and larger markets, opportunities and problem areas.

So rather than it being about transport information, ticketing and services it becomes about self-driving cars and infrastructure. Rather than it being about financial services, transactions and payments it becomes about cryptocurrency and the nature of money itself. Rather than it being about e-commerce and digital sales it becomes about logistics, consumer enablement and a much larger slice of total consumer spending. As Evans says:

Tech is building different kinds of businesses, and so will take different shares of that opportunity, but more importantly change what those industries look like.

Tesla isn't interesting because of what it does to gasoline, but because of what it does to the car. Netflix changes TV, but so does Twitch.<sup>29</sup>

As connected, electric vehicles become the norm, for example, they can repair themselves, recharge and even improve performance remotely, removing the need for petrol stations, car maintenance and parts.

The point is that digital disruption will not stop. The next wave will remake industries and markets all over again as digital solves these larger problems and results in even bigger change. Just as the first wave of disruption and innovation was catalysed by the open, decentralized, permissionless and networked nature of the internet, so technologies such as machine learning and crypto will provide new permissionless layers that will support fundamentally new ways to create value.

### *The changing nature of advantage*

Given the evolving nature of digital disruption and the continuing heightened unpredictability that it brings, it has never been more important for organizational strategy and capability to be adaptive to changing contexts. Yet still much corporate strategy remains unchanged and inflexible.

In 2014 Boston Consulting revisited their renowned growth share matrix, which famously maps a portfolio of products or services on a two-by-two matrix against growth and share, generating the categorizations of 'Cash Cows', 'Problem Children' (or question marks), 'Stars' and 'Dogs'.<sup>30</sup> This matrix has been a centrepiece of business school teaching since BCG founder Bruce Henderson originated it over 40 years ago, as a way to understand how companies could make sensible investment decisions based on sustainable returns, cost-efficiencies and growth potential that could lead to sustainable advantage.

The updated research mapped every US listed company to a quadrant on the matrix and found some fundamental ways in which it had changed. Comparing two five-year periods from 2008 to 2012 and 1988 to 1992, BCG found that companies in 75 per cent of industries were circulating far faster through the quadrants, and that the share of total profits that were captured by cash cows had declined by 25 per cent over 30 years. Cash cows were fewer, and their lifespan had dropped (by up to 55 per cent in some industries).

As rates of change have increased, the time between innovation and adoption has declined and margin volatility has gone up meaning that businesses need to constantly renew their advantage and improve the responsiveness and speed with which they shift resources amongst products, services and business units. The ability to rapidly adapt to and shape changing contexts has become a new driver of advantage. BCG's recommendation out of the research was for much greater focus on systematic (rather than episodic) experimentation to originate and rapidly develop a succession of promising new propositions.

This focus on constant renewal has been expressed by Columbia Business School professor Rita Gunther McGrath (in *The End of Competitive Advantage*<sup>31</sup>) as the shift from exploiting long-term, sustainable advantage to the ability to generate a series of transient competitive advantages that combine to maintain long-term positional and competitive benefit. Her analysis, based on looking at companies with a significant market capitalization that had outperformed over a 10-year period, revealed some specific characteristics that had enabled the standout businesses to exceed their competitor's performance over that extended period.

Most notable amongst these were the ability to continuously reconfigure operations, structures, talent and methods of execution whilst still maintaining stability in overall vision. The outliers were also adept at learning and systematically and frequently disengaging from advantages rather than clinging on to outmoded ones. They had an exceptional ability to manage resources in more fluid ways, overcome cross-functional politics and rapidly organize resources around new opportunities. They had established governance and budgeting processes to embed continuous and systematic innovation and experimentation, and balance resource allocation better across core capabilities, growth opportunities and entirely new propositions. They had leadership that enabled talent to be oriented rapidly around merging opportunity.

For too long we have largely seen strategy and innovation as separate competencies and areas of focus. Corporate strategy has become inflexible, often poorly articulated, and slow to respond to rapidly changing contexts. Innovation has become episodic, often poorly executed or scaled, and separated from the key functions of the business. If continuous innovation is to become a core capability of the business we need far better ways to systematically and perpetually originate, commercialize and scale new concepts and propositions. We need far greater fluidity around how we allocate resourcing to be able to scale up and scale down rapidly as the need dictates.

We need the cultures and the mindset that can support continual but productive change, focused flexibility and adaptability and learning.

### *Changing the way that we work*

Generating advantage from new technologies requires new ways of thinking and operating so that we might truly capitalize on the potential that they can deliver. Too often we look at the new through the lens of the old and misappropriate old thinking onto new technology paradigms. Too often we focus on applying new technologies to existing operating challenges, processes or methods without rethinking how we might need to fundamentally redesign the way in which we need to work.

One of the greatest lessons in how we can misappropriate new technologies and fail to capitalize on their transformational potential comes from the introduction of electricity to factories and manufacturing in the 19th century. Thomas Edison, credited for inventing the phonograph, the light bulb, the motion picture camera amongst many other innovations, was also responsible for patenting a system for electricity distribution. Yet despite Edison building the first electricity generating stations in 1882 and the first electric motors driving manufacturing machinery not long after that, 20 years later the vast majority of mechanical drive power in US factories still came from steam. This power came from a single, huge steam engine that typically turned a massive drive shaft that, in turn, powered a succession of subsidiary shafts, belts, hammers and presses. Factories were cacophonous, dangerous places to work, but the configuration, layout and organization of the factory was entirely driven by access to the shaft and the centralized steam-driven power source.

When electrification first came to factories, engineers simply replaced the big steam engines with big electric motors. But managers were disappointed with the level of productivity gain. In fact it took 20 to 30 years before significant benefits were seen.

Factory owners and managers failed to take advantage of the true potential of this new power source because they made the mistake of viewing the new through the lens of the old. Electricity enabled power to be delivered efficiently to wherever it was needed, meaning that instead of one huge, centralized source powering everything, manufacturers could establish and maintain many smaller electric motors that could deliver localized power for localized needs.

This changed everything. As the economist Tim Harford notes:

Steam-powered factories had to be arranged on the logic of the driveshaft. Electricity meant you could organize factories on the logic of a production line.<sup>32</sup>

The full potential of electrification could be realized only when entire working practices and processes were changed. The configuration of factories no longer needed to be organized around that centralized power source but could be far more decentralized and spread out. Economist Paul David has described how electrification made more lightly constructed, single-storey, linear factory layouts possible, within which machine placement could be configured in such a way to permit a far more rapid and reliable flow of materials through the plant.<sup>33</sup>

This meant that machines could be reoriented around the flow of materials rather than the flow of power, and only switched on when they were needed, so the pace of production could be set by the workers rather than the power source.

New ideas about manufacturing processes (like the automated production line) emerged as a result and became more widespread. But it wasn't just the architecture and production process that changed. This greater autonomy for workers changed the way that they were paid, recruited and trained, and the focus shifted towards quality of skills. There was resistance to change, of course, but as mains electricity became cheaper and more widespread change became inevitable. The previously unrealized productivity gains were achieved and exceeded but whilst the technology had now been around for 50 years, it was only when manufacturers implemented more fundamental changes in thinking, ways of organizing and working that the real potential became clear.

There is a stark parallel here with modern day digital transformation. In my first book, *Building the Agile Business Through Digital Transformation*,<sup>34</sup> we defined digital transformation as 'the transformation and reinvention of the resources, priorities and processes of a company in order to be fit for purpose in a digital-empowered world'. This definition is inspired by Clay Christensen who framed an organization's capabilities (what it can and cannot do) through those three broad areas: Resources (tangible ones like buildings and headcount, intangible ones like brands and IP); Priorities (the consensus on what's right to do, the values and the strategy); Processes (the formal or informal way in which the work gets done). As Christensen says, these aspects are mutually exclusive in that a part of a business cannot fit into more than one of the categories, but are also collectively exhaustive (put together the three categories account for everything inside of the business).

Digital technologies have been with us for years, but it is only through a fundamental reorientation of these elemental capabilities that the true potential can be realized.

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