01 Business in the age of disruption

'I wouldn't start from here'

There is a tale about a man who, lost in the deepest country lanes of rural Ireland, approaches a passer-by herding sheep along the single-track lane. Winding down the window, the man asks for directions to Dublin. The local takes a long deep breath and thinks long and hard before replying, 'Well sir, if I were you, I wouldn't start from here'.

It's not the best joke, but it's a reasonable metaphor for business today. When faced with the winds of change, many of us are unstable, saddled with a legacy of what were well-intentioned and reasonable decisions but which now, in retrospect, feel unwise. This resulting cumulative effect means many businesses are simply not fit to compete with other younger companies today. With no clear sign of a path ahead, I wonder how many businesses wish they could start from somewhere else?

Companies, like people, are manifestations of all the decisions ever made. They are the result of years of accumulating people, acquiring businesses, inheriting assets, systems, cultures. For many years the pace of change was sufficiently slow that these lumbering beasts could adapt over time. Leaders would construct new units, managers would start new initiatives, change could be bolted on. Yet three things have happened.

The world has changed

As a species, human beings are designed to live in a world that is local and linear; yet the pace of change has increased, change is now global and exponential, yet companies are largely the same. The world appears to change more drastically and more quickly than ever, and in many ways that pace of change is accelerating. At the same time, the ability of many companies to change and adapt has not speeded up. So many companies are not agile enough to reconfigure, re-engineer or otherwise change as quickly as consumer expectations and the business environment demand, or as fast as their competitors can.

Secondly, the advantages of size have slowly crumbled. Big companies have forever leveraged huge advantages over smaller companies. They could negotiate vast discounts on costs of goods, they could leverage their position to gain distribution, they could spend vast sums on advertising, attract the best staff, borrow money whenever needed. The internet and changing business dynamics now mean that slowly many of the benefits of being large are being wiped out. In fact, increasingly, what once made companies powerful, like ownership of assets, expertise, large workforces, historical brands, are to some extent becoming liabilities and make change harder.

Thirdly, we've seen thrusting insurgent companies built for the modern age change the market. We've observed the rise of companies that have ignored all known wisdom. They have built themselves with the latest technology at their core, they have skirted round or ignored prior regulations and bent the rules. They are constructed on new economic principles and counter-intuitive business models that have treated legal and societal responsibility as externalities. These companies often have lower operating costs, scale fast, and have often removed value from entire markets. Experience has always been seen as a good thing, yet now it is those companies built most recently, with the latest technology embedded deeply at the very core of their business, that seem to offer the best structure for growth in the future.

It's these three changes – rapid global change, the irrelevance of size, and the rise of insurgent companies – above all else that now make life different. They mean that companies have to think hard, be bold and challenge themselves. In this chapter I want to introduce the main concepts of *Digital Darwinism* business transformation, and the need to address change in the world. I want to get businesses to start asking the right questions: the hard, existential ones. This chapter is about understanding the context and reason for change, while providing a wider foundation for concepts that I build on in later chapters.

It's time to ask the hard questions

The most profound and the very best questions we never dare to ask are: what would your business look like if it was created today? What would it do? How would it do it? How would it make money? What would you still have done and what would you never have created? These are questions about your company's very existence, best posed in a holiday home in a foreign land, or staring out of the train window, well removed from the realities of day-to-day working.

If your answer is that your business would be exactly the same if set up today, then either you are not thinking hard enough, or you've set up your company this weekend, or most worryingly, you are ignorant of many of the changes in the world and what is now possible.

The answers will most likely be annoying. You probably feel irritated now. You may feel a little judged and misunderstood and don't like the tone I am using. Your department or business has probably worked extremely hard to weather change, to adapt incrementally, and to create a sensible balance between modernization and capital expenditure. More than likely it's not perfectly placed for today's world, but not so badly placed that people are enduring sleepless nights. It's likely that it's in a worse place for the future, but that's not something that people think about a lot.

Your company probably never really had a 10-year plan. It's mission statement is probably one that kept everyone happy, not one that was surgically focused and empowering. Your company is unlikely to have done future planning to see change coming and build for it. Your company is likely to be the best that could be done, given modern realities.

Most companies are like the tax code or Heathrow Airport. They are the aggregation of countless alterations, additions, patches and workarounds that have accumulated over years. Each incremental change is based on sound thinking and the realities of each moment and each one allows the business to just about work. Yet the UK tax code is 17,000 pages long; Heathrow is a mess and in the wrong place. Both would be far better if they could be started again.

The next question to ask is: can you carry on like this? At what point in size or inefficiency does it make sense to go back to the drawing board? Your business may be able to function each day, but for how long will that be the case? We know deep down that, one day, Heathrow won't exist, that car makers will need to make electric cars, that many retailers will need more efficient mechanisms to supply direct online. We know that TV companies will have to change at some point, that banks can't carry on as they are. Advertising and marketing will one day have to rethink its structure, as will energy or tobacco companies, but for how long can they resist? There are of course some sectors that may not face great change: mining, timber, farming, water provision will of course face change, but probably not to the same level of chaos, threat and opportunity.

These questions are best followed by more progressive and helpful questions. What can you do to get to that place? Can you get there with what you have, or do you need to start again? Who and what will help make this happen? How can this realistically be done?

The Silicon Valley idiom of 'building the plane while you're flying it' is rather nonsensical, but somehow companies do need to think of their succession strategy. Do they build a new system and switch over to it one day, or can they re-engineer what they have? Perhaps they should just create a new entity in a new category. As these chapters progress, my intention is to fan the flames of intrigue, be irritating to the point of bringing desire to change, but then follow up with reasonable steps of how to get there.

We have to get better at looking forward. We can learn from the past and the failure of Kodak or Nokia, Blockbusters or Borders, but these stories have been told many times over and the dynamics of today are different. For years physical retailers didn't worry about Amazon because it was different, it was for 'online shopping' – how silly this looks now. If Facebook has access to 2 billion people on this planet, it can quickly become a retailer or entertainment company; if people trust Google, there is nothing to stop it becoming a bank. A key part of preparing to change is looking forward, not backwards.

Remember what is not changing

The hardest part of my role is maintaining balance. While things may be changing faster, the reality is that not everything is different; in fact far, far more aspects of our lives are the same. You are still looking at a dead tree with ink right now (unless you have the e-book edition!).

Change is indeed here, but not uniformly distributed. The lives of middle-class people in Mumbai, Sydney, Manila, Tokyo, New York and London seem to become ever more similar to each other, while becoming ever more different to the lives of those in the rural areas surrounding them. Increasingly, rural dwellers around the world are facing challenges which are more similar to each other than those facing rural and city dwellers in the same country.

Because of the nature of the world, most people who will be reading this book are going to be rather more like me and like each other than what we might term ‘typical’. Equally, we would probably be regarded as ‘atypical’ in comparison with ‘average’ folk. Even in 2017, even in developed nations, the ‘average person’ does not buy groceries online, they do not rent apartments on Airbnb. An average person does not send others money via their phones or own a ‘smart speaker’. We need to remember that one-third of people in the USA still rent and buy video on DVDs (Rodriguez, 2017), and as late as mid-2015 only one in seven of US adults had used Uber, Lyft or another ride-sharing platform (Smith, 2016). We ‘non-average’ readers live massively unrepresentative lives and we need to remember this and change our viewpoint.

Trend lines are important. It’s likely that DVDs will die out, ride-sharing will become more popular and spread out to rural areas. It’s likely we will use our voices more to interact with computers. We will continue to buy more stuff not from physical stores but online, electric propulsion will change the face of car-making and the businesses that serve it. Yet the underpinning of human civilization will not change. Brands and our need to form social bonds by expressing who we are, or to aid selection by trust, are not going to vanish because of Amazon. Airlines are not going to go bankrupt because they don’t have staff wearing augmented reality (AR) headsets, hotels won’t suddenly implode because they don’t have connected speakers in the room.

When I sit drinking a Pilsner in a Frankfurt beer hall, it's obvious that family-run breweries that hark back to 1695 are not facing looming existential crises. I don't think they need innovation sessions to establish what 3D printing or virtual reality (VR) headsets could mean for their company, just as I don't think they suffer sleepless nights about what the 'Uber of beer' could be for them.

My role is to decide what is changing and what matters, knowing what to change and also what not to. I firmly believe it is not necessarily the case that technology has changed everything or will do so in the future. If you are a milk brand, a baker or hairdresser, it's not obviously the case that radical change is on the horizon, or that when it does appear it will be rapid and catastrophic. Companies that own coffee brands and make ground coffee for retailers don't necessarily need to become 'tech companies that happen to make coffee'. Not every company will look manifestly different.

We tend not to hear nuanced views on the future because in words widely attributed to Bob Hoffman, 'Nobody ever got famous predicting that things would stay pretty much the same' (The Ad Contrarian, 2017). Yet even those who presume change won't affect them, even those who are furthest away from the technologies we read about most often, would still be wise to keep their eyes open ahead, even if it's so they can be manifestly more comfortable changing nothing, or so they can embrace the power of what's next, despite not having to.

Change is a threat at a core level

When we ask what your business would look like if it was started today we have to be brutal and honest. We have to penetrate to the core of what companies are about, we have to question the foundations of companies and then look at that in the context of the changing world. We have to examine the reason companies exist and the core tenets and principles on which they are built.

Modern businesses can be visualized as skyscrapers. They exist on vast foundations, built in the shape and with the techniques that the best thinking at the time suggested would be most effective and sensible and that supports what the building is projected to be.

The foundation site is located where best practice, local and global knowledge and economic forces come together and are optimized for.

A skyscraper has a huge structural frame that projects up into the air, onto and around which the rest of the building is constructed. The steel or concrete framework of this building is a metaphor for the organizational form of companies. These are the organizational elements of business, the departmental structures, the rules, the core elements that make businesses the way they are, that create their physicality, what they make, how they make it, the operational and business model.

Built on top of this and fixed into place around the main structural elements are the service elements, the lifts, the fire escapes, the service corridors and the plumbing, electrical wiring, heating and air systems. In this metaphor, they represent the culture and processes of business today. They are the way that the building or business operates, the pulse of the building or company, the lifeblood that makes it work.

Finally, on this vast foundation, fixed in place by the structural elements, serviced and contextualized by the service elements, are the more visible, more decorative elements. These include the interior design, the furniture, the reception area's look and feel, the indoor plants, the choice of paint colour, and so on. In this metaphorical skyscraper, it is the funky chairs in the lobby, the artwork in the toilets, the corporate film that plays in reception and the small details that augment the visitor's experience of the company.

In a business, represented by this building, these elements are the equivalents of what the company does to represent itself. They are where the building meets the guests, or where the company markets itself. The marketing, the branding, the press releases, the advertising, everything which is the outermost representation of what a company does. This is what people see most readily: it's the most superficial aspect of design, but also what most efficiently represents what the company wants to be. Now, for both the building and the business it represents, it's this visual garnish, this superficial layer, that is both the easiest thing to change as well as the most illusory – in effect an efficient way of changing appearance rather than what really matters.

In a world that changes faster and more significantly than ever, when we consider this analogy we have to ask: what does a business do when it's not in the right place? What if the skyscraper made sense in London, but now should be in São Paulo? What if it was built to house 1,000 highly-paid workers who would only ever dream of working in Manhattan in a prestigious tower, and now outsourcing means most jobs should be in Bangalore?

What happens if the foundation was planned to support a 30-storey building, but as needs grew we just added new stories haphazardly on top? What happens if the framework was constructed for brick walls and we now want large windows? What happens if regulations mean that we need another fire escape? What if the elevators are not made to serve so many workers? What if we don't need any workers any more?

In fact, the world of construction offers many metaphors for businesses. The UK has spent billions of pounds maintaining old train lines, rather than building new high-speed lines. Today's expensive, slow and at-capacity train lines are the result of years of incremental change. They result from what was a steady flow of investment, not a large single investment that would have been harder to get approved. They exist because the work could be done continuously and not take 10 years to build and it would reduce the extent of the disruption. They exist because nobody had the courage to make a difficult decision that would have taken a long time to show the results.

The reality is that the shifting nature of business has created an environment of change where modern business models, new technologies, new consumer behaviours and new competitors mean that the large lumbering infrastructure of businesses increasingly looks like the wrong thing, built in the wrong place, based on old thinking. In this metaphor, in many cases most of what companies have constructed is now entirely unhelpful. Today, new companies that have started from scratch and are built on new thinking, systems, code, technology and culture are making old businesses look archaic.

We see legacy issues all over the world, manifesting themselves in very different ways and at very different scales. We have retailers that wish they didn't own stores, entertainment companies that wish they'd bought global rights when they made content, car companies that wish they'd not invested in billion-dollar combustion engine plants or owned dealership networks. I often see successful but empty restaurants and wonder if the owners wish they could just use Seamless or Grubhub and not rent a vast space where people once sat. The role of these businesses seems to have shifted. We have banks that don't want to be tied down to the regulation of what being a bank means, airlines that wish they didn't have unionized workers, and many companies that wish they didn't have any workers.

Sometimes these cracks are small: taxi companies who call themselves 'AAA Cars' to get placed at the front of the Yellow Pages; expensively procured memorable phone numbers; and hoarding medallions worth over a million dollars that were once a very safe investment. Change affects business owners but can also affect individuals. Again, using just taxis as a single example, black cab drivers in London have to learn 'the knowledge' and buy very expensive official vehicles. Ride-sharing apps have not altered these needs; they have obliterated them. Google Maps didn't make spending between two and four years learning the knowledge merely a bit less helpful; it destroyed its value overnight by not only undermining the value in knowing street names, but also by supplying real-time traffic information, making the decades of experience and knowledge of the fastest routes redundant. A taxi business is not changed by technology, it's turned on its head. The best starting point for a taxi company today is a blank sheet of paper, and not an old taxi company that can be changed.

The degree of change required, the company's wrong location, the expense, time and risk involved in making these changes means that paralysis strikes and we favour fast, easy illusions of change: decoration, not foundation – wallpapering over the cracks.

As this pace of change in life accelerates, legacy businesses are going to find it harder, not easier to keep up. At some point, rather like Heathrow Airport, or JFK in New York, one wonders if it would not be better to start again, not make changes to what you have.

If you were to replace Heathrow, you'd build a replacement airport before closing it. You'd build in a far better location, not requiring the most delicate flightpath manoeuvres over central London. You'd construct it with far more capacity for growth. You would build it with modern consumer needs in mind: it would be constructed with the very latest software and using the most advanced construction techniques known. It would be designed to be opened to take over the old airport, to be its future. It would open before the old one closed, it would both increase the future potential of the airport, but also stop the damage and wastage that would have happened if it had not been constructed.

This is self-disruption. It's expensive, it appears unnecessary, it's risky, takes time and it's not what is generally done. We prefer to modify, to hope, to reduce the chance of things going wrong. Self-disruption is to own your future, before it's too late, and by building the future of your company. It means hard decisions and perhaps ultimately eating yourself.

Self-disruption

Your biggest risk isn't occasional failure; it's sustained mediocrity.
WROBLEWSKI, 2017

One of the strangest flips in the modern world is that the internet has rewired the playing field. The assets that once made companies successful in the Industrial Age now often appear to work against you in the Digital Age. Often the metrics that once mattered most – profitability, revenue – seem to have become less vital than the potential for the future. The market's valuation of Uber or Amazon is based more on trajectory than reality, on user growth, not the proven ability to make money from them. These are baffling times. For a long time legacy companies have been comforted by assets that are increasingly becoming liabilities.

In my TechCrunch piece titled 'The Battle for the Customer Interface', I stated:

> Uber, the world's largest taxi company, owns no vehicles. Facebook, the world's most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world's largest accommodation provider, owns no real estate. Something interesting is happening.
>
> Goodwin, 2015

It was this quote which many felt summarized the changing dynamics in the world. It is clear that companies need to change. To accomplish significant and sustained profitable growth in the 21st century, companies will have to explore more than mere incremental improvements to existing business models. They will have to do more than line filling or small innovations with a few new products. Compared with explosive new entrants that set the market expectations, these actions just won't generate enough growth anymore.

Expectations are changing. The share prices of large retailers, especially department stores, show that confidence in legacy businesses is waning. The ascent of Tesla's stock price relative to large, experienced US car companies shows the same. It is also true for customer expectations: we no longer tolerate lost bookings, or waiting in line to pay.

Neither the market nor the customers are forgiving. You can have both excuses and explanations for your inability to function like nimble businesses built today, but the stock market and customers won't care for long. They need action.

We're in the age of innovation as distraction

Any innovation that is undertaken is usually the most outward-facing, physical and quick. In our metaphorical skyscraper, it's like installing new artwork or refurnishing the staff canteen when the building is about to fall. We live in a time of innovation as gesture. From an Apple Watch app to fancy ad campaigns using artificial intelligence to chatbots, innovation is less about making a meaningful difference to consumer experiences, and more about broadcasting to the marketplace, the trade press and the stock market that they get it. Innovation today is done with the goal of virtue signalling rather than commercial payback. Robots used in trial stores do allow for learning and data capture, but most likely they're there to make a nice image in the annual company report. A VR headset used to showcase a hotel room of the future makes a great video to stick on YouTube, flying a Boeing 747 with some biofuel in one engine still gets picked up on TV. Change gets merchandised and companies merely create a veneer of newness. It's not deep or behind the scenes; it's always tangible manifestations of what we think the body language of innovation should look like. For large companies, innovation in 2017 is just building an innovation lab, doing regular 'Silicon Valley safaris', 'working with start-ups' and always releasing a press release of intent, never one of accomplishment.

We need proper change and the time is now. This shift is vital and the gap between what is known to be required and what is done is huge. A 2016 KPMG study highlighted how 65 per cent of CEOs are concerned about new entrants disrupting their business models and 53 per cent believed they aren't disrupting their own business models enough (KPMG, 2016). In one McKinsey study, 80 per cent of CEOs believed their business models to be at risk; and only 6 per cent of executives were happy with their company's innovation performance (McKinsey, 2013).

The depth of change is underestimated

Companies that need to change are everywhere and the depth of change is often misunderstood. If you were to start a media company such as a newspaper today, it's not just that you wouldn't own paper mills or that you wouldn't employ hundreds of expensive senior writers, staff photographers or fact-checkers, like the *New York Times* once did. Having non-unionized workers, a cheaper headquarters, making more clickable pieces and employing younger and cheaper staff would also probably not be enough. Employing the best data scientists, making software that sees what stories are sparking and creating more of those, making native content with brands, would all still not be enough to make money. These would all aid your survival and increase the likelihood of the death being slow, but this isn't how you'd want to think about it.

No, if you were to start a media company today, you'd want to replicate Facebook or Snapchat or Twitter. You'd make nothing and be a thin horizontal layer between people who want stuff and people who make stuff. You'd record vast amounts of data, sell advertising automatically to the highest bidder, you'd take no responsibility for any content that appeared on the site and reduce all externalities, whether costs or responsibility. You'd be able to scale globally at the touch of a button and you'd scale to add video.

A legacy media business can't get to this place by retooling. It needs to start from nothing. Memory, expertise, skills and relationships are not just unhelpful, they are likely to be problematic.

Media owners are not alone in their need to change everything. Will physical retailers with huge global footprints and distribution systems ever be able to bolt on new distribution systems that can serve customers direct to their homes? More than this, will they be able to do so in a way that meets modern consumer expectations for price and speed while still making their unit costs profitable? Or would they be better off starting from nothing?

Do car makers need to swallow the fact that their incredibly vast knowledge of combustion engines and complex organizational system of suppliers and sub-suppliers may not only be unhelpful but may even sabotage their developments in a world of electric cars? Will they be able to succeed in a world where electric cars are assembled more like smartphones, not fabricated like cars of the past? Will large car companies ever grasp that cars are becoming more like electronics, with value in the software rather than the hardware, and where user interfaces are now a primary consideration for the buyer? Will car companies understand that vehicles may soon be 'accessed' like data on a mobile tariff, rather than owned? That the holistic ownership experience – how you buy the car, get it serviced, renew the lease – may be more important than just the car itself?

Guts are required to understand that disruption isn't about superficial changes; it's about rebuilding the entity that will revolutionize what your current company does. It's not about managed decline or reducing costs to meet profit goals. It's about a leap of faith, investment in the future of what your business needs to be. It's a process best described as 'self-disruption' – undertaking the bold changes needed, at a core level, to best prepare yourself for a new future. The goal of self-disruption is to become the entity that eats your own company's future, rather than having someone else do it.

The evolution of business is somewhat like the evolution of species. It's a series of small incremental changes to develop optimal results.

It's about mutations from the norm that make change possible. It's testing and learning, trial and error, a sudden shift to a different approach where new forms and functions suddenly appear. In this world, the organizations that are the most adaptable, the most freeform and the fastest at changing will be the ones most likely to survive. It is a time where being responsive to the environment, to shifting consumer needs and to wild new industry entrants is crucial. Being able to learn, knowing when to stick and when to shift and, above all else, having a vision is what will propel a company forward. In the words of Jeff Bezos about Amazon, 'We're stubborn on vision and flexible on details' (Levy, 2011).

The only issue with evolution as a basis for change is that we now live in a time when the forces of nature are greater and the time spans are shortened. Businesses tend to operate not so much as species that evolve gradually across the planet, but in an environment which undergoes great shifts.

The only certainty now is uncertainty

Changes to the world are not just happening faster, but in more haphazard and unexpected ways. On the day this chapter was written, one Bitcoin was worth $11,000, but quite honestly nobody has the remotest idea what will happen to its value in future. Those who explain it do so based on little more than faith. By the time you read this the price could be 100 times less, or more, or zero; we have no idea how this currency and the technology beneath it will develop, and even less understanding of what it will mean and how it will change.

It appears that few saw Brexit coming, or the results of the 2017 US presidential election. The rise in the Dow Jones Index in late 2017 seems odd. Fidget spinners come and go and the Ice Bucket challenge dies. Pokemon Go went from the 'next big thing' to 'remember that?' in about two months. 3D-printing companies' share prices slump, and the Amazon Echo appears from nowhere to become the hit of 2017. Unlikely things seem to be likely. For years we've assumed it's the pace of change that is the biggest problem for business; these days it increasingly feels like it's unpredictability. Today few people in few industries can make personal or business decisions based on the assumption that the world will remain within 'norms'. The standard deviation of life seems to be increasing, and technologies come together in so many new ways that it's hard to see how new patterns will emerge.

Will something like Magic Leap, a headset base that augments reality experience, launch and make TVs seem anachronistic? Will self-driving cars happen sooner than expected and spread faster than predicted and change the fundamentals of urban development? Will 3D printing undermine the entire retail landscape? Will drones make infrastructure on the ground seem short-sighted? The cost of solar panels has already plummeted far faster than even the most optimistic projections, so this seems like a bad time to have committed to build a nuclear power station. Global climate could be worse or different than anyone expects and quite honestly, we've no idea what this will mean for the future.

Today the world does seem like it's on some sort of threshold. We've had smartphones for around 10 years and we can't imagine life without them, but we've also no idea what their impact will be. We don't know how they change childhood and brain development or what they mean for education. They could unlock incredible human capital and wealth around the world. Or, on the contrary, they could espouse our fears and create more barriers. We seem to have a declining middle class in much of the world, richer rich people – it's a soup that's both explosive and unpredictable. When human lifespans reach over 100 years, what new problems will emerge? What about the housing market and intergenerational wealth transfer? Will Millennials finally have some cash to spend with the advertisers that have been trying to reach them for years?

We need to remember, however, that life is destined to become more complex and chaotic: the laws of physics and entropy suggest that there is no alternative. As technology breeds ever more choices, the range of options gets wider, and the number of ways in which new things can coalesce and combine becomes greater. A skill for all companies in the future will be to exist in such uncertainty, to be prepared for reasonable eventualities but not to be paralysed by indecision and fear. In life it's best to focus only on what actually matters and what we can control. One way to do this is to think less about the ever-changing world and more about what Bill Bernbach would call the unchanging man.

It's time to focus on people

Innovation is not disruptive; consumer adoption is.
JEFF BEZOS (BISHOP, 2017)

Management consultants traditionally have done a great job of helping businesses through periods of change. They have been excellent at understanding new technology and management theory and, while facing the CEO and other senior staff, have helped companies produce things more efficiently, cheaper and perhaps at a higher quality. These consultancies have done an excellent job of understanding the business and creating incremental change.

These are different times. Change requires companies to step change rather than incrementally improve. The world's best candlemakers pioneered the lightbulb because they sought to continually refine. Today companies need to leap to new business models and rethink fundamentals and what they stand for, not slowly tweak what has worked before. Management consultants still practise thinking developed in the 1960s and 70s for the Industrial Age. They've changed little in that time; even the Boston Matrix is 47 years old.

Part of the issue is that management consultancies serve the needs of the business, not of the consumer. It's their job to provide reassurance, to have all the answers and for them to be indefatigable. Yet being certain often means you are not applying the right amount of imagination, not exploring far enough. The world needs consultancies to work around the needs of the consumer, consultancies that foster new thinking, that look ahead not to the past, that look around the world not to the textbooks.

More than in any other era I see now a greater need for empathy and imagination and not traditional consulting. Businesses constructed for the wrong era on the wrong foundations will not thrive because of a tweaked customer relationship management (CRM) system or a new data strategy, despite that being the easiest project to sell in.

The benefits of the Internet of Things – or 5G, or real-time tracking, or cloud computing, or any one of the big topics large consultancies love to present leadership on – will only work for companies bold enough to re-imagine what they do and for those that are working around modern customer needs, who create services that people want, and who create customer experiences that are best-in-class.

More than anything else I would love this book to be a wake-up call to those in innovation agencies or digital consultancies and especially in advertising agencies to regain the seat in the boardroom, to stand bold and believe in yourself. This is your time to make a difference.

Key topics to inspire

This book comprises three themes: one focusing on the past and what we can learn, another on what can be done and is happening today, and the third and final theme looking ahead into the future. Each of these themes holds three chapters that represent different contexts or elements to consider. There are five key notions that are vital to the book's message. It is these five topics, covered in the following section, that should be the clear takeaways from this work.

Digital Darwinism

The overarching principle of this book is Digital Darwinism, the umbrella concept that wraps up all the strands of thought and the background for every idea and principle discussed. The idea of Digital Darwinism is that, like any species, companies are designed to improve slowly over time, to optimize, to breed selectively, to become better via rather slow but consistent and well-proven evolution.

This has worked for large and small businesses alike, but things are different now. The pace of technological and societal change has now become so fast that the background for business changes faster than any company can. Natural adaptation and typical agility are no longer enough. Companies now need to look further ahead, to try and be not just agile, but predictive, to be comfortable being uncomfortable, and to be constantly finding ways to change the core essence of what they are. They need to embrace risk. Business today needs a new style of leadership, a new way of thinking about remuneration, a new way to change culture. It requires new approaches to technology, to using data, to understanding people. While not all businesses are facing threats to their existence, many of them are or soon will be, and the waves of change are spreading outwards faster than ever before. In this position you can either manage the decline as best you can, or boldly rethink and re-imagine yourself for the future. If you want to do the latter, then here are some principles to consider.

Mid-digital age

Up to now, we've been in the early stages of digital transformation. We don't think of it that way: we've had smartphones for 10 years, we're used to ride-share apps, mobile banking, social media. It feels like we've lived with this stuff for a while. Generally speaking, however, we've added digital garnish to what we've known before. Most TV shows are 30 minutes long because they had ad breaks, yet streaming no longer requires this. Stores talk about 'checking out' and 'baskets', we have 'desktops' and 'trash' on our laptops. We've generally taken the thinking, the units and processes from the past and, with the smallest amount of effort, digitized them. We're in a period where a lot of it doesn't work, for anyone. We often drop calls, we can't get on Wi-Fi as the landing page is slow, many industries have lost billions in profit and the world has not yet come to terms with globalization or the casualization of the workforce. We are in the stage of peak complexity.

We're in a hybrid period between two ages. We live in an analogue world augmented by the new possibilities of digital, but not rethought or rebuilt for this era. It's this existence in two systems – where we can both watch TV and stream the same show, pay with Apple Pay but have to swipe our pen to sign to authorize payment, learn online but see the value of a degree diminish – that shows how messy life is. It seems likely that one day things will make sense, that the world will work, that we won't have e-passports or mobile boarding passes or e-tickets, we will just pay or access with our faces. We won't use cash because it won't exist, we won't use set-top boxes for TV because with 5G our phones will become our gateway to all content. One day, things *will* work and we need to start thinking about how we'd construct things for that world now.

Digital at the core

In 2006 the world's largest companies were primarily energy companies, banks and large industrial conglomerates like General Electric. In fact, on Bloomberg's list of the top 10 largest companies in the world in 2006, most were over 50 years old, employed large workforces, and only one was labelled a 'tech' company. By 2016 things were radically different: only two companies remained on the list and five of the largest were categorized as technology companies (*The Economist*, 2016).

From Amazon to Apple, Alphabet (Google's parent company) to Microsoft, Facebook to China Mobile, most of these companies are relatively young but have also grown massively in the last few years. While we like to think of these as 'tech' companies I think it's a strange term. Facebook and Google make more than 95 per cent of their revenue and profit from selling advertising, so they are media owners. Apple makes consumer electronics. What these companies have in common is that they were built from the ground up with digital thinking at the core. By 'digital thinking' I mean both an understanding of technology but also evolved consumer behaviour. Companies that have been constructed for the business environment of today, with technology at their core, have been the most successful and this becomes a valuable way to think about how to become the company you need to be.

Paradigm leap

Every design project needs a brief, but it also needs assumptions; to question everything would take too long. So, like every creative endeavour, design processes follow both convergent and divergent phases. We go wide and then we hone down to an optimum solution. During this process we use these assumptions to shape what we do. This explains why, when we look around us, most things are similar. Most four-door saloon cars look broadly similar, most bank lobbies feel the same, as do the products they offer. Airbus jets are not radically different to Boeing or Bombardier airplanes, much as American Airlines' business class is much the same as Delta's. Websites tend to have the same layout, retailers create stores on the same rules… you get the idea.

There are times when companies, often companies that are new to a sector, break all the rules. Tesla makes cars that change all the automotive rules: the Model S has fewer than 20 moving components in total, whereas a typical combustion engine car has nearly 1,500 moving parts and takes one-sixth the time to assemble (Sawhney, 2017; O'Connor, 2013). They sell cars direct not via dealers. The problems they need to solve are entirely different to those found in the previous paradigm; they need software engineers not transmission experts, they need to build charging grids not repair infrastructure. The most successful companies today are not those steeped in experience, but those with no experience, who asked stupid questions. Facebook said, why do we need to make content? Apple asked, shouldn't a phone be a delight to use? Amazon said, but why do we need to sell only our own inventory? Trump asked, what if a politician didn't act like a politician? The most successful companies today are the ones with the courage to challenge rules, who build themselves on different assumptions, who challenge the status quo, but do so based on the next paradigm, not the last. It is companies who hope to survive by making small incremental changes that now lose out to the ones that bet big on radical innovation and change.

Leapfrogging

The concepts of building with digital at the core and unleashing the power of the paradigm leap go alongside the next idea in this book, the concept of the leapfrog.

Technology tends to operate within paradigms. We lived in the age of water power, then steam, then electricity and now we're in the digital age. We used shells as money, then coins, then paper notes and now we use digital currency. The UK saw the age of cargo by horse, then by canal, then by railway and now by road.

As we travel the world we see the power of building a country or company on the very latest technology and the most recent business environment and consumer landscape. The most advanced trains in the world are in China, as is the fastest-growing renewable energy programmes; digital currencies took root in Kenya before they did in the USA; the first passenger drones are likely to be in Dubai; Estonia by some measure has the most advanced government infrastructure and governance.

Today's successful companies have often become so by investing significant resources in a particular system that, when it becomes outdated, proves very costly to repair or change. If the USA were discovered today it probably would not have spent \$500 billion on the US interstate highway system (Planes, 2013). According to a US Department of Transportation report, just maintaining current highways and bridges through 2030 will cost a cool \$65.3 billion – per year – and that's being conservative; instead it might have spent the same amount on self-driving cars that can use narrower roads (Abruzzese, 1988; Marshall, 2017). If China had waited a few more years, it could have built a rail network with Hyperloop technology and spent perhaps 10 times less than the \$500 billion it's currently spending to connect the nation with high-speed trains (Medlock, 2017; Davies, 2013). It also seems that increasingly the answer to problems in the future won't be expensive hardware, but better software. Perhaps in 2026, after the UK spends \$23 billion on a new runway at Heathrow, we will discover that better software could have increased the capacity on two runways for a far lower cost, or that we no longer need to travel so much because we can explore places in virtual reality.

There comes a point where old infrastructure and systems get in the way, and the unit economics of sustaining the system don't allow for profitability. It's extremely hard even for companies built from scratch to make money from retailing online; it's even harder for those who have to modify old mechanisms, supplant ancient systems, and adapt to compete with these new entrants. Yet it's precisely when legacy companies, built for the past, face the lowest profit margins, plummeting sales and scarce investment that the greatest investment in the new is required. The frog boils to death in slowly heated water because at the very moment it needs to leap, it is most lethargic. We all need to act before it becomes vital.

Companies that are large, well-capitalized, most stable and least vulnerable need to be thinking about ways to create growth in the future and defend against young, insurgent start-ups trying to grow fast enough to irritate them. This strategy will probably not involve making huge structural shifts in a vast organization, but will require proactively working to create the entity that becomes the future of that company itself.

It's time for action

I'm not a big fan of watching cycling on the TV, but something about the Tour de France gets me. I love the notion of the peloton and the breakaway riders; it feels like a sensible analogy to business. For most of the time as they sweep across the sunny French landscape there is an organized group at the front, the peloton. In this lead group, riders take it in turns to be at the front; it means they pedal harder to break through the wind, while those behind can save energy due to lower air resistance. When exhausted, the leader will peel off to one side, drop to the back of the peloton and another rider will take up the lead. This feels like how businesses should operate. They should have units constantly pushing ahead, breaking into new ground, testing and learning, trying things that have not been done before, challenging conventions, and allowing the entire company to move forward. We need to embrace these pioneering riders.

So now is the time to accept unfairness, accept it's do or die, and make a plan. Can you wait it out or do you need to change? If you need to change, what is the best way? From this chapter you can see how essential it is to be poised, to be ready for change, not just to be agile, but to be predictive, and to look ahead. And to best understand the future, look at the past.

By doing that, we can avoid the mistakes of how we've applied technology wrong in the past and find a different way to embrace new technological developments.

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