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FIRST WORD

Professor Andy Lockett
Dean of Warwick Business School

What is the moral responsibility of commercial organisations? It was once thought that an executive team's sole responsibility was to its shareholders, whether that be family owners or institutional investors. But times have changed as increased attention is focused on how business behaves, both in terms of ethics and sustainability.

Some companies, like Unilever, have seen this coming and are leading efforts to align their business activities with sustainability. But there are many more lagging behind and struggling to walk the tightrope of balancing profit with ethical and sustainable practices.

And yet it is in every organisation's interest to model their purpose around the benefit they bring to the community they live and work in, the people that work for them, and the future prosperity of the company.

Investors are responding to the public pressure that business should be a force for the good of all of society. Chendi Zhang has discovered that firms investing in Corporate Social Responsibility reduce their systematic risk, ie the chances of going under when a downturn in the economy hits.

For example, companies investing in green practices are recognised and valued by consumers, and are able to charge higher prices, thus giving them a buffer when a recession arrives. Hence, ESG (Environmental, Social and Governance) investing has become an increasingly popular way of pushing corporations to adopt ethical business practices, and it now comes with the added bonus of diversifying risk.

Taking a moral stance, however, is not without risk and can damage short-term profits, as Nike found out when the sportswear multinational used Colin Kaepernick as the face of its latest 'Just Do It' campaign. Nike supported Kaepernick after he was ostracised and without a team due to his protests against racial injustice in the US by 'taking the knee' during the national anthem that starts every NFL game. To use him in their adverts was a bold move by Nike which drew widespread criticism, including from President Donald Trump.

In this issue, Hari Tsoukas argues that the stance was worth the short-term hit to Nike's share price. It redefined the company with a moral purpose. Nike had taken a stance and used its considerable economic clout to drive change. Even if Nike had not backed Kaepernick, it would still have had to make a moral decision as it has many black athletes on its roster.

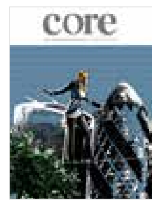
"It is in every organisation's interest to model their purpose around the benefit they bring to the community they live and work in, the people that work for them, and the future prosperity of the company"

Nike's actions highlight that business is much more than weighing up the data and taking logical decisions. Business requires people to take a stance when the outcomes are unknown and risky, which is where wider ethical values can guide business executives. Indeed, business leaders should directly confront their ethical dilemmas, and steer their organisation through them, thereby giving their employees a purpose they can be proud of.

Moreover, the welfare of their employees is arguably a company's first moral duty, and yet Kim Hoque has found not all staff are included. Those with a disability are woefully ignored, with the UK shamefully having one of the worst disability employment gaps in Europe. In this issue, Hoque explores how the disability employment gap can be closed.

Finally, Frederik Dahlmann illustrates how businesses at the forefront of sustainable practice are bringing their supply chain along with them, where collaboration is key. He argues that sustainable practices are mutually beneficial for all organisations and are no longer an option, but a necessity.

Young people are driving businesses to confront their ethical dilemmas head on. To survive and prosper, organisations have to demonstrate to their employees, and potential employees, that ethics and sustainability are at the heart of their purpose, not excessive profits.



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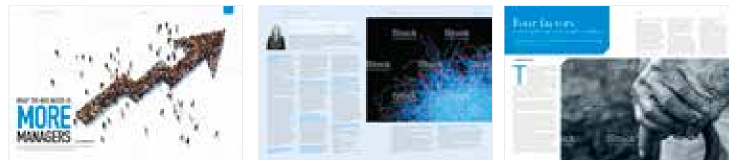

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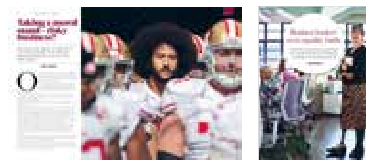

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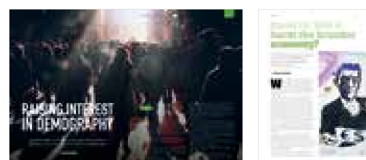

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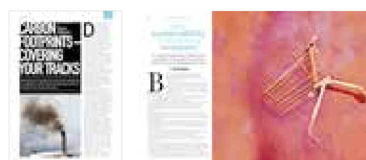

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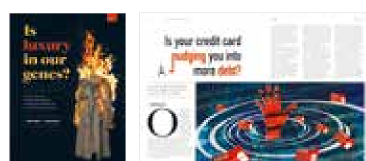

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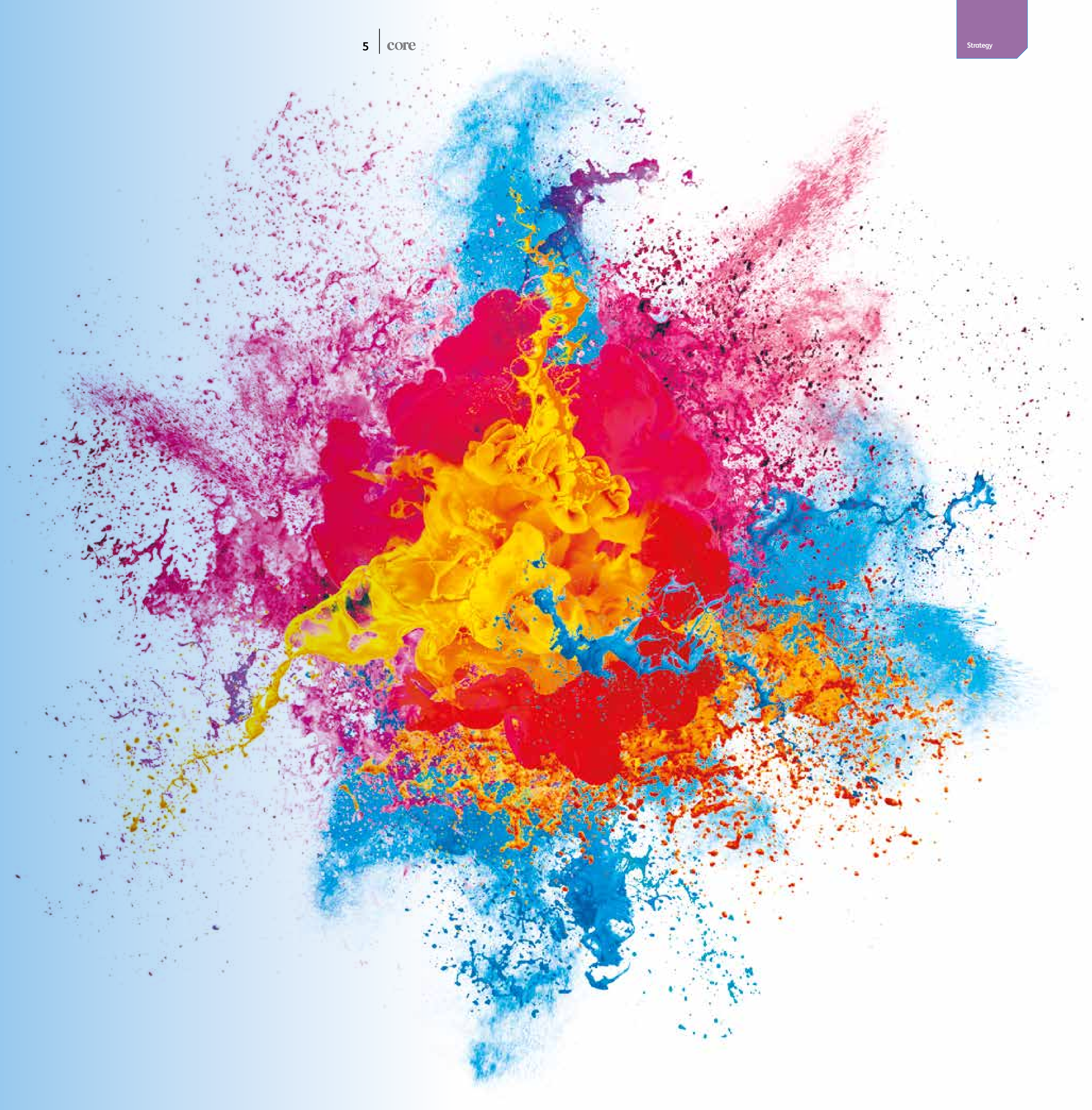
Six factors crucial in lifting design to a strategic level

Design thinking has become an established part of successful innovation, but many firms are missing out on the benefits of design being part of strategy.

by **Pietro Micheli**



This quote is not from the Head of Design of a leading architects, but from a large financial services company. Just a decade ago, the idea that a bank would have design embedded at a strategic level on its board would have been fanciful.

Since the turn of the century design's influence has grown, with design thinking well established as the best way to produce innovations and new products.

But in recent times some leading companies have been attempting to push design further up the organisational chart and into the C-suite.

Global management consultants Accenture have acquired design firm Fjord, bank Capital One snapped up user experience consultancy Adaptive Path, while pharma and consumer goods giant Johnson & Johnson and drinks multinational PepsiCo have appointed designers to their boards.

Indeed, Pepsico Chief Design Officer Mauro Porcini argues design is central to succeeding in today's business environment and has been charged with making it part of not just the firm's strategy, but its culture as well.

Mr Porcini told Fortune: "People don't buy, actually, products anymore, they buy experiences that are meaningful to them, they buy solutions that are realistic, that transcend the product, that go beyond the product, and mostly they buy stories that need to be authentic."

But even he admits it is a gargantuan task to become a truly design-led company. Despite its well-researched benefits, very few firms have managed to push design all the way to the boardroom for it to be part of a company's strategy and even fewer have succeeded in it becoming part of their culture.

Strategic design – which is defined as design affecting the long-term sustainability and competitiveness of an organisation – has been found to be of great benefit to branding, innovation and differentiation, while designers have methods that can bring unique insights to strategy formation and implementation.

Design brings to strategy how people emotionally relate and engage with a product or service – it informs strategy. It's a way to create and develop a strategy or a strategic way of thinking.

For example, a hotel might want to differentiate from its rivals in a town, and design can help do this by observing people's experience and getting in touch with what users want. It might find they don't want a person at reception; they're happy with a computer because it is quicker. The organisation can then build a strategy around such insight to be the first automated hotel.

So it's not that it's developed by a technologist that has created the software and, therefore, wants to make the hotel robotic, but it's the fact that design has enabled the hotel to understand what customers want – it is a bottom-up process to strategy.

Or it can become the strategy, where design becomes a way to get closer to the customer. For example, Virgin Atlantic has retrained all its staff around design thinking. Design is part of everybody's remit and so user-centred innovation becomes a strategy that can deliver a competitive advantage.

There are many more companies that want to follow suit, yet little is known about the how this is achieved. But we can learn from the early adopters as to exactly how an organisation elevates design to a strategic level and what the pitfalls and the enablers are to doing that.

After undertaking 53 interviews with key executives and designers at 12 companies attempting to elevate design to a strategic level, I found six important factors in implementing strategic design. But each of these factors can have a positive or negative effect, depending on how they are deployed.

1 Top management support

Any major change at a company needs to have top management buy-in, with somebody from the top driving it or at least endorsing it. It is the same with strategic design.

But it depends how that kind of buy-in and leadership support manifests itself. From my research, when it worked out well, the head of design or CDO was not only given the necessary resources, but was left alone and given a large amount of autonomy.

Top management were not oppressive. They said: "Off you go. I'm going to manage a bit of the politics, but it's your role now."

In cases where it went wrong, top management became completely oppressive. They started to interfere with all sorts of design choices and forced their opinion onto subjects they didn't know anything about. Eventually, they strangled it because it became their pet project and they couldn't stop interfering.

An example of where it is done well is Diageo, the beverages multinational. It was a corporate decision to invest in design, creating a new function in the business, and they have given it real autonomy. Slowly, it is elevating design in the business to a higher level.

2 Leadership of the design function

The leader of the design team is vitally important. The success of this role was not so much a matter of being competent technically – all the people I interviewed were good designers – it was more about how they interpreted their roles.

Those who were successful not only acted as evangelists internally for design, but were also capable of managing expectations.

The whole story of Steve Jobs and Jony Ive creating Apple has helped design, but also hampered and fostered unrealistic expectations. The marketing department will do some research with some market insights and then expect the design team to produce a product in two or three weeks; or the design unit is set up with plenty of resource and top management expect a new product in a matter of weeks.

But these are totally unrealistic time pressures and design does not work like that – it has to have room to experiment and fail. So the head of design or the chief designer has to be capable of actually showing what design can do and can't do, manage expectations and try to build support at the same time.

One person I interviewed had continuous fights with the other functions because he felt what they were asking for was unrealistic. He couldn't cope and reverted back to being a professional designer, a purely technical role, instead of helping design become of strategic importance.

Those that have real success see design become part of the culture almost – it becomes the corporate mindset. It's not influencing just strategies, it's a way of thinking, and then the company does become much more in tune with the design thinking process and the idea of problem solving. But it takes a long time to get to that point.

At Jaguar Land Rover (JLR), you can see how design has had a real influence in its reemergence. It has a CDO now and it has turned the Land Rover from a practical off-roading car with a very masculine image into a car for anybody. The Evoque is a car that is even more popular among women than men and it came about because the CDO persuaded executives in JLR to invest more in design and give the unit a lot more freedom.

3 Formalising processes

How a company fits design into its product development process and how that is structured is very important. There is a balance to be struck, as design often wants to have no time restraints so it can fully investigate creative angles.

But in industries such as pharmaceutical and car manufacturing, the process is so tightly scheduled that it's very difficult for a company to create that kind of buffer for design. And if design is pushed into a very tightly developed process, then it doesn't go anywhere.

Where companies did well was when they changed the process of creating a service or a product for design to have flexibility.

So strategic design really flourishes when there is clarity around which roles it can play across the process, from ideation to prototyping, with flexibility and a bit more time given to those areas. This is particularly true at the beginning, where ideation sits.

A lot of companies that wanted to make design more strategic flopped in their intentions because they kept, essentially, their own development processes the same. So design may need more time on one bit of the process for a particular project, but they're not getting more time.

A good example of developing this flexibility in the process is Gripple, a manufacturing company in the UK that produces wirejoining devices for farming. It has a process but it is not formalised – so much so that employees don't have job descriptions. Instead they are encouraged to work on all projects, plus they have a lot of interaction with clients in their innovation and ideas office.

And yet they have targets, such as 25 per cent of sales have to come from products less than four years old, and they work towards them.

4 Inter-function collaboration

Design needs to be able to work with others from a variety of functions because they will have different points of view on the same project.

But this needs to be done carefully or it can be overcomplicated and not at all good design.

At the start of the project, it is a good idea to have a very multifunctional team, with input from marketing, design, operations and more working together iteratively.

This is what Barclays tried to develop, it changed the interior of its headquarters to reflect this inter-functional team-building approach, installing what it called 'hopper' tables, so that teams made up of operations, business analysts and designers could stay focused on a project without multiple meetings throughout the building.

That works well if you still have a clear finishing line with a clear decision maker. Otherwise, you create design by committee; everybody wants to have a say, there is no clear leading voice and a product is eventually produced that nobody would say anything against, but nobody would actually buy, because it's a compromise.

Too many voices can slow the project down.

The process needs to have input from many areas and lots of research, but it needs a designer to be decisive and distil that information down to the crucial guiding elements for it to succeed.

5 Evaluation of design

The measurement of the performance of design was also crucial. Companies typically like to have a tightly defined performance measurement system, but this is not appropriate for innovation and design.

TOO MUCH INSPIRATION – Jony Ive's success at Apple as CDO is still a double-edged sword for design

For example, a chair manufacturer will have a certain idea of volume, pricing, profit margin, who will buy it and an understanding of where it will make the money that justifies and covers the costs.

But, if it wants to be innovative, it can't do this as much because it is impossible to know these measurements when creating something new, such as a stool, so it needs to be a bit more flexible.

What some companies did was they almost removed any form of measurement or targets, but that just created vagueness. Leaving design with a blank piece of paper and telling them to go off and express themselves – that doesn't work.

Companies swing back and forth from measuring everything to measuring very little. But what really worked was collecting the data at the end of a project and producing a really solid review.

So once the product or service has been launched, let's see how that works – what is the take-up? What are the levels of complaints, satisfaction and repeat purchase?

Collect as much data as possible and learn from the experience. What is it that you've done differently this time around that has worked or that has not worked? If it is a success, you need to understand why; the evaluation is crucial, so the lessons can be taken into future projects.

Herman Miller, the US-based furniture manufacturer, did this well by creating a little bible of stories on all its projects. After each post-mortem review, it would be included in the manual, so employees could dip in and see what worked and what didn't in each project.

STYLE GURU – Herman Miller, famed for its well-designed chairs, has a bible of stories for employees to learn what did and didn't work in its projects

6 Showcasing design

Some companies were excellent at showcasing their design successes. They would hold an annual event internally where they would display products or case studies of services being used.

For example, a packaging company called Agile would display the bottles and boxes it had designed for Johnnie Walker or Baileys, so the finance department and the CFO could see how beautiful they were and appreciate the importance of design.

This internal communication really helped elevate the status of design, especially through events where it could be seen and touched – they were very effective.

And big successes can become a symbol of design's importance. They should be showcased and be the legendary tale for design, like General Electric's MRI scanner for children.

It noticed how children were terrified of MRI scanners, which are big and noisy, so designed adventurethemed rooms, painting the MRI scanner like a fairy-tale scene from *Snow White* or as a cartoon superhero. It was a huge success and the project became a springboard for design at GE.

In cases where this showcasing didn't take place other departments held a stereotypically cynical view of designers as simply good at drawing and had unrealistic expectations on how long it took to produce a concept.

If a company can get these six factors right it is on the way to pushing design to a strategic level, which, in these times where experiences are valued more than possessions, is a real competitive advantage.

In a culture of experience design is vital. We live in a world where organisations offer a product or a service and we, the users, have an experience. We have experiences every time we drive, when we are looking at our monitors and when we get into a classroom; and the whole point of design is to try to be empathic.

And that is design in the strategic sense – that focus on the user – which started with Bill Moggridge, who co-founded global design consultancy IDEO, and his concept of user-centred design that evolved into what he called interaction design.

But even more worthwhile is when design becomes the culture of an organisation, the dominant perspective of the company. That is the next level and something I saw at Herman Miller, where even the CFO thought and spoke like a designer.

In the fast-changing digital world of today, it is increasingly hard to stay relevant in the eyes of the customer. Design can bring the insight and innovation to do that.

Following these six factors can, over a long time, see an organisation embed design in their psyche, so they, too, become a design-led company.

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Do the right thing

An increasingly savvy public is demanding firms are ethical. It's time corporate strategy reflected this.

by **Hari Tsoukas**

The numerous corporate scandals that regularly grace the pages of the national media remind us how difficult the challenge is of ensuring organisations, the executives that run them, and the people who work in them, behave responsibly.

A common cause of these types of problem is the multiplicity of objectives in an organisation: the pursuit of excellence in what its members do, the drive for competitive advantage and success, and the demands of external stakeholders and society. Insofar as there is a misalignment among them the circumstances may be created in which corporate wrongdoing and unethical behaviour can take place.

In the early 20th century celebrated management thinkers were in little doubt that good management was not just about efficient administration but also about empowering individuals within organisations to provide value to society through collective action and common purpose.

Yet recent study of corporate strategy has been largely devoid of ethical concern, focused mainly on process (how to do it) as well as content (how to obtain competitive advantage) rather than on any ethical component of 'doing' strategy.

I believe that it is time to put the ethics back into corporate strategy. In doing so, senior managers will be able to create a better balance between the pursuit of excellence and success in organisations, as well as a better alignment between the organisation and the demands of external stakeholders.

Ethics may seem a remote and academic topic for managers to consider. However, ethics has very practical and meaningful relevance for managers, who, through specific actions to incorporate ethical consideration into the organisation's strategic decision making, can achieve the alignment outlined.

In a broad sense, ethics is about asking certain types of questions – how we ought to act, morally speaking. These are questions we not only ask in our personal lives, but questions that senior executives necessarily ask when determining the strategy of their organisations.

What is the organisation's purpose? What direction should the company go in? How is the firm going to compete with other firms? These are fundamental, practical questions about the strategic interests of the organisation – how they are to be conceived, broadly or narrowly, short term or long term – through which the leadership comes to understand and set the

ETHICAL CHOICES – What direction the company should go in is an ethical as well as a strategic decision

ethical tone for the organisation.

They are also questions that need revisiting regularly, as part of repurposing the business in a constantly shifting business landscape.

To understand how ethics plays into corporate strategy in a way that allows managers to better balance excellence and success I favour an approach that references elements and ideas that date back as far as the work of classical Greek philosophy, Aristotle in particular.

His work on virtue ethics – 'the good life', character virtues and practical wisdom – remains of great importance for us today. As old as these concepts are, they are equally relevant to our 21st-century corporate world.

Essentially, for Aristotle, a life is worth living when it aims at becoming a good life. A good or fulfilled life is one that fosters the cultivation of virtues, as without virtues we cannot get on well in life. To have a virtue is to strive to excel at something, and there is a moral dimension to this, as it involves, for example, humility and hard work.

The character (or moral) virtues that people develop, such as courage, generosity, and justice, for example, shape the way that individuals conduct their activities and meet collective ends.

In a way, the virtues 'programme' people to make good choices of action. However, individuals also have to deliberate and consider what to do in a given circumstance.

What kind of virtuous behaviour is required in this or that particular context? This demands practical wisdom – an intellectual virtue that is the 'master virtue' in the sense that it takes into account the particular circumstances in which the moral virtues, which sometimes may clash (for example kindness versus sincerity), are activated.

Practical wisdom, when developed, provides knowledge of the moral virtues, the circumstances that are being encountered, and an intuitive sense of what to do, acquired and inculcated by previous experience and working with others.

As we are reminded all too frequently, in the corporate world, being highly skilled or having a thorough understanding of company policies and procedures are not enough to ensure ethical behaviour. After all, corporate wrongdoing is often perpetrated by highly skilled, exceptionally knowledgeable individuals.

What is lacking are the character virtues and practical wisdom that ensure the right course of action is chosen at the right time.

Elements of Aristotle's work are potentially useful in helping organisations understand how to embed a more ethical approach into their corporate strategy work. But to make these elements more practically useful for managers and organisations we must also add some of the ideas of Scottish philosopher Alasdair MacIntyre, author of *After Virtue*.

MacIntyre wrote about "practices", by which he meant coherent, complex forms of socially established co-operative human activity, through which particular "goods" associated with that form of activity are realised.

For the purposes of building an ethical component into organisational strategy work, we can think of practices as the productive core practices of an organisation, without which that organisation would not exist.

Take practitioners such as software writers developing open code, nurses attending patients, or maintenance technicians servicing a mobile telephone network.

All these people are working in their respective "practices" – software development project team, A&E nursing staff and field engineer unit. By pursuing the collective goals of that practice, its members produce and derive satisfaction from the internal goods of the respective practice – software development, nursing care and telecoms engineering.

These practitioners, engaged in their practices, need virtues in order to do their jobs well – virtues such as honesty, diligence, temperance and fortitude, for example. Virtues also shape the relationships practitioners have with each other as they work together to develop their practices.

MacIntyre also introduced the idea of the "institution", recognising that core practices do not produce organisational success on their own. Core practices need to be institutionalised – to be involved in the competitive allocation of resources and rewards – in order to be sustainable over the long term.

In other words, core practices need to be managed for attaining an overall organisational practice. If core practice members carry out the primary task of the organisation, managers carry out institutional work.

The latter is a practice in itself. To put it simply, organisations consist of two practices: the core practices that produce products and services and the institutional practice that seeks to provide coherence, direction and sustainability to the core practices.

Although closer to creating a practical framework for executive action, there are still some challenges to overcome. MacIntyre's view of practices is one of inherent co-operation. However, co-operative behaviour towards organisational goals requires specific types of structures and expectations to be in place within the organisation.

Research shows that individuals will often identify strongly with their practice – as an A&E nurse or a telephone engineer, for example – and seek to protect and defend those interests at the expense of the organisation's overall interests. They may, for example, engage in behaviour to protect their local autonomy at the expense of headquarter-led initiatives.

Also, a close and narrow focus on excelling at their own activities may blind practitioners to what is needed for the organisation to succeed as a whole.

Practitioners may create a bubble removed from the realities of the world around them. As a result, they may lose sight of the fact that what they are achieving within their practice, no matter how accomplished, may no longer serve the interests of the organisation's overall purpose or indeed meet the changing expectations of the organisation's stakeholders.

Instead, the practitioners continue to preserve and improve existing standards of excellence, impervious to the fact that their efforts are ultimately unproductive when considered in the context of the organisation's strategy.

These issues need addressing. The senior management must ensure that both the institution and its core practices work together in a coherent way, serving the interests and goals of the organisation overall and allowing core practices to be successfully sustained over time.

THE HEALTHY OPTION – Organisations need to be self-aware as how they create value may be at odds with the shifting interests of their stakeholders

> An ethically alert senior management can sense the changing shifts in public opinion, in customer requirements, in legislation, in what people want broadly, and rearticulate the organisation's value and purpose and the behaviours required to deliver that purpose when necessary.

To do this, I suggest that managers engage in a few distinct types of decision-making activity, which should be a central part of strategic management in any organisation.

The first of these activities is endowing the organisation, and in doing so the core practices, with a unifying purpose and common values.

I call this 'values articulation' work. Senior management needs to arrive at an organisational purpose that contributes to the good of the community at large. This relates to the idea of the 'good life'.

The good life is about purpose. Indeed, corporations have recently been asking these types of fundamental question – what is the purpose of our business?

For example, are social media firms just platforms or are they also publishers? Do they merely connect people or do they publish content as well?

How these questions are answered defines what an organisation construes as a good life in the context of their business. A social media platform may believe that its purpose is to connect people, and connectivity is the value it is providing, for example.

Defining a purpose raises the question of how the organisation goes about meeting that purpose successfully. It necessarily involves certain values and in demonstrating those values and behaviours, to be embedded in the various practices that help deliver that purpose.

Such values and associated behaviours might include, for example, being open and honest with customers, being reliable and trustworthy, and taking care not to cause damage to local communities.

While these values may not be explicitly articulated, (although they may be in a narrow way for legal, regulatory and trade purposes, for example), individuals at all levels of the organisation should be aware and understand what they are. Insofar as values are internalised and practised by the members of an organisation, they develop into dispositions for action, namely virtues.

When an organisation avows a purpose and makes a value commitment, creating value for a community, it forms a relationship with that community and the various stakeholders involved.

But, over time, the needs of the community change, prompting further questions. For a provider of a social platform, for example, what personal information is it allowed to share with others? Should certain types of communication be filtered or censored?

The organisation needs to be self-aware since the various ways in which it currently creates value for external stakeholders may be at odds with the shifting interests of those same stakeholders.

An ethically alert senior management can sense the changing shifts in public opinion, in customer requirements, in legislation, in what people want broadly, and rearticulate the organisation's value and purpose and the behaviours required to deliver that purpose and when necessary.

A second aspect of strategic management should concern capability development. This kind of activity involves putting in place whatever is required to consistently perform the co-ordinated tasks required to achieve the organisation's purpose.

This will include, for example, identifying appropriate rules, structures and routines. It means developing internal capabilities, putting in place skills training that supports the values and behaviours required.

It is not just the technical skills that are important but also a certain orientation to tasks and a particular disposition for action that help fulfil the organisation's overall goals. How should individuals do their job? How should they conduct themselves?

However, capability development may clash with a third type of essential activity, differentiation. Strategy critically includes differentiating one's organisation from others.

It goes without saying that for an organisation to continue to be successful it must keep differentiating itself from its competitors.

Using conventional strategy tools, senior managers analyse how the organisation can maintain a strategic competitive advantage by meeting changing stakeholder demands. However, in order to do this, especially as this is a constant struggle, there will be inevitable disruption of the organisation's core practices.

When core practices get carried away developing their own internal capabilities or self-interests, they risk losing sight of the organisation's purpose and jeopardising competitive success.

At the same time, an organisation driven only by competitive instincts r isks compromising the behaviours and attitudes that drive excellence in its core practices.

To put it differently, an overly inward looking organisation risks losing sight of what is acceptable more broadly in the external world, and vice versa.

A critical task for managers in their strategy work, therefore, is balancing different interests – balancing, on the one hand, the drive to keep differentiating the organisation to remain competitive and, on the other, the demands of external stakeholders. And also, balancing the pursuit of excellence internally with the choice and development of internal capabilities. It is a difficult balancing act that requires good judgement and practical wisdom.

The best strategic managers are those that are reflective, aware of the key activities outlined above, the way they interact, and the desired outcomes.

Managers must also outline the broader context within which core practices unfold, defining and disseminating the organisation's values.

Further down the managerial hierarchy, closer to the core practices, practitioners benefit both from the wisdom of and interaction with their managers, as well as their colleagues, by which they are able to understand and develop the skills and behaviours required for the practice to perform well.

It is by mastering the act of balancing excellence with success – balancing the development of capabilities with the need for competitive advantage – in the service of an overall organisational practice that strategic managers make a value proposition to society.

Doing the right thing does not mean narrowly securing the financial interest of the organisation, but acting in a way that is conducive to the good life – both for the society at large and for the members of the organisation in particular.

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FORTUNE CAT – Contrarian thinking can take advantage of luck

The luck of the prepared

Great performance doesn't always indicate great talent, luck plays a part as well, but people ignore this. It's something strategists can take advantage of.

by **Chengwei Liu**

No rational person would ever enter the lottery. The chance of picking the right six numbers and hitting the jackpot in the UK's National Lottery is one in 45,057,474.

But even in something based purely on luck a strategy can be found. If it was mandatory to play the lottery, how do you enhance your prospect of winning a bigger pay-out? Answer: always pick numbers above 31.

This is because analysis has shown that the majority of people choose numbers associated with their birthday or a family member's birthday as their 'lucky' numbers. So picking above 31 will ensure that if your numbers are chosen you will get a much larger slice of the winnings.

This kind of contrarian thinking can be applied to business as well, where strategy and behavioural science can be combined to exploit the many seemingly irrational biases we all have. It is something I have been researching for nearly a decade.

I show how recognising biases that we have, fixing your own and then exploiting others can lead to a successful strategy for business. How exactly you do it needs solid evidence and analysis to provide a strong foundation for strategising.

LUCK FACTOR – Research finds music labels should look at singles charting between 22 and 30 for their next top 20 hit

Hence, I call my approach 'Analytical Behavioural Strategy', ie drawing on behavioural science knowledge to search for contrarian opportunities and then utilising data analytics to formulate a specific exploitation strategy to gain a competitive advantage.

For instance, most people don't recognise regression to the mean, which can be used to quantify the impact of luck on performances. Regression to the mean happens whenever a performance is not entirely under the control of the person or organisation, such as sales performance or firm growth.

A great performance suggests the managers in charge are better, but also indicates greater timing or luck. By definition luck is not going to persist, so their future performance will not be as great as their current performance, ie regressing downward to the mean. The good thing for a contrarian strategist is that many rivals will naively assume that the great current performance will persist.

Let's look at the music industry. If a new band or musician has a top 20 hit should a music label immediately try to sign them? My analysis of 8,297 acts in the US Billboard 100 from 1980 to 2008 would suggest not. Music label bosses should instead be looking to sign up those reaching between 22 and 30 in the charts.

My analysis shows, that for those charting in the top 20, their next single will land between 40 and 45 on average, regressing disproportionally more to the mean than their lower-performing counterparts.

Those charting between 22 and 30, meanwhile, have the highest predicted future rank for their next single. This is where music label bosses will find the hidden gems.

Most of their rivals will be bidding for those superstars who entered the top 20, which are both more expensive and have lower expected future performance. In contrast, looking at the 'second best' should unearth cheaper acts that are actually going to produce more impressive future successes.

Another domain this can relate to is hiring. All companies rely on attracting top talent, none more so than universities. Typically, if an academic can publish in one of the recognised world elite journals they can demand a premium wage from universities.

But when I evaluated 1,100 leading journals across natural and social sciences, I found that having a high number of citations does not persist. If a journal published an exceptionally highly cited paper – higher than 500 citations – its next volume's expected citation regresses disproportionally down to the mean.

The implication is that the additional citations received beyond the cut-off are 'undeserved': these extra citations should not be attributed to the journal's superior quality, but should instead be due to the 'Matthew Effect', which is when eminent scientists will often gain more credit than a comparatively unknown researcher, even if their work is similar.

Here is the problem: these leading journals tend to acquire their elite status by having a high impact factor, but the impact factor is sensitive to exceptionally highly cited papers. My results show that these 'outliers' do not indicate superior quality.

Hiring policies solely based on counting the number of publications in these elite journals are as if universities are rewarding good luck. Universities could use my approach to pick up undervalued talents, such as those academics who publish in journals with a less exceptional impact factor in their field but do so consistently. Otherwise, universities not only overpay some academics for their luck, but will inevitably be disappointed when the hired stars' academic performance regresses to the mean.

Another question growing businesses face is which markets to export to. Naturally companies head to those Asian markets with a high GDP growth rate like China or India. The problem with such a strategy is that most of their competitors will be heading for those countries as well.

A careful analysis of GDP growth around the world reveals that regression to the mean is also very strong but has an asymmetrical effect. In this case, it is at the bottom where the hidden gems could be. If a country has a very poor growth rate (in the bottom 10) it will perform significantly better than the second worst countries (those in the next 10 worst performers).

The contrarian company will profit from being one of the few, if not the only, one investing in these countries. It is a brave move, but sometimes the wisdom of the crowd has to be balanced against the strong competition you will face in high growth countries or industries.

I have found that it is countries in the lowest 10 per cent – producing growth around –3 per cent – that are predicted to improve their GDP growth rate substantially. In fact, the bottom 10 are expected to regress upward to around the 45th percentile in the year that follows. Many will have terrible prospects due to wars or crises, but there might be some that are under the radar due to political reasons and still have a reasonable economic future.

A good example is China after the 1989 Tiananmen Square protests, which sparked worldwide condemnation and saw many Western companies pull out of the country. Instead of following the consensus many Taiwanese and Hong Kong companies moved into China and their investment was welcomed with open arms. They gained first mover advantage, which has helped them keep ahead of a sway of Western firms ever since.

This shows how being aware of the biases discovered in behavioural science like herding can help companies stay one step ahead of the competition and create new strategies to take advantage of rivals' blind spots. Fortune favours the strategists who understand this theory and embrace what the evidence suggests.

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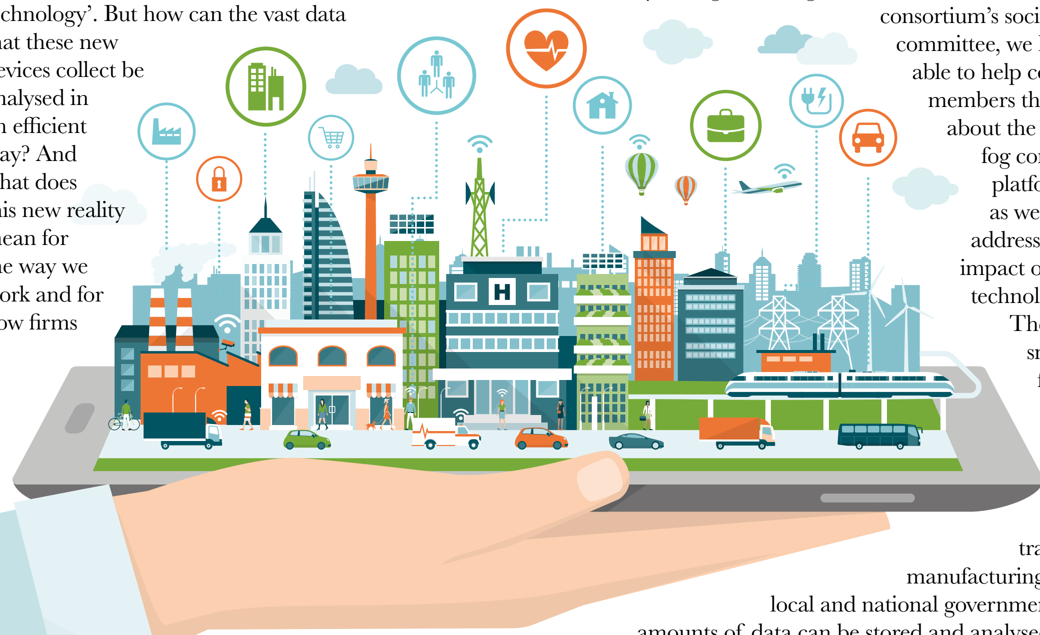
From cloud to fog: Our connected future has arrived

Tech giants are coming together around the world to deliver a revolutionary new connected way of living and working.

by **Sotirios Paroutis**

Rapid advances in IT have enabled manufacturers to embed sensors and microchips to improve the performance of products and services such as home appliances, heating systems, mobile phones, televisions, road vehicles, hospital monitoring equipment and agricultural machinery.

Embedded sensors that can diagnose faults, optimise performance, and save energy are just some of the benefits of 'smart technology'. But how can the vast data that these new devices collect be analysed in an efficient way? And what does this new reality mean for the way we work and for how firms develop their future strategies? Before I address these questions, let me start closer to home.



Smart home appliances such as intelligent fridges that monitor food consumption and reorder supplies from online grocery suppliers, home heating systems that can be controlled from your mobile phone, and smart meters that monitor energy use are part of a growing trend towards home automation. Outside our homes, autonomous vehicles are expected to revolutionise the way we travel.

The devices that surround us in and out of our homes, and in our workplaces, often incorporate mini computers constantly feeding back information to their users in real time. Their ability to process information instantly bypasses the need to store information in the cloud. It was quickly realised that smart devices and sensors could interact and talk to each other via wireless networks. The term used for this process is 'fog computing'. Based on decentralised, local network architectures, fog computing, also associated with 'edge computing', speeds up the analysis and retrieval of data near the devices' source. It supplements and replaces our dependence on storing data in the cloud.

Manufacturers realised that they needed to collaborate to take this architecture from paper to reality. The OpenFog Consortium was originally set up at Princeton University in 2015 by micro-processor designers and software developers Cisco, ARM, Dell, Intel and Microsoft. The challenges involved in building the necessary architecture for networks and ecosystems are so complex that no single firm could find a solution. By sharing their research, members of the OpenFog Consortium have created a common architecture in which smart machines can communicate and interact as part of an 'Internet of Things' (IoT).

Warwick Business School joined the OpenFog Consortium two years ago. Through our collaboration and work on the consortium's social impact committee, we have been able to help consortium members think strategically about the evolution of fog computing as a platform ecosystem, as well as to start addressing the social impact of fog and IoT technologies.

The ability to work smarter and faster is about to revolutionise key areas like IT, healthcare, agriculture, transport and manufacturing, as well as local and national government. Greater amounts of data can be stored and analysed, and hospitals will benefit from smart diagnostic tests and the automation of routine procedures, allowing extra resources to be channelled to where they are needed in A&E departments and intensive care wards. Agriculture will benefit from smarter analysis of soil and growth conditions, enabling crops to be farmed more intensively.

Fog computing will have an even bigger impact in the development of 'smart cities', where traffic management systems, public transport, healthcare provision and social services, for example, can be linked to provide greater efficiencies.

The changes to our work environment can be summed up by the acronym CHANGE. This stands for Cloud computing, Healthcare, Agriculture, Networking, Geolocation services and Ecosystems.

Cloud computing or data storage will be supplemented by local fog networks. There are three benefits – latency, security and capacity. For example, mission-critical applications such as in healthcare diagnostics or autonomous driving demand extremely low latency. In addition to cutting the time required for the retrieval of data and decision-making, fog provides greater security because the more data travels the more it can be intercepted. Fog computing devices can be encrypted using stored biometric data. The use of mobile phones to make payments and conduct banking transactions, for example, would not have been possible without the strongest possible security. Finally, fog computing supplements the storage capacity of the cloud. This is the technology that underpins the development of driverless cars. Smart vehicles currently being trialled generate 35 gigabytes of data per hour, roughly a quarter of the capacity of the average laptop. This data can only be processed locally via a secure fog computing network.

> The ability to work smarter and faster is about to revolutionise key areas

IoT continues to expand rapidly. Market research company Gartner has forecast that by 2020 there will be 26 million smart devices worldwide. This is focusing corporate minds on investment opportunities. In January 2019, the OpenFog Consortium merged with the Industrial Internet Consortium to form the largest consortia of its kind in the world. By bringing together the two consortium, there are now more than 200 corporate members such as Cisco, Intel, Dell, Bosch, General Electric and Huawei.

Pilot projects based on smart cities are currently being trialled around the world. At stake is the survival of cities themselves. As urban populations swell so the task of providing efficient and secure co-ordinated transport systems, healthcare, and education becomes more challenging. Fog computing is the key to effectively co-ordinating services. This is where the big gains are to be made – for example, in the design and operation of city-wide traffic management systems, centrally co-ordinated waste disposal, citizen healthcare initiatives, shared bicycle schemes, telecommunications hubs and improved crime detection and prevention. All of these initiatives are based on the city's ability to capture and share vast amounts of data.

A good example of this can be seen in Chicago where the Illinois Medical District (IMD) and the global consulting practice, Ignite Cities, have formed a private and public partnership to create a national hub for medicine, innovation and research. With more than 40 healthcare organisations, four world-class hospitals, two universities and research lab space, IMD is set to become a health innovation destination. This in turn is leading to wider improvements and leveraging investment in the area's transport infrastructure and public services.

Ignite will work with IMD to build a connected and intelligent solution to transform transportation, connectivity and safety throughout the district. Fog computing will connect people, devices and services, managing two train lines and seven bus routes that move 82,000 people throughout the area weekly, as well as protected bicycle lanes and bike-share stations.

The proposed development of public Wi-Fi, digital kiosks, transportation and intelligent lighting will enhance the quality of life for citizens as well as create new revenue-sharing opportunities, sustainable urbanisation, smarter infrastructure, and scalable services.

The OpenFog and Industrial Internet Consortium is assessing 31 smart city projects around the world including Paris, Nice, Amsterdam, Barcelona, Chicago and Milton Keynes. In each case the trial is driven by local priorities.

But information sharing could create a blueprint for the city of the future.

The public benefits and efficiency savings may be obvious but citizens are understandably wary about the potential social impact. With all-embracing intelligent networks, there may be issues around privacy and security. The question for the user is: do you give permission for your data to be shared and, if yes, how will this data be used exactly? A healthcare trust collecting and aggregating personal medical data for research purposes might not be seen as a threat. But where data associated with an individual is used, this might breach a person's privacy.

Technology partners need to be aware of the downsides and firms who use fog computing should assess how it could change working practices.

In future, firms may install smart technology to assist with decisions or carry out tasks that humans perform at present. An example I often cite is the impact of automation on the freight and logistics industry. The development of driverless trucks might reduce the demand for truck drivers, as freight could be transported at night, travelling non-stop on less crowded motorways. Driverless technology would mean freight companies not being bound by the legal number of working hours a driver can spend on the road to comply with safe practices.

Another example is hospital automation where diffusion pumps used to administer drugs intravenously can store and feed back information on the drugs being prescribed and alert doctors to possible dangerous combinations of drugs.

The advantages may be clear, but firms need to assess the challenges involved in introducing fog computing and allow time for new working practices to evolve. Companies should design solutions based on the feedback they get from the end-users, while in smart city pilots, like Chicago's healthcare hub, success will come from the active participation of citizens in the change process.

Fog and edge computing can really come into its own as a viable ecosystem of the future when stakeholders are fully engaged in the process and where the participants and end-users can feed back their ideas to create solutions with wider societal impact.

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ALGORITHMIC MANAGEMENT LEARNING FROM UBER'S WOES

Uber has fallen foul of relying on computers to manage its drivers. Platforms can learn from its mistakes.

by **Mareike Möhlmann**

Next time you relax into the back seat of an Uber after a night out, spare a thought for your driver.

They have spent the evening at the beck and call of an algorithm, which dictates who they pick up, what route they take and how much money they earn. If they fail to obey the instructions imposed upon them, they risk getting bounced off the platform – and if they have a problem or want to dispute a decision, they are at the mercy of an automated phone line rather than a human being.

As organisations increasingly turn to digital platforms to deliver their services, the algorithmic management practices used by Uber are becoming more widespread. It's not hard to see why organisations are keen to go down this route. It allows them to respond quickly and efficiently to customer demand and to manage huge amounts of people (three million worldwide in Uber's case) with very little management manpower.

Our research suggests, however, that not all in the automated garden is rosy. The way the ride-hailing company is managing its drivers may well be leading to significant cost savings, but it is also resulting in bad feeling and subversive behaviour among drivers, which is counterproductive and has the potential to cause real harm to the business.

A tense situation

My joint research with Lior Zalmanson, Ola Henfridsson and Robert Gregory revealed that algorithmic management practices are causing tension and leading to fault lines opening up in the employer–employee relationship.

Based on a snapshot of Uber drivers in London and New York, we find, on the one hand, that self-employed Uber drivers have a degree of autonomy. They can decide when and for how long they work, giving them the flexibility to meet family commitments, juggle work or study, or even kick-start a fledgling business.

On the flip side, however, as soon as they log onto the app, drivers are effectively under surveillance, with their every move controlled and scrutinised by the platform's algorithms and no wriggle room to diverge from instructions, even if what they are being asked to do is not in their best interests.

Lack of transparency is one of the main causes of driver discontent. The algorithms behind Uber's platform are complex. Drivers struggle to understand how rides are allocated, how ratings are distributed and how earnings are calculated. This leads to accusations of unfairness and manipulation (Uber has previously admitted using behavioural science to nudge drivers into working longer and harder).

These feelings of dissatisfaction are compounded by the fact that drivers feel lonely, isolated and dehumanised. They have no contact with a human manager and typically don't know other Uber drivers in their area. There are no colleagues to compare notes with, nobody to call on in times of trouble and no community to be part of.

Gaming the system

Anyone who has come across a belligerent cabbie won't be surprised to hear that drivers have responded to this by raging against the machine. Our research revealed that they were 'gaming' the system, finding clever ways to work around the algorithms that Uber uses to control them.

We found examples of drivers secretly colluding to organise mass 'switch-offs', leading to a shortage of rides in certain areas and a subsequent price surge. Drivers were also finding ways to break free from the unpopular UberPOOL, which forces them to take multiple passengers who are heading in the same direction, even if it's not economically beneficial.

There are lessons here for organisations who are developing digital platforms and want to avoid the kind of backlash Uber has experienced. For a start, companies can't expect to position themselves as 'partners' with their employees if they persist in keeping them in the dark about the way algorithms work. Finding ways to get employees actively involved in designing algorithm-driven systems will do much to counter negative feelings and build more supportive and engaged workforces.

Adding a human element to the way people are managed will also help workers feel less like they are being treated as a machine. Uber has recognised this with the recent launch of 'Greenlight hubs', which offer walk-in support services for drivers. Developing formal employee communities, which give staff the chance to network and socialise, will also help to create a sense of belonging.

It's impossible to say whether having these kind of measures in place would have helped Uber avoid its high profile and ongoing run-in with regulators.

What is clear, however, is that current models of algorithmic management are tearing employers and employees apart, rather than bringing them together. More research is needed to understand how digital platforms and the algorithms that sit behind them can be redesigned to bring about a better balance and meet the needs and goals of both parties.

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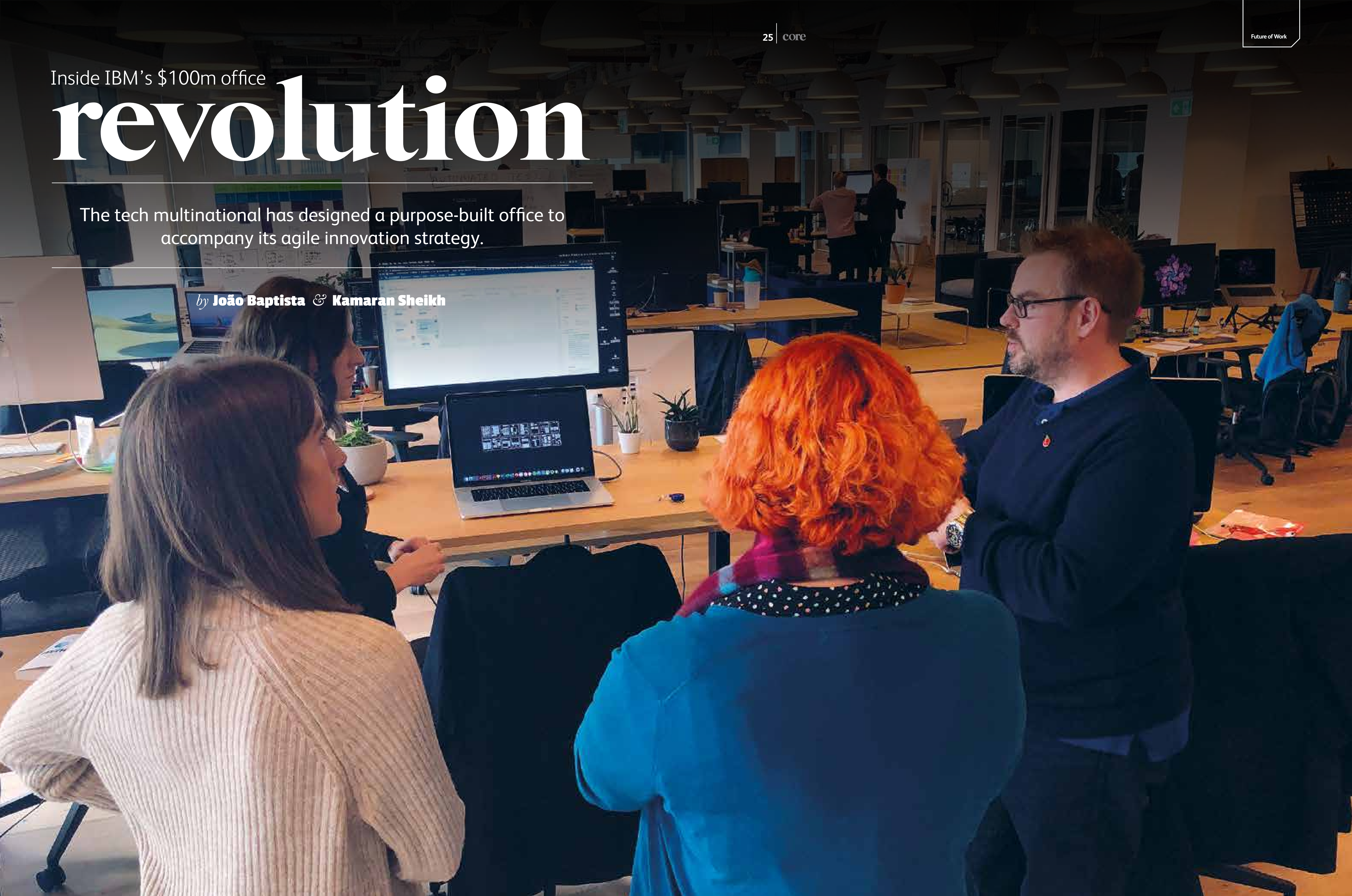
Inside IBM's $100m office

revolution

The tech multinational has designed a purpose-built office to accompany its agile innovation strategy.

by **João Baptista** & **Kamaran Sheikh**



The digital revolution was meant to free us from the office. But visions of sitting on a balcony in the sun with a cool drink and a laptop connected to colleagues around the world has not become reality.

In fact, companies, especially tech companies who started the remote working trend, are redesigning the office to bring workers back.

As innovation becomes increasingly important to stay competitive, making sure teams can work together in digital and physical spaces is vital.

Interestingly, it is technology companies that have emphasised the crucial role of the physical office in creating an attractive and effective work environment in modern organisations. The office space is the hub at the centre of the most innovative and successful digital ventures, with companies such as Google and Facebook investing heavily in entirely new campuses.

Our new research shows that it is the combination and integration of both physical and digital that makes these working spaces effective. It is the flexibility for employees to blend and adjust their workspaces by appropriating features of both the physical and digital environments in a dynamic way that creates effective spaces for work to happen.

With a plethora of digital tools such as Slack, Jira, GitHub, and Workplace by Facebook used by teams in modern offices, the merging of the digital and physical worlds is inevitable; new workspaces emerge where the two are intertwined, where the 'workspaces' are adapted, moulded and reconceptualised just as the projects evolve.

The rise of agile brings adaptability and flexibility to a company's strategy, and structure and that is now being mirrored in the office.

One company at the centre of this shift is IBM. We have spent four years researching its initiative to develop a new workspace fit for the next organisational revolution as part of a $100 million global investment in IBM workspaces around the world.

As we followed the agile development teams in IBM's London Studio, we observed and recorded their movements with time-lapse photography, which allowed us to see how designers, software developers and managers adapted their workspaces dynamically according to the teams' changing needs to create new blended workspaces that transcended both physical and digital environments.

The flexible nature of the workspace reacted to new demands, stimulated innovative thinking, prompted collaboration and empowered individuals to be creative. This was not the standard static office environment.

Organisations that empower teams to craft workspaces by combining physical and digital realms will be the ones that are most effective and attract the employees more able to work innovatively. This requires a culture of open communication where people feel connected and that they the autonomy to change things.

This research has now influenced the creation of a new studio workspace for the IBM team, which has been developed as part of a multi-million pound expansion in London.

More specifically, this research found that the IBM teams created three distinct blended workspaces combining and appropriating aspects of both the physical and digital environments where they work.

BLENDED WORLDS – IBM's office enables dynamic workspaces combining aspects of the physical and digital environments.

1 Workspaces for ongoing and recurring activity

For ongoing team activity, we traced daily routines and captured the use of digital tools and physical spaces. For example, the daily 'stand-up meeting' required multiple teams of around 10 employees to meet in an open-plan office, but where messages would be issued on Slack to gather team members and keep those in remote locations connected.

During these meetings, everybody would gather around the office 'wall of work', which captures key elements of all the projects being worked on, so everybody could see and understand them. It is a lot of writing in pen and sticky notes, with a dashboard, feelings expressed and an opportunity to raise 'blockers' – something that is stopping the project's progress.

Slack and video conferencing tools enabled people from around the world to join and contribute. Each team would provide a status update with reference to Jira, the project management digital tool they used, and they provide updates to the wall of work. This is a mirror of Slack, where they can interact on different projects and see what is going on in them.

2 Workspaces for urgent responses

When the team was faced with a high-priority problem, including an outage or major defect, they would form a 'war room'. A message would go out on Slack, pushing notifications and #warroom set up, so team members could simultaneously suggest ideas and congregate in a booth at the end of the desk space.

The team would share digital images on a shared screen and also bring laptops to show other information as they quickly put the emergency onto Jira and scanned GitHub and performance-monitoring tools to create solutions. Communication flowed between face to face and digital very naturally as part of the workflow.

3 Project-based workspaces

Projects require a different type of assemblage between digital tools and physical office spaces. Each project begins with task assignment in Jira, which is then integrated with email and Slack notifications to the team members involved.

Specific timings would be planned for meeting in communal collaborative spaces such as in the more private booths at the end row of desks or surrounding breakout offices if additional privacy was needed.

The breakout offices had large digital screens, but team members would also use post-it notes and draw diagrams during brainstorming sessions. Work activity flowed across digital tools and the physical workspaces – for example, in brainstorming sessions, many post-its were created, then, after they had been prioritised and reorganised, the content would be transferred across to Jira and other digital tools.

As the project progressed through implementation, it would increasingly move into digital tools that were configured to prompt team members to discuss and review the software artefacts.

Slack and Jira were both integral to the progression of each project, but it was interesting that the way these environments were configured would be mirrored by the terminology and their practice in the office space.

Individuals would change seats in the office to reflect their role and the stage of the project, and this also reflected their activity on Slack to optimise proximity and interactions across physical and digital workspaces.

These three types of workspaces reflect very well the future of many companies, not just in the tech sector, but in banking and other more traditional industries. More and more, organisations are designing physical offices that are more joinedup with the digital workspaces that have become a large part of where work is done.

Providing an environment where teams can dynamically appropriate features from the digital and physical environment in response to ongoing needs is one of the major findings of this study. If companies want to create a productive and effective work environment, they must empower employees to craft their workspaces dynamically. This means giving them ownership of their own work environments guided by a new role in the organisation responsible for both physical and digital spaces of work, as these are traditionally managed as distinct domains.

Most of the management and strategy research highlights the disruptive nature of technology, and pays little attention to the critical role of modern integrated workspaces in enabling change in organisations. Our research contributes to bringing workspace back into studies of technology, strategy and management.

Strategy frameworks need to pay more attention to this as they focus on competitive advantage in terms of price, quality or new capabilities, but all of these rely on how and where people do their work, and how effective the workplace is for them to achieve hose goals.

Ultimately, to be truly agile and innovative, companies today have to bring workspaces into their strategy and think how they combine the physical and digital methods of working – or they will be left behind by the pace of change.

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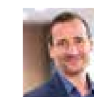

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Navigating a world without boundaries

Traditional strategy tools are less relevant for today's connected world. The Value Spaces Framework remedies that problem.

by **Ola Henfridsson & Joe Nandhakumar**

Just a decade ago, execs at the *Financial Times* talked about being in the newspaper industry and nervously looked at their rival UK broadsheets *The Times* and *The Telegraph*.

Now, with its business model smashed by the internet, the *Financial Times'* rivals span the seemingly endlessly wide rainbow of online news sites across the internet.

Similarly, those in the music industry 10 years ago were wondering what Warner Brothers and EMI were doing in their boardrooms – now it is Spotify and Apple and a host of streaming sites across the world wide web who dictate the pace of change.

The digital revolution has disrupted and broken industry boundaries to such an extent that the very notion of working in an industry is dead.

Every MBA student is familiar with Michael Porter's Five Forces in building a strategy for a company. The oft-quoted strategic tool starts with defining the industry and then building barriers to stop rivals entering.

But thinking about your industry is irrelevant in the digital sphere; barriers are just not possible, especially as the fourth industrial revolution evolves around us with almost everything, from cars to ovens, being connected to the internet.

As a strategy tool, Porter's Five Forces is less relevant in the digital world. Instead, strategists in the digital age need to think about what we term 'value paths' and how their digital product or service can be recombined by users, whether that is a person, another company or even a bot.

Creating value through innumerable connections is how to prosper in the digital world and that involves actively leaving your product open, not building barriers.

To understand where your digital offering fits in the complex web of the digital world, we have formulated the 'Value Spaces Framework' as a tool to map the connections and visualise the value paths available.

Traditionally, a product or service can be described as a vertical, such as a car. It may be made up of many different parts from different suppliers, but it can only be assembled in one way to make that one product. Thus, it has a clear product boundary, and strategy frameworks like Porter's Five Forces look at the product and its industry with that kind of mindset.

The whole industry is based around that product, and value is created within those parts that combine a car. So car manufacturers can compete on features like braking, cornering performance, chassis style and engine power against other cars in the same industry and position themselves around certain features.

But in the digital world value is not created within those vertical industries; instead it arises in horizontal spaces, cutting across industry verticals. Today, for a carmaker, what goes on in Google HQ is just as important as what is happening at Ford or General Motors.

This is because these digital resources are agnostic, in the sense that their meaning is largely defined by their relationships to other digital products or services.

A chair is purpose-built, the parts cannot be used for anything else other than being part of that chair, but a digital product or service can be used in many different ways; it can be recombined with other digital resources to make a totally new service.

Joseph Schumpeter introduced the notion of recombination as innovation in the 1930s, but the digital world has taken it to a new level. Schumpeter was talking about companies recombining features to make new products, where the design team might take the different components of a car to create a new model.

In the digital world, there is also what we call 'design recombination', where the firm purposely recombines digital resources to deliver a new offering. But digital resources are also being recombined by users. They are being left open for users to recombine with other digital resources in ways the designer has not even imagined.

Take Google Maps, a product, thanks to its open API, that, as of February 2012, was embedded in 2,337 other services, all using it in different ways to mix and match with other digital resources to create new value for consumers. It is the same content, but it invites users to recombine it in thousands of different offerings.

Google Maps can be a stand-alone service in a web browser, but is also a digital resource that can be used as a building block in the creation and capture of value in services like Rightmove. The UK-based online real estate portal uses Google Maps to plot properties available on its site.

Although there are some terms and conditions involved it is nothing like the car manufacturer signing a long-term contract for a new navigation system supplier. It is a very lean system. Rightmove can, in theory, move to another map supplier relatively quickly if it wanted.

In our Value Spaces Framework, we have four horizontal levels of digital architecture where value is created:

- Contents – this is data or information like music, news and video that is stored and shared.
- Service – functional software like heart monitors, social media apps and media browsers, which directly serve users as they create, manipulate and consume content.
- Network – the transmission software and the physical cables of the digital world.
- Device – hardware like smartphones and software that enable storing and processing.

VALUE ADDED – Google Maps is connected to 2,337 other digital resources thanks to its open API

So a digital resource, like Google Maps, would sit on one of these levels, most likely contents. Thanks to its open-ended nature Google Maps has 2,337 value paths connecting it to other digital resources either across value spaces on the contents level, or up and down the various different levels of the framework. It is these value paths that are the key to success in the digital world.

The more value paths created, the more important the service becomes and the more users it has – this is the network effect, where the more users there are, the more valuable the service becomes for those users. Even if it does not lead to network effects, the value path can still be monetised, whether it is through advertising, subscription or selling the data on to third parties.

To compete in this world, firms need to create as many value paths as possible through their digital resources, what we call path channelling. Once a firm has realised its position on the Value Spaces Framework, it can plot ways to cut paths to other digital resources by creating better and more user-friendly value paths and so channelling the value from ecosystems dominated by others to themselves instead.

This is a competitive strategy that Google is adept at. For instance, in its attempt to tap into the value paths dominated by Microsoft in word processing, Google has offered users of Microsoft Word plug-ins to make Word work directly from Google Drive. Thus, Google is seeking to channel value paths through its own digital resources and increase its 'value intensity' – this is a rough measure of a digital resource through the number of uses or hits on a web page.

It is a very different mindset to the traditional industry-orientated startegising where creating barriers is necessary. The digital world is the opposite; it is about lowering barriers and being as open and as easy to use as possible – you want other users to take it on and recreate it to generate more value paths.

Thinking of and defining an industry is an irrelevance. After all which industry is Google Maps in? Is it housing or cars or something else? With it being used in 2,337 other digital services, it is impossible to define and it doesn't actually matter. A company, instead, wants to dominate these horizontal layers that we refer to as value spaces.

We have seen industries disrupted by digital innovations time and again, and many more are facing this now, such as the car industry. The car is increasingly becoming digitalised, which means more and more of the value that is produced for the customer is related to digital.

As long as car manufacturers keep outsourcing the digital services inside its cars to somebody else, they will quickly lose control of what is creating value and hence the opportunity to monetise. The car will just be the box for the value paths owned by other companies.

Google may be testing its own autonomous car, but it is unlikely it is looking to enter the 'car industry' – it thinks much bigger than that. It is all about data and maybe it is looking at using all that data from Google Maps, which has traffic flow data, plus its search engine and mobile phones to redefine transportation around a connected smart city.

It is thinking in this horizontal way, at how it can combine many digital resources to solve transportation – and data will be the key. Data can allow it to control all cars and the traffic flows, then the carmakers become suppliers for Google.

Instead of thinking about an industry, the Value Spaces Framework prompts companies to look through industries and at the value paths they can create that break those artificial boundaries. In order to be relevant, firms want to have overlap between their offering and most of the users in the space they are targeting.

Car companies want to engage with the customer and generate data about the customer that can be turned into value, but it is very difficult to turn that information into something useful unless they open up and become part of the digital ecosystem, allowing others to recombine the digital resources in a car.

But this is where it becomes very difficult and where a company needs to understand its position in the Value Spaces Framework. Opening up could increase a car company's value with more value paths, but it could also be hijacked by users.

Apple spotted this dilemma very early on. It was not the inventor of the App Store. When it released its first iPhone it found users breaking into it and installing applications. It could have tried to stop this through legal means and security software, but instead it saw the potential in creating many value paths for its product and devised, with the hackers, the App Store to make downloading applications available to everybody.

But Apple also realised the danger in Google Maps sucking value paths out of its phones and so uninstalled it, cutting the value paths by creating its own map service.

In the digital world this reassessing and hunting for value paths is constant as, without boundaries, a new value path can come from anywhere. If a company is not innovating then it will be overtaken; it has to be updating and looking for more value-creating paths all the time.

Digital innovation is at the heart of any strategy in the digital age and to be successful doesn't stop at a one-off cleverly designed resource. Launching the product or service is just the beginning; it then needs to be attractive enough so it is recombined many times by other users, with new updates and value paths constantly being sought.

In the digital world, innovation is not a way to get ahead in an industry, it is a way of life to thrive in an ecosystem.

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Disrupting recruitment with a tech community

Core met Ben Ruschin, Co-founder of WeAreDevelopers, to discover how his recruitment platform is shaking up the industry.

When Apple legend Steve Wozniak came off stage in Vienna and said it was the best crowd he had ever talked in front of Ben Ruschin knew he had cracked it.

Ben had paid the co-founder of Apple a good sum to appear at his second WeAreDevelopers World Congress conference, but the reaction from the crowd and Wozniak had more than covered the cost.

"It was unbelievable, grown men with beards were crying when they met him," says Ben. "People were lining up with their tablets and iPhones to get Wozniak to sign them. He was a god for them, a true rock star and they were so glad to meet him."

A year later and Ben moved the annual World Congress to Berlin with10,000 packed into the CityCube to listen to big names such as Garry Kasparov.

Having started out as a digital marketing agency Ben's business has now morphed into a hiring platform with the biggest developers' conference in Europe – and it is the secret to his company's success.

WeAreDevelopers is a two-sided hiring platform, but the key is the sense of community Ben and his co-founders have created in four short years – something unique in the recruitment world and what differentiates them.

"We are completely developer-focused," says Ben, who completed his MSc Marketing & Strategy at Warwick Business School in 2008. "We are in touch with the developers on a daily basis and we constantly research their needs and opinions. I am even doing a coding course as I need to speak their language. We are focused on developers because if we understand and make them happy we can scale our business."

A serial entrepreneur, Ben caught the start-up bug while working at Yasssu, a YouTube for serious news content. It may have failed but Ben learned plenty and met his co-founder Sead Ahmetovic there – the pair deciding to head out on their own with Vienna Digital.

"We offered the whole e-commerce strategy," says Ben. "We built webshops and websites, converting traffic into customers and revenue. We grew really fast to 10 people in a year.

"Then we started looking into the whole developer topic, because a lot of customers would rather manage the process and have the developers working with them. We started sending them developers on hourly rates and we realised there was a market for recruiting in the developer world – plus there were much higher margins."

From there, the idea to hold a conference joining developers with potential recruiters grew. And despite his digital marketing skills, which have won Ben awards and seen him become one of *Forbes' 30-under-30* in Austria, it is building a community – traditionally a public relations objective – that has underpinned WeAreDevelopers' rapid growth, with turnover spiralling from €900,000 in 2017 to a projected €5 million in 2019.

Starting with an event in Vienna for 300 developers, this doubled to 600 in 2016. But it was when they held an event for 4,000 developers in 2017 that they decided to pivot and concentrate solely on recruitment, rebranding as WeAreDevelopers.

"We did not want to be yet another recruiting agency," says Ben. "Our events allow companies to meet developers but also to market to them as well – and they are very lucrative. The most important thing is to make sure it is cool for developers – that is why we brought in Wozniak as the keynote speaker in 2018. We had 5,000 people in front of the main stage and it was livestreamed to the other stages, to another 3,100 developers.

"We have also had John Romero, who created the legendary games Doom and Quake, speak as well and he was treated like a rock star – for these girls and guys he is a genius and a big part of their lives.

"This is the reaction we want. Our goal is to be a community providing amazing experiences that developers will associate with our brand. When they get any automated emails from us, they won't ignore them, they will think about us as the cool guys and open them."

The events and the sense of community create an emotional connection with their key audience. And creating a sense of brotherhood among developers does not stop with an annual conference. Ben and his team of 70 staff are using the WeAreDevelopers platform to help developers create their own local events, just as TED – the ideas conference – has done with TEDx.

"Developers go to meet-ups in their city and listen to talks about tech and programming language. It can be 10 to 100 people," says Ben. "We will support them and pass on our knowledge to help them set it up. They are happening all across Europe and we will support them and provide expertise. We have partnered with 300 organisations to promote their events; it helps us stay in touch with the community.

"The better we understand developers, the better we can match them to their perfect job. Money is not the priority for developers – they are travel-savvy want to move locations and work in cool cities for cool companies and be challenged by their work.

"Our research shows that even where the office is located in the city is in developers' top five wishes, along with flexible working hours, the meaning of their work and the culture. We need to understand this and find companies that fulfil their ambitions."

To remain a trusted source for developers, potential employers are carefully vetted and need to meet certain criteria, such as already having at least 10 developers; hiring 10 developers in the next 12 months; and having English as their main language.

STAR TURN – Apple co-founder Steve Wozniak at the WeAreDevelopers World Congress

"We also screen salary levels as developers will demand a 20 per cent premium on GDP per capita," says Ben. "We have over 200 companies on board from all over the world, but we focus on specific cities – Amsterdam, Berlin, Munich, Frankfurt, Vienna, Barcelona and London. Those are the cities where there are attractive employers and that are attractive to move to.

"We really like Unicorns or very well-funded start-ups – they are very fast in the hiring process. We know from our own research that developers should never be left waiting on a job for more than a day. We have more than 50,000 developers registered, but we have a reach of several million through our digital channels and events."

Another difference to traditional recruiters is WeAreDevelopers' business model. As well as the usual 20 per cent of the developer's first annual salary, WeAreDevelopers also has a subscription model for fast-growing companies where they will send them screened candidates every month for them to choose from.

"We discovered that to fill one position, N26 – a German fintech – contacted 500 developers on LinkedIn; 40 responded positively. Of these 35 CVs were accepted, then 30 got through to a phone interview, five passed the coding test and three passed the interview, before one accepted the job. One of the coolest companies with a highly scalable business model spends hundreds of hours recruiting for one position – and they are doing this all the time.

"The subscription model allows companies to skip all that and get straight to the employer's coding test because we screen for them. Plus, we are not fishing in the same LinkedIn pool as everybody else. Our developers are from an untapped source."

WeAreDevelopers is more than a source, it is a community and one of the most trusted brands in the rapidly growing tech industry – something Wozniak can relate to.

TRUST ISSUES SLOW SHARING ECONOMY

Companies like Uber and Airbnb rely on the trust of strangers. Here is how they can repair it.

by **Mareike Möhlmann**

SHARING IS CARING – As children we are taught not to trust strangers but the digital world is creating new mechanisms to overcome that

The sharing economy sounds like an attractive idea, with its promise of more convenient access to services and products, at low cost.

Via digital technology, the sharing economy brings billions of people together to interact and transact. This relatively new and rapidly growing corner of the digital universe is worth many trillions – $229 billion in China alone, according to *The Economist*.

Yet, while the sharing economy might be expected to be an unalloyed success story, accompanied by runaway growth and stellar media coverage, the reality is less straightforward.

Unfortunately for its proponents, the sharing economy is having something of a bumpy ride. Take Uber, for example. The ride-sharing firm has been mired in disputes across the globe, its CEO resigned in 2017 following investor pressure, and it posted a loss of a billion dollars in the quarter ending September 2018.

Other sharing economy firms have run into difficulties too. With ride-sharing firms, there have been reports of sexual assaults on passengers and inadequate driver background checks, for example, while ride-sharing drivers have gone to court to claim that they are employees rather than contractors.

Home-sharing firms have tangled with municipal authorities over local laws restricting the use of residential property for short-term rentals, as well as having to deal with stories of accommodation being used to host pop-up parties and brothels. The result is a trust deficit – a lack of confidence that needs to be overcome if the full potential of the sharing economy is to be realised.

The sharing economy has led to the creation of some extremely highly valued technology businesses and in a very short space of time (Airbnb was founded in 2008 and Uber in 2009).

While there is no universally agreed definition, one can think of the sharing economy as digitally enabled, peer-to-peer exchange platforms for goods and services, which connect spare capacity with demand, or offer access-over-ownership by enabling renting, lending, reselling or swapping.

While there may be some discussion about definitions, an essential, undeniable truth about the sharing economy is that its lifeblood is trust. Trust is the oil that lubricates the engine driving the sharing economy.

Without trust underpinning the confidence to engage in billions of sharing economy transactions every day, there is no sharing economy, no Airbnb, no Uber, no BlaBlaCar.

And by trust I mean, at its most simplistic, our willingness to be exposed to the actions of someone else, person or business, in the expectation that they will behave in a way that we would want them to, regardless of whether we are able to monitor or control their behaviour.

The concept of trust in a commercial context has evolved from family and community settings to an international rules-based globalised economy over centuries.

The world moved from person-to-person trading relationships based on interpersonal trust, backed by individual reputations, shared norms and behaviours, to institutional trust underwritten by governmental and political institutions, with enforceable rules and regulations, legally binding contracts and sophisticated dispute resolution systems.

However, the digital world has created a new dynamic. The ubiquitous nature of digital technologies allows billions of people from across the globe to interact and communicate in ways that were impossible just a few decades ago.

In the digital age, people are deluged with information, and can access a bewildering variety of products and services. All this opportunity, though, is accompanied by risk.

The digital world is often portrayed as a lawless frontier land, with hackers and fraudsters at every turn. Media headlines, such as the Marriott International's data breach involving the personal details of some half a billion customers, stories of initial coin offering scams, tales of identity theft and catfishing, or details of the latest malware that internet users must guard against, do little to dispel this impression.

The growing digitisation of the modern world creates an increasingly complex, anonymous and impersonal society that many perceive as unpredictable, uncertain, even intimidating. We are confronted with a much-expanded world, but one that is full of strangers. In many countries and cultures people are taught to mistrust strangers.

> Trust is the oil that lubricates the engine driving the sharing economy

Yet sharing goods and services via digital technologies is based on the fundamental mechanism of strangers interacting in the digital sphere – even over large distances, or when they have never met in person before.

Hence the importance of trust in online, digitally mediated settings. Trust is a basis for co-operation and community. It is a foundation for the relationships we form, including business relationships, and the decisions we make about obtaining products and services in the marketplace.

Trust helps alleviate the uncertainty experienced in complex environments and mitigate the risk of 'stranger danger'.

And if digital disruption has eroded trust mechanisms constructed over centuries, then trust must be reestablished and regained, both interpersonal and institutional, in order to unlock the potential of the sharing economy.

When platform providers get it right, evidence suggests that the trust levels in sharing business models can be extremely high.

In an article published in *IESE Insight*, together with co-authors Frédéric Mazzella, founder and CEO of BlaBlaCar, Verena Butt d'Espous, from BlaBlaCar, and Stern School of Business Professor Arun Sundararajan, I looked at the effect of BlaBlaCar's trust-building DREAMS framework.

BlaBlaCar is a platform that brokers empty car seats to passengers that want to travel long distances and as such is highly reliant on members trusting e ach other.

Our research revealed that the users' levels of trust in members with full profiles on BlaBlaCar were exceptionally high, and only marginally less than how much they trusted their friends and family.

Whereas the levels of trust afforded to colleagues and neighbours were far lower. Thus, we showed that the right application of digital trust cues can make users trust strangers more than their colleagues.

CATCH ME IF YOU CAN – Trust levels between strangers on ride-sharing app BlaBlaCar were almost as high as they were with family and friends

So how can platform providers begin to engender trust at these levels? One step they can take is to incorporate into their services features that are likely to foster trust.

My recently published work with Andrea Geissinger, of Örebro University, highlights the fact that platform providers can use various digital trust cues to build both interpersonal and institutional trust.

These cues can help reduce the 'stranger danger bias' and boost confidence in the sharing economy, plus they are likely to have a cumulative effect, so the more cues a sharing platform provides, the greater the trust created.

The cues help to reinforce trust-building dimensions such as ability, benevolence and integrity. They also relate to aspects of trust that focus on social relationships, and include factors such as shared values and calculative trust, which is based on rational calculations and economic considerations of whether or not to trust.

There are, for example, a number of digital cues that are more focused on providing reassurance about the transactional elements of the sharing services. Payment is an area, for example, where consumers often have concerns.

When a consumer buys an item in a store, regardless of how they pay, there are usually well-established protections governing that transaction. And the consumer will often be aware of their rights.

In the world of remote digital transaction there is less certainty. Service users may worry about paying a fee, then not getting the service promised or expected, and not having any recourse or means of obtaining a refund.

However, as the platform providers are often the facilitators of financial transactions across the platform, they can offer escrow services and other dispute resolution mechanisms to provide greater certainty and peace of mind.

Similarly, insurance cover is another area where platform providers can provide assurance. Understandably reports of substantial damage to accommodation rented via home-sharing services, or of serious accidents involving ride-sharing vehicles, prompts questions about liability.

Adequate communication of any relevant insurance covering sharing services can help reduce uncertainty about what happens in the event of loss or damage.

Trusting information is another problem area for sharing services. The 'fake news' phenomenon typifies the challenges around validation, verification and trust in a digital environment.

Veracity is also a problem for the sharing economy. But while the news media is still struggling to find a remedy, platform providers can take steps to assure users that information, whether it is user or service-provider information, is reliable and accurate.

They can, for example, use secure transaction processes that incorporate digitally displayed certification or validation, as well as other authentication measures.

It is also possible to involve trusted third parties, such as government institutions, trusted consumer and trade associations, and companies specialising in certification, in the validation process.

Other digital cues are more focused on the relationship building between the participants in the sharing services. A good example is the extent to which platforms allow participants to provide information about themselves and the services they are offering.

Online services such as LinkedIn understand that personal information is an essential part of relationship building. It is no different in the sharing economy.

Such personal information is likely to include details like a profile photo, career history, skills and experience, interests and other digital services that a person uses or belongs to.

Also important is the inclusion of relevant details about the goods and services involved, whether that is photos of accommodation, the location of a parking space, or a description of a ride-sharing car.

Another trust-building element is the use of social capital via sharing economy platforms. In the digital world, social capital can be built up through connections to different online networks, through likes and other forms of online endorsements, and association with other well-regarded individuals and organisations.

Platforms can leverage the social capital accumulated by participants in their services. For example, they can allow participants the opportunity to display the endorsements they have received, or their links to other networks and social media sites.

They can also use devices such as 'trusted reviewer' and 'respected member' to add authority to comments and views. Indeed, reputation building via ratings and reviews, as popularised by firms such as Amazon and eBay, is another way that platforms can effectively help construct a more trusted service environment.

It is also important to consider another new technology that has huge potential to transform the sharing economy, including the way trust-building is approached – blockchain.

It is the focus of some of my most recent work co-authored with Timm Teubner, at the Technical University of Berlin, and Antje Graul, at Utah State University.

Blockchain technology is most closely associated with cryptocurrencies, but has potential in many other applications. The decentralised nature, the ability to verify transactions automatically without the need for intermediary intervention, and the use of smart contracts has the potential to offer participants in the sharing economy more powerful ways of establishing trust.

However, while blockchain technology offers currently untapped potential for platform providers, there are challenges to be overcome in raising awareness about this opportunity and promoting a link between blockchain and the sharing economy.

Furthermore, blockchain technology may be vulnerable to cyber-hacking (for example, the loss and theft of digital coins that has been reported in cryptocurrencies).

There have also been concerns about how compatible blockchains are with European data-protection law, as once documented, data entries on typical blockchains cannot be altered.

Most users are not aware that blockchain requires substantial human intervention, for instance when writing smart contracts. Smart contracts offer transparency and security, and thus foster trust once they are written and implemented.

> "Service users may worry about paying a fee, then not getting the service promised or expected, and not having any recourse or means of obtaining a refund"

However, it may be necessary to negotiate these contractual agreements, for instance when contracts need to be updated. Thus, users need to trust the decision-makers and designers of the blockchains.

So far, blockchain technology can only assure trusted transactions within the relatively narrow, technological framework of the engineering system of blockchains, but not beyond.

Further research is needed to investigate how, for example, blockchain and other trust mechanisms can be used together to further the interests of the sharing economy.

To date, the platform providers, often operating on a global basis, have made the running with regard to shaping societal norms, rules and moral codes around their vision of the future. And so far the results have been mixed.

Given the potential economic power and growth involved, it is questionable whether platforms should be the main arbiters for constructing the sharing economy universe and its rules.

It is crucial that civic society, governments, NGOs, regulators and legislators rise to the challenge of allowing the sharing economy to innovate and flourish.

Working together and using a range of tools, whether that is trust frameworks such as those deployed by BlaBlaCar, or digital cues, blockchain technology, or other trust-promoting mechanisms, these stakeholders should be able to go a long way towards overcoming any current trust deficit and inspiring trust in the sharing economy overall.

In doing so, they can fulfil the promise of the sharing economy as a way to use resources more efficiently, deliver environmental and economic benefits, and enable strangers across the globe to connect in confidence.

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WHAT THE NHS NEEDS IS MORE MANAGERS

by **Ian Kirkpatrick**

So long the target of tabloid and political invective, research finds the ‘fat cats’ actually improve hospital outcomes.

To 'celebrate' the UK National Health Service's (NHS) 70th birthday in 2018, Prime Minister Theresa May announced it would receive an extra £20 billion annually for five years.

It was the kind of announcement that drew criticism from the 'left' for not being enough and from the 'right' for being unfundable.

Former Chairman of the Conservative Party, Lord Saatchi, immediately warned it will be wasted on "agency staff, management consultants and mismanagement" and called for a cross-party commission to reform the NHS.

This attack on management and their poor handling of the NHS is a familiar refrain, with even the former Minister for Health Jeremy Hunt joining in by declaring: "We should today ask whether the NHS made a historic mistake in the 1980s by deliberately creating a manager class who were not clinicians."

And successive governments have backed up their doubts about the value of managers. From 2007 to 2012, the average ratio of managers to staff in the NHS fell by nine per cent.

This is despite changes to NHS organisations, such as the shift to Foundation Trusts, which increases autonomy and responsibility, and arguably demands more managers, not fewer. However, from the political left and right, both agree that there are too many managers in the NHS.

But our research debunks that myth, finding instead a strong statistical link between an increase in the number of managers and the performance of hospital trusts on a number of measures.

In fact, according to the data, the NHS would be wise to put aside a portion of the annual £20 billion to hire more managers, especially as the Government will apply five tests on plans to use the money, which are:

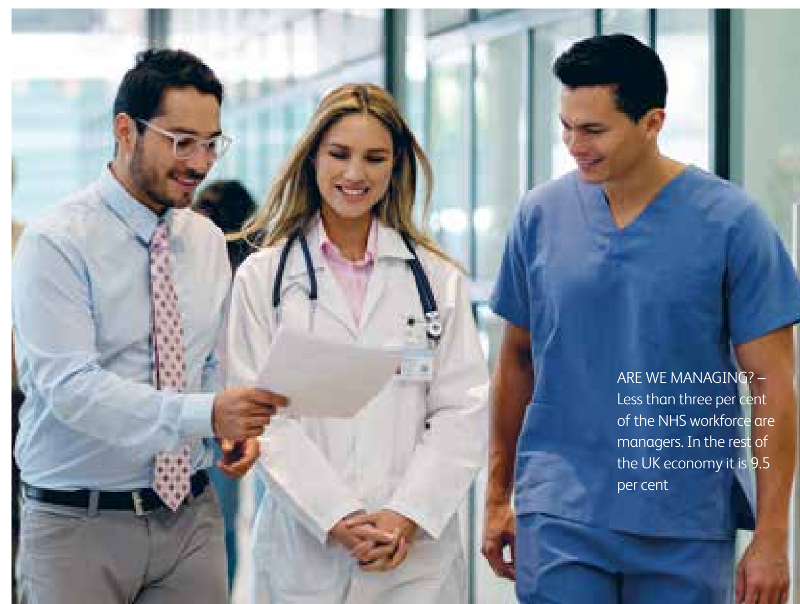
- Improving productivity and efficiency
- Eliminating provider deficits
- Reducing unwarranted variation in the system so people get consistently high standards of care wherever they live
- Getting much better at managing demand effectively
- Making better use of capital investment

Meeting these tests will require good management, and that will probably require more managers, something the NHS is severely short of compared to other sectors.

In a highly complex organisation like the NHS – the fifth biggest organisation in the world – managers are needed to co-ordinate tasks to meet these Government tests.

Currently there are around 31,000 managers employed in the English NHS. About a third of those are 'hybrids' – doctors or nurses with a frontline position and a management role – while the rest are dedicated managers. But in an organisation of 1.36 million employees, that amounts to less than three per cent of the workforce.

This contrasts with the UK economy as a whole, where managers make up 9.5 per cent of the workforce. It might be that there are other roles that involve some sort of management, but such a disparity makes it hard to argue the NHS has too many managers.



ARE WE MANAGING? – Less than three per cent of the NHS workforce are managers. In the rest of the UK economy it is 9.5 per cent

Indeed, our research shows that more managers will help the NHS meet the Government's tests, particularly around efficiency. With my colleagues Ali Altanlar and Gianluca Veronesi, we used data from 150 acute hospitals in England from 2007 to 2012 to find out what impact managers have on performance.

This study found that even a small increase in the proportion of managers (from two to three per cent of the workforce in an average hospital trust) could be significant.

Although having only a modest impact on patient satisfaction, larger numbers of managers resulted in a five per cent improvement in hospital efficiency and a 15 per cent reduction in infection rates.

A one per cent rise at a typical trust equates to 39 more managers and, across the NHS, would roughly amount to less than £1 billion of the extra £20 billion promised.

Trusts could also receive a further boost in performance by retaining board members with a business or commercial background.

Our analysis of four years of data found that, contrary to popular opinion, business experts on the board of trusts had no negative impact on service quality and patient wellbeing, but did have a positive impact on efficiency and a range of financial management measures.

These findings run counter to the popular view that slashing managers won't have any effect on trust performance. Instead, a conservative investment in managers and improving the numbers slightly is more likely to have a positive effect.

So why has bashing managers been such a popular past-time for policymakers and the media?

There have been high-profile scandals that have added fuel to this belief, most notably the case of Mid-Staffordshire NHS Foundation Trust, where between 400 and 1,200 patients died as a result of poor care from January 2005 to March 2009.

The 2013 Francis Report into the scandal cited cost-cutting by management as a significant factor, with senior managers accused of being preoccupied with "targets and processes" and losing sight of their "fundamental responsibility to provide safe care".

We are not trying to ignore this problem or claim that managers will cure all the ills of the NHS. Sometimes managers do underperform. In the worst cases, they fail to understand the context and clash with doctors and nurses.

Managers can also become obsessed with meeting performance targets passed down from Government, especially when their jobs are on the line. In this high-pressure and high-scrutiny environment, it is not surprising that the median average tenure of a chief executive in the NHS is only three years.

Clinicians, meanwhile, are at the coalface, with a growing amount of paperwork to deal with. By association, they blame that on managers, as it takes them away from doing their real job of caring for patients.

A mounting list of NHS scandals, the narrative in the media and the poor public reputation of managers is having an effect. Our research also uncovered that Foundation Trusts were significantly more likely to attract media scrutiny, which in turn was found to be a powerful mediating factor in the relatively lower proportion of managers to staff ratio. It has almost become perceived wisdom that managers are a drain on the NHS. Yet managers can shield clinicians from media scrutiny, dealing with the politics so doctors can concentrate on caring for patients.

But it is not just the popular press peddling this idea. Academic research has also reached the same conclusion, albeit from radically different starting points.

On the one hand are critical accounts from public administration academics, which depict management as essentially about control. From this perspective, the underlying motivation for the NHS reforms over the last 30 years has been about the Government trying to control resources, limit clinical freedom and ultimately privatise the NHS.

Doctors have been able to articulate this in their own way and claim 'we are the experts; left alone, we can run the NHS perfectly adequately'. Many academics have either consciously or unconsciously bought into this anti-manager discourse, myself included.

The other strand has come from public choice theory, a strand of economic thinking originating in the US, which is an anti-state, anti-government critique of bureaucracy.

It argues that bureaucrats have no real public service ethos and their primary motivation is 'rent seeking' – that is they want to use the organisation's resources to obtain economic gain without giving anything back to society.

According to public choice theory, bureaucrats are only interested in expanding their 'empires' by hiring more bureaucrats and in turn growing their salaries. This represents the dominant view of the Republican Party in the US and the presidency of Donald Trump.

In the UK, NHS managers have also been tarred with this anti-bureaucrat rhetoric. The neo-liberal remedy is to reign back the state and the power of bureaucrats to allocate resources by using private organisations that are incentivised to make profits instead. Competition and privatisation, not management, is the answer.

This dual discourse is what motivates a lot of the media headlines. And yet by any metric the NHS appears to be under-managed at the operational level; its managers are not brilliantly paid relative to the private sector, while the intensity of work and stress is probably higher.

The lack of management resources also means trusts are reliant at times of extra pressure on management consultants – another bugbear of the media.

On average, £1.2 million a year is spent on consultants per hospital trust. However, our study of data from 120 hospital trusts in England showed that more spending on management consultants leads overall to a significant rise in inefficiency, ultimately worsening services.

The money spent on management consultants each year in England is the equivalent of around 20 more managers, 10 consultant doctors or 35 senior nurses per trust.

So, what about in the past, when the NHS didn't have any managers and was run by clinicians? Studies from the 1970s showed that this was far from ideal, with spiralling costs and powerful medical interests holding back key reforms and improvements in delivery.

A very similar picture applies today in some areas of the US, where spending on healthcare varies widely. The town of McAllen in Texas, for example, has one of the highest cost per person on healthcare and the least number of managers.

Doctors were doing every procedure possible, even though many were unnecessary, partly because there was no oversight or standardisation.

Clinicians tend to work in silos because they do specialised work. This means that they don't always see the big picture, whereas managers, if they are doing their jobs properly, will look at the system as a whole.

It was partly to address these problems that the 1983 Griffiths Report called for the NHS to become more managed and provide better value.

This demand is still here today. Lord Carter's 2016 review of acute hospitals in England found "unwarranted variations" in service, ie inefficiencies, which, if addressed would save the NHS £5 billion.

Only managers, in partnership with clinicians, have the time or expertise to address this challenge. Managers are trained to put in place processes that can make services more efficient and effective. This does not always mean cost-cutting, but getting better value for money without diminishing quality.

There is also a lot of evidence-based knowledge that takes forever to be put into practice on the frontline and some of it it is patchy, or it never gets there, with one trust using the new treatment and another next door not. This could also be dealt with if the NHS had more effective management.

It is true that the NHS today may have a higher proportion of managers than many other healthcare systems in the world. However, according to the Commonwealth Fund – a US foundation – it is also one of the best-performing healthcare systems, especially when it comes to value for money.

The evidence shows managers are important and effective in healthcare. Thus, with the growing pressure on resources from an ageing UK population, the NHS would be wise to apportion a good proportion of their extra cash on hiring more managers, not less.

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Making innovation travel in the NHS

Jann Gardner is Chief Executive of the Golden Jubilee Foundation, which combines a hospital and centres for research, clinical skills and innovation to create a crucible for innovation in NHS Scotland.

Core: How does the Golden Jubilee Foundation diffuse its innovations across NHS Scotland?

Gardner: The Golden Jubilee Foundation is unique within the NHS in Scotland. A national NHS Board, the Golden Jubilee family includes the National Hospital, Research Institute, Innovation Centre and Conference Hotel. It is the only national board that is a provider of elective and acute hospital care while having a national provider/expertise role.

Our overarching focus is on delivering care, innovation and excellence through collaboration. We are a strong values-based employer, firmly believing that it is both what you do and how you do it that delivers innovation and excellence. As such, we are very proud of the feedback from our patients about their experience of care and our partners about working in collaboration with us.

We have direct critical partnerships with all Scottish NHS boards and innovation networks and have a formal R&D programme. The Golden Jubilee Foundation designs and develops innovations on a 'Once for Scotland' basis through these partnerships and networks. In addition, key opportunities are available through our provision of conference facilities to biotech and medical industries, where best practice and innovation are often shared.

The Golden Jubilee also leads the Innovation Fund for Scotland, allowing us to work with partners across Scotland to bring innovations from bench to bedside.

Working on behalf of the Scottish Government, we have established the Director of Global Development and Strategic Partnerships role as a position in our executive team. This is an exceptional role that allows us to remove boundaries, more creatively develop key partnerships, and work across NHS, industry and academia interfaces.

C: What innovation process does the Golden Jubilee Foundation use in its Innovation Centre?

G: Innovation and values are at the heart of the Golden Jubilee's vision (leading quality, research and innovation). We use a combination of design thinking, agile and quality improvement approaches, and our values system both encourages staff involvement and recognises their successes.

In addition, we are at an exciting stage of developing our innovation work to provide scale and pace to this programme by establishing an innovation accelerator unit as part of our portfolio.

C: What are the biggest issues in NHS Scotland that need innovation to tackle?

G: Scotland has an ageing population, high areas of deprivation and some of the highest instances of cancer and heart and lung disease in the UK. NHS Scotland needs to develop innovative new approaches to the provision of care that enables the sustainability and resilience to our services.

We see the harnessing of technology and the development of new advance practice roles as critical components of this. The fourth industrial revolution of AI and digitisation will help Scotland respond to these legacy challenges from the third industrial revolution.

C: How do the Golden Jubilee Foundation's Research Institute and Innovation Centre work together? What structures and processes are in place?

G: The different parts of our organisation work both independently and in collaboration with one another. Our Research Institute focuses more on conventional clinical trials and the Innovation Centre is working to develop future products and initiatives.

Going forward, we have ambitious plans to create an innovation accelerator unit to undertake strategic partnerships with industry, start-ups and academia to attract significant investment to this area.

C: A WBS study has argued that the NHS has a lack of managers and needs more to improve patient care and efficiency. What are your thoughts on that?

G: I believe that NHS Scotland needs to develop effective and values-based leaders who have the skill set to foster innovation. NHS Scotland is committed to developing clinical and other leaders with a range of skills, including entrepreneurship, innovation and digitisation, who are committed to creating or supporting a values-based culture, and the Golden Jubilee has a critical role in this work.

C: How does Golden Jubilee Foundation connect its work with social care in Scotland as an ageing population puts pressure on social and hospital care?

G: Scotland's Cabinet Secretary for Health and Sport has identified access, integration and mental health as three critical priorities, and all NHS Scotland boards are committed to supporting these.

The main focus for the Golden Jubilee continues to be around providing access to services. We have continually increased capacity year-on-year and significant work is under way on the Golden Jubilee's elective expansion, which will increase capacity even further to ensure NHS Scotland can meet demand up to 2035 in ophthalmology, orthopaedics and other key services to meet the needs of Scotland's ageing population.

The Golden Jubilee is also partnering with other NHS Scotland organisations to develop further elective capacity, capability and workforce skills across Scotland.

C: What examples of technology, such as AI, is the Golden Jubilee Foundation researching?

G: The Golden Jubilee Foundation is at the forefront of innovation in healthcare and is involved in a large number of developments, including:

- Launching a robotic lung surgery programme.
- Planning a robotic orthopaedic surgery programme in the near future.
- Developing 'first in UK' laboratory services.
- Developing clinical speciality data lakes to enable research.
- Using technology to remotely monitor heart failure patients, reducing the need for hospitalisation and potentially saving lives through early intervention.
- Using the Organ Care System to keep donor hearts beating, potentially increasing the number of donor organs available to patients with advanced heart failure.
- Developing a direct referral service for patients experiencing a Non-ST-elevation myocardial infarction (NSTEMI heart attack), which is where the supply of blood to the heart may be only partially, rather than completely, blocked. This will help treat patients more quickly and reduce their length of stay in hospital.
- Using AI approaches to patient monitoring of vital signs, quality improvement, quality dashboards and even placement of patients on waiting lists.

GOLDEN FUTURE – Jann Gardner is leading NHS Scotland's move into the fourth industrial revolution, including the use of AI in patient monitoring

C: What impact will the fourth industrial revolution have on healthcare?

G: The fourth industrial revolution will be transformational for healthcare in Scotland and indeed globally. This journey has already begun for NHS Scotland and is fully supported by the Scottish Government, industry and academia. There will be huge opportunities for the application of the Internet of Things, AI, robotics and beyond for diagnostics, monitoring, care at home and staff/patient education, but the scope is infinite.

The Golden Jubilee is thrilled to be at the heart of Scotland's innovation at this really exciting time, and has the ambition and capability to be a critical player in this landscape.

Four factors
to deal with long-term health conditions

An ageing population is putting huge demands on the UK's healthcare system. This is how to relieve the pressure.

by **Graeme Currie**

The headlines in the mainstream media over the 2017–18 winter highlighted the scale of the challenge faced by the UK's National Health Service (NHS).

During a difficult flu season, accident and emergency (A&E) services across the country were under severe and sustained pressure. Ambulances queued, patients waited on trolleys in corridors due to a lack of beds, and waiting times stretched to six hours and beyond. Terms like 'crisis', 'disaster', and 'breaking point' became synonymous with the state of the nation's healthcare provision.

Like many other healthcare systems across the world, the NHS is facing a set of factors that makes the delivery of effective, affordable healthcare far more difficult than in the past.

A population that is both growing in numbers and living much longer, technological innovation that increases the healthcare options available, rising costs of treatment (in many cases coupled with constrained resources): all of these factors mean that significant change is required to ensure a healthy NHS.

There are frequent calls for wholesale structural change. Indeed major restructuring in order to make the NHS fit for the future seems to be permanently under discussion.

Rather than consider the transformation of the NHS in its entirety, though – a topic that could easily fill several books rather than a brief article – I want to focus on a specific area of care that presents one of the most difficult challenges for healthcare systems in developed nations: the way that we deal with long-term conditions.

Here, I am referring both to conditions that may be physical (such as diabetes, ulcerative colitis, or obesity), those that are more specifically mental health-related (such as dementia). These long-term conditions affect all age ranges, but many disproportionately affect older people.

The negative impact of poorly managed long-term conditions is huge. Care of some 15 million people with long-term conditions consumes 70 per cent of the NHS budget in England, that is £77 billion annually, and £10.9 billion of the £15.5 billion spent on social care in England.

Without taking appropriate action on long-term conditions, for example, you will continue to get unnecessary acute admissions. Patients end up at A&E, are discharged unsafely, and then end up returning to A&E. It is a revolving door and unsustainable.

Yet, attention to a few distinct measures would make a considerable difference to the effectiveness of dealing with long-term conditions and, in doing so, to the overall effectiveness of the NHS.

Of course, structural reform of the NHS is nothing new. Yet, despite the best efforts of policymakers, the provision of care for long-term conditions remains inadequate. Much of the structural reform thus far, notwithstanding some recent reforms, has focused predominately on healthcare.

However, long-term conditions offer a different set of challenges from situations that take up a short, finite period of time that might involve, for example, diagnosis, surgery, a brief hospital stay and then being discharged home to recover fully. Instead, long-term conditions involve discontinuous intervention and the movement of patients in and out of different care settings.

Someone might have a more preventative problem that could be dealt with in the community by the GP, through lifestyle and diet changes, for example. They may have an associated mental health problem. They may have issues relating to social care – a housing problem, perhaps. An education setting may be involved, given that many mental health issues increasingly affect young people – like eating disorders.

When an older person is discharged from hospital, there is often nowhere for them to go because it is not possible to put a social care package in place. You get admission problems due to 'bed blocking', but arguably these are social

HELP THE AGED – Long-term health conditions take up 70 per cent of the NHS budget in England

care rather than healthcare problems.

Long-term conditions need to be managed effectively by the different agencies that are involved. Reform has to be seen at an integrated system level, extending beyond just healthcare.

Unfortunately, though, measures such as separating the commissioners of healthcare from the providers of healthcare in Clinical Commissioning Groups, following the Health and Social Care Act of 2012, or navigating the increasingly competitive environment and marketisation of health and social care generally have tended to fracture and fragment services rather than integrate them.

The UK Government recognises many of the issues and has taken steps through various initiatives to try to address some of them. For example, it has supplemented markets with network arrangements, trying to encourage networks of care.

However, there has been a failure to align structural reform with preexisting process and practice on the ground. If these networks are imposed in a way that ignores preexisting collaboration across providers, which they often are, then they tend to fail. Children's care networks, such as those around paediatric nephrology, are a good example of this.

Elsewhere, you have initiatives such as the one in Greater Manchester, where health and social care budgets have been put together and devolved to the local level to allow decisions about integrating care across health and social domains to be made locally.

An issue here, however, is the lack of additional money to help bring about the change. Merely combining and devolving budgets will not necessarily produce better integrated care because there are vested interests in the system.

Hospitals need to discharge people more effectively and safely if they want to solve their bed-blocking problem. But, in reality, the hospital management may not easily be persuaded to hand over a proportion of its budget for social care.

And then there are sustainability transformation plans (STPs), which involve a system-level approach to integrated care where providers and commissioners (including health, social care and other agencies), are brought together to devise an appropriate solution – it is an accountable care system.

STPs are promising and gathering pace, but politics still gets in the way. The outcome from STP discussions may be that it makes sense to close, move or concentrate certain services in a particular hospital.

However, resistance from local communities, and negative reports in the media, often means that the backlash can prevent progress. Hospitals are keen to retain their prime position in the system, which commonly acts against integration.

What has been conspicuously lacking from the NHS reform initiatives is a focus on the processes that are needed in order to make any structural reforms a success. Structural reform on its own is not enough.

> // There are four process issues, in particular, that are worth highlighting, where action is possible and would make a significant difference //

We need to think about building capacity in the system to make integration work at a process level. This is where organisational management expertise becomes invaluable.

There are four process issues, in particular, that are worth highlighting, where action is possible and would make a significant difference: knowledge mobilisation; distributed leadership and accountability; collaborative strategy; and workforce development. Each of these areas have been the subject of in-depth research within the Organising Healthcare Research Network (see the further reading list).

1 Mobilising knowledge

To begin with, the provision of first-class integrated care for long-term conditions is not possible without the mobilisation of knowledge across organisational and professional boundaries.

Unfortunately, many people seem to equate the concept of knowledge mobilisation with the implementation of an IT system that facilitates data sharing. And that is part of the problem.

Knowledge is different from data. Knowledge is embedded in practice. This is about ensuring that the different professionals in organisations understand each other's perspectives and are able to broker knowledge to each other in real time, in ways that make sense to the other party.

2 Making distributed leadership and accountability work

Work needs to be done on aligning performance. Typically, under the existing performance management systems, different parts of the organisation point in different directions with respect to the performance indicators that they need to meet.

A classic example is targeted waiting times for A&E. If your job is likely to be at risk for not hitting a target, you might, as a hospital manager, keep ambulances waiting outside A&E and not count them as coming into the hospital until you know that you can hit your target.

However, somebody in the ambulance trust will have their job linked to time targets for the ambulance service that is being provided. If the ambulances are stuck waiting outside at the hospital then there will not be enough ambulances to respond to calls.

Professionals will orientate themselves towards their discrete professional indicators. A lack of performance indicators aligned to delivery of the overall service across domains, coupled with intense scrutiny and cost and quality pressures, creates incentives for organisations, or parts of an organisation, to act in dysfunctional ways that lead to inefficient and ineffective delivery of care.

It encourages gaming and fragmentation of the system. Instead, we need broader, more sophisticated performance indicators that relate to overall service provision in the long term, rather than just narrow and very direct performance indicators, such as waiting times at A&E.

In turn, this will create the conditions to allow leadership to be distributed across organisations and professions, rather than having hospital medical leadership as the dominant force, for example. At the same time, this must be supported by collective responsibility.

At present, there tends to be a patchwork of discrete accountabilities, with each individual in the care provision chain feeling that their duty to the patient is discharged after their personal interaction with the patient.

Accountability is important, but we need to encourage a sense of collective responsibility for care of the patient over the longer term, focusing on long-term overall outcomes, particularly where care is discontinuous.

DISTRIBUTED LEADERSHIP – Performance management targets need to be aligned across the NHS

3 Collaborative strategies

In the current fragmented system, individual service providers – whether in health, social care, education or another domain – develop their own strategies in isolation at an organisational level.

One reason that they do this is because marketisation and competition incentivises organisations to seek competitive advantage over other potential providers as they seek to sustain and develop the business.

However, although strategy needs to take place at an individual level, it also needs to take place in the context of the care ecosystem.

So, while all these organisations have a local population to provide for, they need to engage in a strategy that is collaborative and that takes account of the other. There is some progress on this measure via STPs. Nevertheless, the hospital is always a disproportionately powerful player.

Similarly, within and across organisations, managerial and professional conflict must be mediated in order to encourage those in managerial and professional roles to work collaboratively towards shared objectives.

For example, there is a need to bring policy and delivery together. Otherwise, policy is developed without any reference to preexisting process and practice.

Thus, we need to ensure that policymakers, and not just executives but also middle-level managers with clinical experience, engage with those who are delivering the care.

4 Workforce development

Delivering integrated care requires a multidisciplinary delivery system. It needs a local-level multidisciplinary team that pulls in people from different organisations and professions to address patients with long-term needs.

In addition, there should be a focus on hybrid roles – professionals who move into managerial roles. This ensures that there is both the knowledge about what is required in clinical and social care, for example, but also that there is a good understanding about the resources needed for implementation in the particular local context.

The answer is not simply to provide more doctors or nurses, either – something that is likely to take many years to filter through to improvements. It is to find ways to enable doctors, nurses, social workers and other key professionals that deal with long-term conditions to become competent managers.

Here, it is worth acknowledging that workforce development is perhaps one element of process reform that the Government has paid attention to. This can be seen in initiatives such as the NHS Leadership Academy.

It is clear, then, that while structural reform of the NHS is inevitable, it is unlikely to be effective unless it is accompanied by the necessary process reform.

Furthermore, while reform of the NHS is a huge endeavour, there is much to be said for focusing on long-term conditions given their prevalence among the population and the associated costs. Here, substantial improvements could be made by concentrating on the four critical areas of process reform that support structural reform.

In addition, besides reducing the cost burden of mismanaging the treatment of long-term conditions, addressing these areas will undoubtedly encourage practices that are useful in NHS reform elsewhere.

The introduction of market competition into national healthcare systems is a global trend. The question is not whether healthcare systems will be marketised, but rather the extent to which they will be marketised.

A major challenge, therefore, will be how to optimise both competition and integration across and within domains, as intuitively the two seem to counter each other.

But by focusing on long-term conditions, it will be possible to develop practices that promote better integration of all parts of the NHS family, regardless of whether they are private-sector firms, social enterprises, public-sector organisations or from the voluntary sector.

Further Reading:

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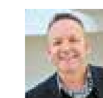

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Taking a moral stand – risky business?

Nike risked a public backlash and upsetting its commercial partnership with the NFL when putting Colin Kaepernick at the centre of its latest campaign.

by **Hari Tsoukas**

On September 18, 2016, two American football players for the San Francisco 49ers, Colin Kaepernick and Eric Reid, knelt during the playing of *The Star-Spangled Banner* prior to their clash with The Carolina Panthers in Charlotte, North Carolina.

Predictably, the action sparked a fierce backlash from allegedly patriotic media and provoked the ire of President Donald Trump, who urged the National Football League (NFL) to suspend or fire players involved in the protest.

Both players were duly dropped from league matches. Angry at the way they had been treated, they filed a collusion grievance against the NFL, accusing the organisation of blacklisting them.

The footballers' high-profile protest encapsulates the concept of moral responsibility. In any organisation, employees must always ask themselves "how am I fulfilling my role?"

But we would argue that these two men are much more than team players: they undertook a leadership responsibility. It is clear that they are role models for other athletes and black people in general. And this is where moral responsibility lies.

Mr Reid was quickly rehabilitated and signed for Carolina Panthers the following season. On the other hand, Mr Kaepernick, a star quarterback with a huge public following, refused all offers, including a lucrative opportunity to join the newlyestablished Alliance of American Football. He decided to stay on and fight the power and influence of the Super Bowl's governing body head-on.

The controversy was reignited when, in 2018, sports equipment manufacturer Nike appointed Mr Kaepernick as one of the stars of its 'Just Do It' campaign, which featured a series of uncompromising role models. Dramatic images of an unrepentant Mr Kaepernick were seen on billboards and in magazines across the US.

The Nike ad displayed a black-and-white close-up of Mr Kaepernick's face and the words: "Believe in something. Even if it means sacrificing everything. Just do it." This added a new twist to the moral leadership debate.

In response to rising racial discrimination across the US, Mr Kaepernick faced clear choices. He could have played it safe and stuck to his profession in a narrow, technical sense. He was a footballer, not a politician; he could have turned his back on this issue. He could have conformed but did not.

STANDING OUT – Colin Kaepernick became the face of Nike's advertising campaign after highlighting rising racial discrimination in the US

> Nike's position was that it wanted to unite people, not to divide them. And the company saw that the best way of achieving this was to take an uncompromising stand

What Mr Kaepernick's dispute with the NFL tells us is that there are no clear distinctions between having strongly held personal beliefs and expressing them in public.

What he did, in fact, was to redefine his role by taking moral considerations into account. He showed moral imagination. Being a footballer was not simply a question of technical expertise but, more broadly, living a certain sort of life – a life in which football is played in a society where equality prevails.

Many people identified with Nike's decision to use an image of Mr Kaepernick in its advertising campaign. Mr Kaepernick's position was affirmed by one of the US' biggest sports companies. The company had taken an uncompromising moral stand. Its advertising campaign, which featured black sporting celebrities, was supported by athletes like tennis player Serena Williams and golfer Tiger Woods.

Nike's decision strengthened Mr Kaepernick's hand in his ongoing collusion lawsuit against the NFL because the sports brand had been the governing body's main corporate partner since 2012. Switching the focus of the debate to the corporate world polarised public opinion and reopened the debate over racial discrimination.

Nike's public support for Mr Kaepernick resulted in an immediate fall in the value of the company's shares of 3.9 per cent. It provoked a Twitter storm, including several tweets from President Trump such as: "Nike is getting absolutely killed with anger and boycotts. I wonder whether they had any idea it would be this way? So far as the NFL is concerned, I just find it hard to watch, and always will, until they stand for the FLAG!"

But here is the point: although sales initially dipped, they then bounced back. Since the 'Just Do It' campaign was launched in September 2018, Nike's online sales have taken off and have, so far, risen 31 per cent, according to a leading e-commerce analyst.

When a company takes on a leadership role that combines moral imagination with moral responsibility, it can make a positive difference to public perceptions and brand image by stating the company's values. It is often a risk worth taking.

The latest news is that, since Nike weighed in behind Mr Kaepernick, the NFL has had to reassess the reputational damage it has suffered because of the affair.

In February 2019, the NFL and Mr Kaepernick settled their long-running legal dispute out of court. Taking into account lost salary and legal costs incurred, the athlete's settlement could have been in the region of tens of millions of dollars.

The NFL's president of communications and public affairs issued the following statement: "We embrace the role and responsibility of everyone involved with this game to promote meaningful, positive change in our communities. The social justice issues that Colin and other professional athletes have raised deserve our attention and action."

So what lessons have been learned? There is no clear-cut distinction between a frame that prompts moral awareness and a business-driven agenda in which moral considerations are ignored or are brushed aside.

Nike's position was that it wanted to unite people, not to divide them. And the company saw that the best way of achieving this was to take an uncompromising stand, which, over time, would replace the immediate outrage over Mr Kaepernick's principled protest.

In terms of the general lessons for business, it is clear that decision-making is much more than calculated reasoning and weighing up the pros and cons. If that were the case then all decisions could be taken by a robot.

In setting up a new company, entrepreneurs will often make a leap of faith and take considerable risk. More generally, a leap of faith is undertaken by anyone who makes a decision. Consequences can never be fully worked out.

A decision expresses an existential outlook – how one sees the work and one's role in it. Mr Kaepernick's and Nike's principled stance widens our sense of professional and business responsibility – it is not only what we do but, critically, what we do it for.

Purpose can never be driven away from business or any job. Insofar as this is the case, purpose forces leaders to think about values, responsibility and, ultimately, the meaning of life.

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Business leaders' next equality battle

The disability employment gap has been left to widen but pressure is building for companies to do something about it.

by **Kim Hoque**

Disabled people face a significant and enduring disadvantage in the labour market. They are over-represented in low-skilled and low-status jobs, are more likely to work in jobs for which they are overqualified, and have poorer access to career progression and training opportunities. They also report lower work-related wellbeing and lower job satisfaction than their non-disabled counterparts.

They also suffer a 15.5 per cent pay gap, which means that, on average, disabled people are paid about £3,000 less per year, based on a 35-hour working week. The Trades Union Congress has recently sought to establish a 'Disability Pay Gap Day'. In 2019, this fell on November 4, this being the day of the year on which disabled people effectively stopped getting paid.

Equally worrying, if not more so, is the size of the disability employment gap. This has remained stubbornly high in the UK, and stands at around 29 percentage points, with only 53 per cent of working-age disabled employees being in work in comparison with about 82 per cent of the non-disabled working-age population.

This does not compare well with other EU countries. Across the EU as a whole, the disability employment gap is around 20 per cent. Finland, France, Latvia and Sweden have gaps of around 10 per cent, while in Luxembourg it is less than three per cent.

The extent of disability disadvantage is, however, not just a matter of concern for the large numbers of working-age disabled people themselves (around a fifth of the working-age population is living with a long-term health condition or disability), but also for employers.

This is for a number of reasons. The first is a straightforward moral argument. Disability equality is a social justice issue; hence it is something that all progressive, socially responsible employers should seek to promote.

This relates not only to job seekers, but also to the organisation's existing workforce, given that most disabilities develop in adulthood once individuals are already in employment. Employers have a duty of care towards their employees as they age, enabling those who develop disabilities to stay in work. This requires significant investment in occupational health services to ensure the requisite adjustments are made and to facilitate reintegration after the onset of long-term health problems or permanent disability.

A second reason relates to the shifting focus of UK Government policy. Until recently, this has focused largely on supply-side labour market activation aimed at getting disabled people off benefits and into job-seeking activity (via Work Capability Assessments, for example).

However, this approach has proved limited, as the persistently high disability employment gap demonstrates. As such, Government attention is now turning to the role of employers in helping boost employment opportunities for disabled people.

One example of this is the introduction in November 2018 of the voluntary disability reporting framework. This calls on employers to report the percentage of individuals within their organisation who are disabled or have a long-term physical or mental health condition, and provide a narrative to outline their activities in the recruitment and retention of disabled people.

The Government believes this will help employers to better understand the experiences of disabled people in their workforce, better monitor internal progress in building a more inclusive environment, and enable them to access a wider pool of talent and skills, with consequent gains for performance and productivity.

While it is currently up to employers to decide whether they wish to heed this call, it is certainly in their interests to do so. The clamours for disability employment reporting to become mandatory (as has happened for gender pay gap reporting) will inevitably increase should significant numbers of employers fail to engage on a voluntary basis.

Disability employment reporting is, however, far from straightforward, and remarkably few employers collect accurate data on the number of disabled people they employ.

Where they do collect data on employees' disability status, this typically happens when they apply for jobs. However, this does not provide a reliable estimate of their total number of disabled employees, as it does not account for fluctuating conditions or for the emergence of disability once people are in employment. Also, disabled people are often unwilling to disclose their status given they fear that doing so will lead to discrimination.

While better data can be collected via periodic anonymous staff surveys, even here assurances need to be given that the data will be treated entirely anonymously, and the purpose of the data collection exercise needs to be made clear in order to allay fears surrounding disclosure.

Nevertheless, while disability employment reporting may be difficult, it is far from impossible. The civil service already tracks the number of disabled employees at different hierarchical levels, and the National Health Service (NHS) has recently introduced its Workforce Disability Equality Standard, which requires all NHS Trusts to track specified metrics on the employment of disabled people. This shows it can be done. Hence the difficulties involved are not an excuse for inaction.

Also indicating the Government's increased focus on the role of employers are its greater efforts to encourage sign-up to its Disability Confident campaign. Disability Confident was launched in 2016 as the successor to the Two Ticks 'Positive About Disabled People' scheme. It has three levels: 'committed', 'employer' and 'leader'.

Employers signing up to the campaign are expected to make commitments regarding how they recruit, support and retain disabled people, with the commitments increasing at higher levels. At level three ('leader'), for example, employers are expected to encourage and mentor firms in their supply chain to become Disability Confident.

However, the Government has become increasingly aware, given the process-orientated nature of the scheme, that it is possible for employers, even at level three, to secure accreditation without employing a single disabled person.

Indeed, my own research with Nick Bacon, of Cass Business School, and David Allen, of Warwick Business School, suggests that neither disability employment rates nor disabled people's experiences of work are likely to be better in organisations that sign up than in those that do not, indicating that Disability Confident is largely toothless in encouraging employers to raise their game.

Reflecting this, it is increasingly anticipated that changes to Disability Confident are on the horizon that will shift the focus from process to outcomes. Indeed, in November 2019, the Government announced a requirement for Disability Confident level three employers to report publicly on their disability employment.

EQUALITY – Only 52 per cent of working-aged disabled people have a job

This is a positive step. However, only 263 of the 15,124 Disability Confident firms are at level three. As such, it is possible this requirement will be extended in future to all Disability Confident employers, and also for employers to develop action plans (as they are encouraged to do where gender pay gap reporting is concerned) that lay out how they intend to increase their percentage of disabled employees.

A further indication of the Government's focus on the role of employers relates to changes to the Public Services (Social Value) Act. David Lidington, as Minister for the Cabinet Office, announced that all Government departments must take social value into account within procurement decisions. This has major implications, not least given total Government procurement expenditure was £284 billion in 2017/18.

While the scheme's details are yet to be unveiled, it is likely that one of the ways companies will be able to demonstrate social value is via their positive treatment of disabled job seekers and employees. As such, the ability of employers to win Government contracts may, in future, be dependent on the manner in which they treat disabled people.

There are, therefore, clear signs of an increased Government focus on initiatives that promote employers' role in addressing disability disadvantage, and it is in employers' own self-interest to engage with these initiatives. This is not only because it may determine their success in winning Government contracts, but because it may also enable them to influence initiatives before they are implemented.

On their own, these are important reasons for employers to increase their focus on the employment of disabled people, but they are not the only reasons. Employers' bodies, including the Confederation of British Industry, the Federation of Small Businesses and the Institute of Directors, have unanimously expressed alarm that the Government's post-Brexit immigration plans and the curtailment of the free movement of people will exacerbate labour supply problems and skills shortages.

However, one way in which these problems might be addressed is if employers think creatively about how to make their workplaces more accommodating to disabled people, thus enabling them to draw on the large pool of disabled people who are willing to work but are currently not in employment.

This is no doubt one reason why the Government is taking the disability employment agenda more seriously. It is increasingly aware that a failure to solve labour supply problems in the post-Brexit era will have severe economic consequences.

However, employers often argue that making the necessary adjustments will be dauntingly expensive and they lack the necessary expertise. This may in part be due to a lack of awareness of the available Government assistance. The Centre for Social Justice's research suggests only 25 per cent of employers have even heard of the Government's Access to Work scheme, which offers advice and financial help to employers.

In addition, many of the adjustments disabled people often need are, in reality, relatively low cost or cost-neutral. These include time off for medical appointments, greater flexibility in working patterns, opportunities to work remotely, and flexibility regarding the start and end time to the working day and in the design of jobs.

These should, of course, not be viewed as disability-specific practices, but instead as progressive employment practices that employers should seek to apply to their whole workforce. By doing so, they would likely gain not only from having fewer unfilled vacancies and happier disabled employees (as studies from the US demonstrate), but also from happier non-disabled employees, thus leading to greater employee retention of both disabled and non-disabled employees, and a more motivated and productive workforce.

However, while the implementation of such practices may sound like a positive idea in addressing disability disadvantage, it is debatable whether they will gain much traction in the absence of leadership at the very top of the organisation.

There is now considerable research showing that only when equality is led from, and championed by, the boardroom does it turn into genuine action accross the organisation.

It is therefore incumbent on business leaders to develop a climate in which disabled people are viewed as an asset, and their contribution to organisational effectiveness is genuinely valued. As research by Susanne Bruyére and her Cornell University colleagues shows, this involves making the employment of disabled people the responsibility of a senior board member (thus establishing it as a clear priority), placing disabled people in leadership positions, and incorporating disability goals into middle managers' performance plans.

This is clearly the right thing to do to improve the working lives of disabled people. However, by developing a climate in which disabled people are able to thrive, businesses will also gain from greater employee retention, smaller skills gaps, a more motivated workforce and ultimately a more effective and profitable organisation.

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RAISING INTEREST IN DEMOGRAPHY

Mounting evidence is persuading policymakers that a country's population structure has a significant influence on interest rates.

by **Arie Gozluklu**

Every man gotta right to decide his own destiny," sang Bob Marley in 1979.

But when it comes to long-term interest rates, trying to decide their destiny has become increasingly difficult for the US Federal Reserve and central banks around the world.

In 1979, when Marley sang about Zimbabwe's revolution, the US base interest rate was at 16 per cent and the following year reached a record high of 20 per cent, while in the UK it reached 17 per cent.

But since the global financial crisis interest rates have been at an all-time low across the Western world. The base rate has been hovering around 0.5 per cent in the UK for the past decade, and it was the same in the US before climbing to above two per cent in 2018.

It had been thought these incredibly low levels were the result of the global financial crisis, as the developing world tried to limit the damage with the extreme measure of quantitative easing.

But policymakers are increasingly coming round to the idea that something more powerful is at play – something they are powerless to control, something that controls real interest rates despite their best efforts to control their own monetary destiny. And that's demographics.

Former US Treasury Secretary Larry Summers has popularised the secular stagnation theory to explain this era of low growth and low interest rates, while Andrew Sentance, Professor of Practice at WBS and former member of the Bank of England's Monetary Policy Committee, similarly talked of a "new normal" after the Great Recession of 2007 to 2009, with low interest rates failing to budge spluttering GDP growth. Both suggest demographics is a potential factor, pointing to low population growth and increasing life expectancy.

But my research, along with other colleagues Carlo Favero, Andrea Tamoni, Haoxi Yang and Annaig Morin, indicates a population factor that has been largely ignored in the thinking of why real interest rates – that is the nominal or base interest rate minus the inflation rate – are so low in the US and much of the Western world, and that is the ratio of the number of middle-aged (40 to 49 year olds) to young (20 to 29 year olds), a variable first introduced in a model by John Geanakoplos, Michael Magill and Martine Quinzii.

Demographics has been used in other models before to explain long-term interest rates, but these have predominantly looked at the size of the population.

We have found that the composition of the working population, specifically the middle-aged to young (MY) ratio, is a more important factor.

Franco Modigliani and Richard Brumberg's life-cycle investment hypothesis suggests that people borrow when young, invest for retirement when middle-aged, and live off their investment once they are retired.

So the middle-aged are the savers and if there are more of them than the young spenders, that means there is more demand for financial securities, pushing prices up and yields, or interest rates, down.

When the MY ratio is small, there will be excess demand for consumption by a large cohort of young and therefore the price for bonds and stocks decreases, so the yield rises and saving is encouraged for the middle-aged.

When you look at interest rates over the very long term, over the last 100 years, you can see that the low rates the US is experiencing today is not just a cyclical story – they had been falling for nearly 20 years, long before the 2007–08 crisis, and this is just a continuation of that trend.

Just why has been vexing economists. And although demographics has been cited, our research suggests that the MY ratio seems to be the telling factor in helping us determine the future path of interest rates.

The MY ratio goes up and down in waves over time, as different size bulges work their way through the population structure. Right now, we are feeling the tail end of one particularly large bulge in the US demographic.

After the Second World War, the US, along with many Western countries, enjoyed a baby boom, which created a giant MY ratio wave running through the country's demography.

The 1960s thus saw a big rise in the MY ratio, pushing up bond prices and sending yields low, but by the 1980s, as Bob Marley's battle cry echoed through the decade, this had swung round the other way.

It saw yields were high and prices low, so the MY ratio was low. As the baby boomers have gradually fallen out of the equation over the last 20 years, that has swung back again, slowly seeing more middle-aged people compared to the young with a rise in savings, boosting financial asset prices and bringing down yields.

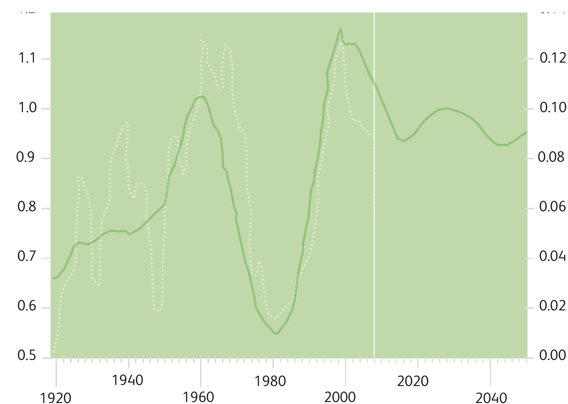
According to our data, and using the Census Bureau projections, the MY ratio is coming down, so a standard forecasting model that adds the MY ratio as a variable to assess whole term structure of interest rates – from the short-term one-month bonds to the 20-year gilts – can produce a more accurate prediction of real interest rates.

We have found that the MY ratio can be used in models not only to help predict interest rates more accurately, but also to help improve forecasting models of stock prices.

We used the MY ratio in several long-horizon forecasting models, comparing it to the S&P 500, including the traditional dynamic dividend growth model, and found strong predictive results.

When we started researching this 10 years ago, there wasn't much interest in demographics, but this is becoming an increasingly important discussion point among economists, with the Barack Obama administration citing our research in a report on long-term interest rates in 2015.

STOCK TAKING – The US MY ratio and the 20-year annualised real US stockmarket returns (dotted line)



Now the question is not whether demographics determines long-term interest rates or not, but how much weight should be put on it in any model being used.

And having created models that use the MY ratio to better forecast interest rates and stockmarket prices in the long term, we are now looking to see if demographics plays a part in affecting inflation.

Real interest rates are unobservable, but if we can see that demographics affects inflation then we will have a better idea at what weight to give the MY ratio in modelling forecasts for long-term interest rates.

The nominal interest rate should reflect the expected inflation in the future, but past inflation is not a good predictor of future inflation. It is very hard to predict, so it would be valuable to policymakers if we knew the link between demographics and inflation.

However, our results in a recent paper with Morin suggest that demographics does not affect inflation as much as it affects the real rate, and there is no robust empirical evidence, even though there are papers suggesting otherwise.

Central banks react to transitory events in the economy by moving the short-term interest rate, in an effort to stabilise the long-term yield or interest rate of bonds, which are critical for business investment and households' mortgages as they care about the next 10 years or more.

Our research shows that using the MY ratio in a standard forecasting model not only provides improved long-term yield forecasts, but can also aid long-term horizon investors in stocks and bond allocation.

The destiny of interest rates might still not be in the hands of policymakers, but we can at least improve our inference of the future by taking into account slow-moving changes in demographics.

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Basel III: Will it harm the broader economy?

The 2007–08 financial crisis ushered in a host of new regulations on banks, but is the latest, Basel III, counterproductive?

by **Andrea Gamba**

Worries about the ability of firms to roll over debt, a rising demand for cash, accompanied by the difficulties of non-banking finance companies in raising funds as banks hoard money. In short, an escalating liquidity crisis threatening the stability of the banking system. But this is not the 2007–08 financial crisis; this is the Indian economy in October 2018.

It is a stark reminder of the fragility of global financial markets, an echo of the last great financial crisis, and a situation that policymakers in Europe and North America have sought to avoid through the introduction of a raft of banking regulations. The 2007–08 financial crisis prompted policymakers and regulators to revisit the rule book and determine, given the apparent inadequacy of the existing Basel Accords regulatory framework, what action might be taken to better regulate banks and the banking system. The policymakers and regulators were assisted by the academic community and the publication of numerous papers focusing on the causes of the financial crisis and possible remedies. The result was an addition to the Basel Accords regulatory framework developed under the auspices of the Bank for International Settlements. Moving on from the inadequacies exposed in Basel II, Basel III is due to be fully implemented by 2022.

Among those academic interventions in the aftermath of the financial crisis was a paper I produced in 2012 and published in 2014, together with colleagues from the International Monetary Fund and the Ca' Foscari University of Venice. That paper adopted a microprudential, firm-level, view of banking regulatory issues. In particular, we considered the impact of three regulatory provisions on two measures of bank efficiency and welfare.

The regulatory measures were: capital requirements – the amount of capital a bank has to hold, usually expressed as a capital adequacy ratio (being mainly common stock and

ELUSIVE – The Indian liquidity crisis in 2018 showed the global financial system is still fragile

retained earnings as a percentage of risk-weighted assets); liquidity requirements – where banks hold sufficient high-quality liquid assets to cover total net cash outflows over 30 days; and prompt corrective action (PCA) – regulatory provisions that force banks to sell assets, restrict payouts or even close, subject to levels of capital.

The two metrics were: enterprise value – the efficiency with which the bank is able to fulfil its maturity transformation role using its debt, in the form of customers' short-term deposits, to provide long-term loans offered to companies in the productive sector; and social welfare – the contribution to the overall value to society of banking activities.

After all, it is one thing to give in to the widespread calls for tough regulations in the wake of the crisis in order to protect banks and investors in anticipation of an economic shock. But what if, in imposing the regulatory measures, you prevent the banking system from functioning effectively, providing credit to the productive sector and helping to drive economic growth post-shock?

Our research showed, that when seen in a dynamic context, PCA is the best approach because it is a regulatory response that depends on the state of the bank. You only intervene when the bank is in trouble, rather than in advance, in anticipation of the bank getting into difficulty, and certainly not when the bank is doing well. On the other hand, measures that are not contingent on the state of the bank, and that combine capital and liquidity requirements, may be detrimental to the bank.

MONEY – Highlighting the opportunity cost can make people take a different decision

Taking a banking sector perspective

Our findings were well received by the academic community at the time, including regulators. However, there were limitations to our work. We were taking a microprudential approach and looking at each bank in isolation. So, with colleagues from New York University and the Ca' Foscari University of Venice, we decided to expand our perspective and talk about the banking sector's risk rather than an individual bank's risk. In order to examine the regulatory challenge from the perspective of the banking sector we devised a general equilibrium dynamic model with aggregate shocks that represents the whole economy in its upturns and downturns.

One of the primary elements of Basel III (and the Basel Accords generally) has been the need to increase capital requirements reducing bank debt. In our new analysis, we consider capital requirements in a world in which banks have another important role besides making credit: they provide liquidity to consumers.

As mentioned previously, banks have a maturity transformation role. They intermediate between households and the productive sector of the economy, taking money from consumers, through short-term borrowing, and using that money to create long-term loans.

Hence, banks create liquidity for households and consumers by selling deposits to them, and in doing so, they make sure that the money is available to consumers at any moment in the future to be withdrawn and spent on consumption. This is a liquidity service and banks create money in the economic system by allowing consumers to carry forward wealth into the future.

In an upturn, when times are good, banks have an incentive to make more loans and therefore take on more debt in the form of deposits. However, the risk is that banks over-extend and the economic situation changes, leaving them exposed to large liabilities to households and to increased delinquencies in their loan investment. Individual banks are, understandably, focused on delivering returns for their shareholders. They have the incentive to

act to further the interests of those shareholders by pursuing high returns at significant risk, knowing that any losses due to the failure of the bank and disruption of the banking system are likely to be distributed much more widely.

Because a banking crisis has large economic and social costs, rather than allowing a completely laissez-faire approach to banking, governments seek, through regulation, to prevent banks from running into trouble and harming themselves and the economy. One popular measure, as with the Basel Accords, is to apply capital requirements. The challenge is knowing what the optimum approach is for setting capital restrictions given the special role of bank deposits. And invariably there is pressure to increase the levels of capital restriction.

The role of banks in the economy

This is usually when the banking lobby protests, arguing that capital requirements should not be raised too high, because otherwise it would be impossible to run the banks. Their usual argument is that, when regulators impose higher capital requirements, it increases the cost of capital for banks, because they must rely more on equity capital, which requires a higher return than debt. That increased cost is then passed on to borrowers, who will have to pay more for their loans, and so it is bad for the economy. Interestingly, our research shows that there is some merit in the protest of the banking lobby but not for the reasons they suggest.

In terms of how capital requirements are applied, they could be applied using a constant capital ratio rule: the same for all banks and for all states of the economy. Alternately, they could be state-contingent – that is, depending on the state of the economy.

Basel III introduces the notion of a 'discretionary counter-cyclical buffer' as part of the capital requirements. This provides for national regulators to demand the bank to hold additional capital during periods of high credit growth – rapid credit growth is often followed by banking crises.

However, our research suggests that this approach may not be optimal for the broader economy because of the role of banks in creating liquidity. Imposing conditions that make leverage counter-cyclical reduces deposits, thus increasing their price and therefore reducing their return. In this sense, bank capital becomes more expensive relative to debt. The overall result is a reduction of consumption and productive investment, reducing wealth and welfare in general.

In detail, during an expansion, consumers want to consume more. Therefore, they tend to use deposits more in order to fund their short-term consumption. If capital requirements become more stringent in this phase, the banks are constrained regarding the extent to which they can use deposits in order to take on more debts. Thus, there is a high demand from consumers for deposits, but a restricted supply. Consequently, consumers are willing to accept very little return, if any, on their deposits. This is to the extent that effectively there may well be a negative return – consumers pay in real terms to have their deposit accounts because they need the liquidity.

To satisfy their funding needs, banks have two sources – equity and debt. As the banks do not have the option of exceeding the regulatory constraints placed upon them on debt, they issue equity – raise capital from the markets – and this capital is very expensive relative to debt. Thus, the regulatory framework increases the cost of capital for the bank. This is the direct result of what, it might easily be argued, is over-restrictive regulation.

It seems only natural that there should be an expansion of leverage allowed in good times. We argue that it is beneficial for the economy to allow the leverage to be pro-cyclical. In our model, the best regulatory approach would be one that allows the bank to expand leverage during periods of economic prosperity, just ensuring that there is a sufficient degree of resistance to restrain the banks' inclination to further increase leverage substantially. The capital requirement would be reduced steadily, allowing leverage to increase, although never to the extent that leverage might expand if it were a completely unfettered market, without regulation.

And there is no need for the regulator to resist the expansion of leverage at all when the economy enters a downturn. That is because the economic slowdown imposes a natural brake on a bank's desire to increase its leverage. Overall, optimal bank

WARNING SIGN – Can Basel III prevent another financial crash?

HOTTING UP – Bank regulation should be part of the broader monetary policy

> Bank regulation should be integrated into the broader monetary policy that central bankers control

leverage is pro-cyclical and regulation is counter-cyclical, in the sense of being more restrictive in economic upturns.

In the alternative regulatory approach of a constant capital ratio, regardless of upturns and downturns, there would be less debt, fewer deposits, and less consumption in upturns. So eventually the economy will be adversely affected due to a reduction in investment. This situation will also create a bigger differential between the cost of debt and cost of equity for the banks. So, in a way, our research confirms the banking lobby's argument that bank capital becomes expensive. Yet it is not, as the banks suggest, because of the level of capital requirement – but rather when the regulations imposed are non-cyclical.

The role of the regulator

One of the implications of our analysis concerns the role of the bank regulator and more specifically what can be reasonably expected from a regulator. This is an issue that has not been fully discussed in the debate on bank regulation, but which is central to it. Because only once we are clear about what can be expected of a regulator can we actually decide what the regulator should do.

Bank regulators are not like the central planner figure from economic theory. All they have are a relatively small set of regulatory levers that essentially affect one aspect of the economy – how banks operate. It seems unrealistic to expect to maximise the overall welfare to the economy by just regulating bank leverage or bank liquidity, for example. That is a very narrow perspective, after all. If we are thinking of the benefit to the broader economy, perhaps there should be full integration between monetary policy and bank regulation, as the two are integrated ways of creating liquidity in the economy, as our analysis shows.

If a government is to successfully relaunch the economy in the aftermath of a crisis, it makes sense for the arbiters of monetary policy – often the central banks – to work closely alongside bank regulators. It should not be the role of the bank regulators alone, as they possess insufficient levers to drive economic growth at a macroeconomic level. It requires additional measures, such as the quantitative easing deployed after the recent crisis, which are beyond the scope and tools of what a bank regulator can do. In other words, bank regulation should be integrated into the broader monetary policy that central bankers control.

Although such an approach may be some way off, it merits serious discussion. In the meantime, our research shows that regulators can achieve something that goes a long way towards optimal – if the degree of leverage allowed is naturally pro-cyclical – exactly because this allows a monetary expansion, through bank leverage, in upturns. Capital restrictions may be counter-cyclical, in the sense of 'leaning against the wind' and making the bank leverage less pro-cyclical than in the corresponding unregulated approach, as the economy expands. But an entirely counter-cyclical approach to leverage – as currently suggested in Basel III – would be a mistake.

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CARBON FOOTPRINTS – COVERING YOUR TRACKS

by Frederik Dahlmann

Including your supply chain is crucial in measuring a company's carbon footprint, but only a third do it. Here's how it should be done.

SMOKING – Pressure is growing for firms to work their supply chain to reduce emissions

Donald Trump may still not believe climate change is happening, but many firms and organisations do and are busily reducing their carbon emissions.

However, what many are not doing is including their supply chain, which is bad news for the environment, as they contribute significantly to a firm's carbon footprint and can amount to as much as four times the organisations own operational emissions.

In fact, the Carbon Disclosure Project (CDP) – a charity running the global disclosure system on carbon emissions for investors and other interested parties – found just 36 per cent of companies responding to its annual survey are engaging with their suppliers.

This is disturbing on two fronts. More and more regulators around the world now require publicly listed companies to include measurements of their greenhouse gas (GHG) emissions in their annual reports, including the UK, which introduced Streamlined Energy and Carbon Reporting in 2019, and this includes supply chains.

Also, it is increasingly important firms engage with their supply chain on working collectively to reduce carbon emissions. With the subject of climate change an increasingly politicised arena thanks to Greta Thunberg's worldwide movement, pressure is building on firms to not just use their carbon reduction action as good PR, but to lead society in the move towards a sustainable future.

By analysing the CDP annual survey from 2014 to 2017, my research partner Jens Roehrich, of the University of Bath, and I found 1,686 listed companies from all over the world that are actively collecting environmental data and engaging with their supply chain – and that refers to customers and suppliers. Indeed, of those, 28 per cent only engage with their customers and 21 per cent just with their suppliers, while the rest talk to both ends of the chain.

Although two thirds of firms are not doing any of this, we can at least see that engaging with your supply chain is on the rise, with the number of firms talking to some or all of their supply chain increasing by 57 per cent in the three years we looked at.

We were able to categorise the firms into three levels of activity with their supply chain – basic, transactional

and collaborative. And it is at the collaborative stage where we see the most comprehensive approach to managing supply chain partners and customers.

The basic level sees companies typically send their suppliers a survey to fill in on their emissions. US software firm Symantec produces an annual report on its suppliers' GHG emissions, while Bank of America has done a CDP supply chain survey since 2009.

This is the first step for a comprehensive carbon reduction plan, measuring and collating data. Perhaps tellingly, responses from firms drawing on basic engagement were relatively shorter in length and qualitatively less detailed.

More advanced firms, at the transactional and collaborative levels, are using that data for more productive means. At the transactional level, firms are calculating their carbon footprint and identifying opportunities for improvements. Those with more experience in this area are then using the data to provide their supply chain with targets and incentives.

Virgin Atlantic Airways, for example, aims for reductions in emissions from its supply chain each year, while nuclear power firm Exelon sets goals for its suppliers to reduce energy usage and GHG emissions.

This data is also being used to develop key performance indicators that can be utilised to select a supplier or worked into contracts to assess a supplier's performance. They can then send warnings to companies who are not hitting the required performance levels and demand improvements, so the emissions data is becoming part of their selection criteria for suppliers. For instance, pharma giant Pfizer reported that the aim of its data collection is "to provide benchmarking to suppliers regarding their GHG emission reduction and water conservation programmes, in order to identify sustainability improvement opportunities".

At the collaborative level, though, firms are working with their suppliers to develop shared goals and values around sustainability. This means more meetings, seminars on best practice, phone calls, emails and even the establishment of online discussion groups as firms and suppliers build mutually beneficial relationships designed to develop innovations to reduce their carbon footprint as well as encourage greener products and services.

And the discussions and information is built into supportive supplier training and development courses, briefings, summits and even award ceremonies to identify joint development and innovation projects.

Food multinational Kellogg's has built a Sustainability Consortium with its supply chain to "drive scientific research and the development of standards and information technology tools to enhance the ability to understand and address the environmental, social and economic implications of products". While InterContinental Hotels Group is working with the International Tourism Partnership to reduce the environmental impact of the cotton used in its bed linen.

Firm at the collaborative level also seek to engage customers and consumers, persuading them through marketing and PR of the benefits of new greener products and how to use them in a way that is less harmful to the environment.

In the B2B sphere, two-way engagement with customers is used, with a more proactive and strategic approach on show. Chemicals giant Ecolab partners with its customers to reduce their energy demands and GHG emissions through innovations.

There are also partnerships with industry associations and university research teams, with French hospitality firm Sodexo funding a Professor of Sustainable Sourcing professor at the Euromed School of Management in Marseilles.

We found some firms are able to employ transactional and collaborative modes of engagement simultaneously with different suppliers and customers.

If firms are having to report all their emissions, from the supply chain to the customer, then what each one does affects the other, which makes the collaborative approach increasingly important. Companies need to understand that they are all part of a system that has to work together and help each other, rather than use it as another supply chain management tool.

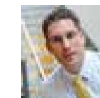
When you analyse the life cycle of a product, such as a plastic travel mug, there are the raw materials – which needed energy in order to be extracted – and more energy is used in the production. Then, at the end of the mug's life, what happens to it? Does it end up in a landfill site? Should that be included in the measurement of each company's carbon footprint and how is that measured? Working with the whole supply chain, both customers and suppliers, will help solve these problems and ultimately bring down emissions for all firms along the value chain.

To do it across the whole value chain can be incredibly complex for a company like Walmart, and the amount of data involved is probably why we are seeing tech companies leading the way in reducing their carbon footprint. Their data analytics skills mean it is natural for them to not only collate data but to put it to good use and work up and down the supply chain.

Their experience of handling and managing data also means they see this trend and increasing requirement to record and measure emissions for companies as an opportunity. If they figure out and produce a comprehensive software package that does all this effectively, they can then sell that platform to other firms looking to manage their whole carbon footprint. Verizon, for example, now sees its Internet of Things products, designed to reduce carbon emissions, as "providing significant revenue opportunities".

It is clear, with the youth of today engaged as never before in the climate change political battle, that sustainability will be the issue of this generation. If businesses are to prosper in this climate, they need to include their whole supply chain to claim they are truly on the planet's side and not be accused of creative carbon accounting.

CONNECTED – Tech firms are leading the way in reducing their carbon footprint across their whole supply chain



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Why **sustainability** is attracting **investors**

So long seen as greenwash, corporate social responsibility is now sought by institutional investors as a way of futureproofing their bets.

by **Chendi Zhang**

By the end of the financial crisis in December 2009, the Conservative party estimated almost 27,000 businesses in the UK had gone into liquidation or been declared insolvent.

Meanwhile, the US had seen three of its biggest banks go to the wall in Lehman Brothers, Washington Mutual and Bear Stearns, while The Treasury Department injected $412 billion into banks, carmakers and other struggling companies, and investors saw $8 trillion dollars wiped from the stockmarket between late 2007 and 2009.

The Great Recession was the severest example of a systematic risk to businesses since the Great Depression of the 1930s – that is, the risk from macroeconomic factors beyond the influence of an individual organisation.

It means planning for the next systematic shock should be a priority for investors, especially those surveying the UK's imminent exit from the European Union, the world's biggest free trade zone. Plus, investors know systematic risk is the main driver of their portfolio, as idiosyncratic risk – that at the firm level – can be diversified away.

My research with Rui Albuquerque, of Boston College, and Yrjö Koskinen, of the University of Calgary, has discovered one avenue for investors to futureproof their portfolio against recessions and economic shocks, and that is Corporate Social Responsibility (CSR).

By developing an industry equilibrium model within an asset-pricing framework, and analysing the performance of 4,670 US listed companies from 2003 to 2015 – and so covering the Great Recession – we have found that investing in CSR reduces a firm's systematic risk.

This is because firms investing in CSR face relatively less price-elastic demand – that is, demand for their goods does not fall that much with a price hike – so they can have higher product prices and retain higher profit margins.

It was thought that, because of this, more firms would adopt CSR policies and so with every firm increasing their costs it would wipe away any reduction in systematic risk.

But our model found that there is a limited amount of consumer spending on CSR products, and so limiting the number of companies that can effectively adopt it. Thus, we found that CSR firms had lower systematic risk compared to companies who had not invested in CSR, with this backed up by us also finding that those invested in CSR saw their profits not as affected by the boom and bust business cycle.

Customers are more loyal because they appreciate the firm's green credentials and environmentally and socially responsible products, which are in line with their values

and concerns about sustainability, so they are not so swayed by price.

In fact, environmentally conscious consumers are willing to pay a premium for products like organic food or electric vehicles, with CSR becoming a form of differentiation for firms. For those companies in tune with the changing demands of society and growing concerns around climate change, they can build a loyal customer base, making profits more stable and less correlated with economic cycles, which reduces their systematic risk and in turn increases firm value.

And the impact on firm value is substantial, with an average increase of five per cent across the firms we studied. Investing in CSR is akin to an insurance policy to make a company less sensitive to economic cycles.

In the model we created, we assume investors are not interested in CSR and are instead standard investors only interested in their risk and returns, so what is generating our results are consumers. And, as they are the driving force, our model predicts the reduction in systematic risk is 40 per cent stronger for consumer-facing companies, especially as these firms spend more on marketing, which will amplify the effect of CSR. And the effect on firm value for these firms is 20 per cent stronger.

To come to this startling conclusion, we used investment analyst company Morgan Stanley Capital Investments' ESG (Environmental, Social and Governance) research database, which has assessed around 6,800 companies, to construct an overall CSR score for each of the 4,670 firms in our study each year. The score combines information on the firm's performance across community, diversity, employee relations, the environment, products and human rights attributes.

PREMIUM PRODUCT – Environmentally conscious consumers are willing to pay more for green-friendly goods

Combining this with the firm's Capital Asset Pricing Model, which measures a stock's expected rate of return compared to its risk, and a company's beta, a measure of its systematic risk, we created a model to measure CSR firms and non-CSR firms. We then controlled for many factors and tested the causality, but found the link between CSR and systematic risk still strong.

Of course, not all CSR is geared towards customers, but employees as well. Further research I have done has discovered that higher job satisfaction among staff leads to higher share prices, and so investing in CSR could also lead to other spin-off benefits.

The case is growing for companies to invest in CSR. In fact, in this increasingly fast-changing and volatile world, with trade wars escalating and the rise of populism across the developed nations, is not investing in CSR a risk worth taking?

Further Reading:

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Renneboog, L., Ter Horst, J. and Zhang, C. (2011) "Is ethical money financially smart? Nonfinancial attributes and money flows of socially responsible investment funds", *Journal of Financial Intermediation*, Vol.20, No.4, 562–588.

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Behavioural Science

Is luxury in our genes?

A study involving chimpanzees unearths an evolutionary theory for our desire for scarce goods.

by **Alicia Melis** & **Daniel Read**

> Luxury fashion brands have long realised that people have a strong desire for scarce goods

EN VOGUE – Luxury handbags can sell for thousands, even millions, of pounds

Outrage flew across social media when it emerged that upmarket fashion label Burberry had burned more than £28 million of unsold clothes, handbags, shoes and cosmetics.

"This is just disgusting, there are so many options available to donate or recycle unsold stock," wrote JDA on Twitter.

Another tweet from Paula Owen said: "This is utterly appalling. What waste in the name of snobbery @Burberry you should be ashamed of yourselves."

Muhammad Lila echoed most people's sentiment across social media: "So let's be clear: Rather than letting poor people wear their clothes, Burberry burns/destroys them instead."

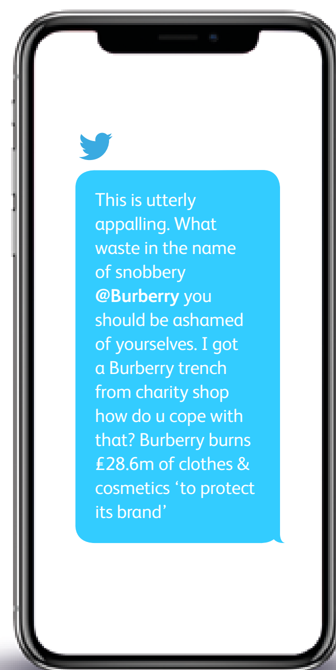
The backlash prompted Burberry to backtrack and announce it would end the practice with immediate effect, but as insiders revealed, this is common practice in the high fashion industry.

And the reason they do it? Luxury fashion brands have long realised that people have a strong desire for scarce goods. This preference is so strong that, seemingly paradoxically, revenue and profits can be increased by selling fewer goods at higher prices than selling more goods at lower prices. For example, there are luxury handbags that sell for thousands of pounds, with Hermes' diamond-studded handbag priced at an astonishing $1.9 million.

We wanted to find out the origins of this preference: why are people so attracted to scarce items and prepared to pay so much for them?

Is this preference something we learn as we grow up? Or is it an adaptive predisposition we exhibit from a young age, and even share with other species?

We know the many 'biases' that people display are also displayed by non-human animals, suggesting that these apparent biases reflect some underlying evolutionary advantage.



Our results suggest that the preference for scarcity is learned, and not inherited. We believe this is partly motivated by strategic considerations such as a fear of missing out, and is also likely to be due to a desire to feel special and to signal exclusivity.

We devised an experiment that could be used to test for scarcity preferences in both chimpanzees and young children aged four and six.

Testing on chimpanzees, humans' closest living primate relative, is an important and often-used arena for evolutionary theories about our cognitive biases, and would let us know if the scarcity preference was more likely to have evolved during our common evolutionary history and so have important adaptive reasons behind it.

The test saw the children and chimps given the choice of a wrapped good from a pile of identical boxes or from a pile containing just a single similarly wrapped box.

We introduced a competition condition as well. In chimpanzees, we increased competition by letting two other chimps choose right after the participating chimpanzee. For children, we had two 'rival' puppets choose right after the child.

The main result was there was no evidence for scarcity bias in chimpanzees and children aged four, but we did find that six-year-old children showed a preference for the scarce good, especially in the presence of competitors.

In adulthood, people choose scarce goods for different reasons. For example, the rarity of luxury products can symbolise exclusivity, status and power. Scarcity in this case is a valued property of the good in itself, since it means that not many people can have it, allowing those that have the rare item to feel special and unique.

We didn't expect this explanation to apply to chimpanzees or four-year-old children, since chimpanzees do not hold property and it is only at later ages that humans start caring about reputation.

The results are consistent with this explanation, since only six-year-olds exhibited the scarcity bias and the rewards used (stickers) could symbolise exclusivity if nobody else had them, just as luxury goods do.

Another possibility is that there is a scarcity heuristic; ie something is rare because everybody wants it, which tends to be a good indication that it is a good product, like a popular car sells out because it is a good car.

We expected this heuristic to emerge only in humans. It is hard to imagine situations in which scarcity would correlate with quality for chimpanzees.

In this study, scarcity was not due to increased demand but to supply restricted by the experimenters (us), so it is unlikely this explanation played a role.

Finally, people preferring scarce goods may be acting strategically, trying to maximise variety or based on a fear of missing out, especially in the presence of competitors and other buyers.

For example, take the case of a music fan who wants the complete set of Rolling Stones vinyl LPs, but there are only 10 copies of *Let It Bleed* left and hundreds of the *Sticky Fingers* album available. They want both but can only afford one.

It makes sense to buy *Let It Bleed* first, as it might sell out quickly, and then go back for *Sticky Fingers* later. The results fit well with this explanation, because it was mainly in the competitive condition when six-year-olds showed the scarcity bias.

Choosing the scarce item to avoid losing it in the presence of competitors implies thinking a couple of moves ahead, and we know from other studies that such planning skills are absent in chimpanzees and undergo a major shift in children at around five years of age.

One way to decide between these two reasons, whether it is strategic thinking or a desire for uniqueness, is to repeat the experiment using utilitarian goods like a fork and to see if we have similar results.

If the effect is found again then it is a strategic choice, because if it is about being special by having something unique, then it would not be displayed for something like a fork. If it is not repeated then we can say children at six are expressing this luxury effect.

Then it might pay for high fashion brands to start burning their unwanted children's clothes as well.

SATISFACTION – Record buyers know to snap up any rare albums

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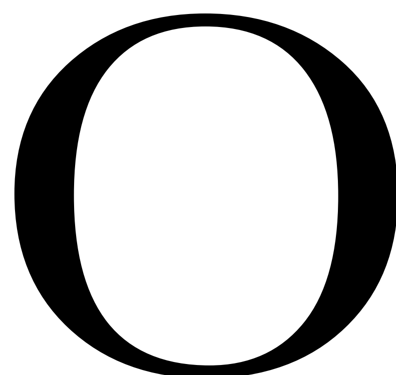
Is your credit card nudging you into more debt?

Experiments have discovered that minimum repayments are having a perverse effect on people.

by **Neil Stewart**



ne morning when opening my credit card bill and after digesting the bad news, I suddenly thought, 'is the minimum repayment really as helpful as it looks?'

An incredibly robust finding from behavioural science, which has been repeated many times in experiments, is 'anchoring'.

Anchoring happens when the presence of irrelevant information biases people's decisions or judgements. One experiment by Dan Ariely, Drazen Prelec and George Loewenstein is typical. It asked students to bid on items in an arbitrary auction using social security numbers as their anchor.

The researchers held up items to be auctioned, like a bottle of wine or book, and then asked each student to write down the last two digits of their social security number. Then they asked for bids on the item.

They found students with high social security numbers bid up to 346 per cent more than those with low numbers, which is due to the anchoring effect.

It has even been tried with a roulette wheel, where just landing on random numbers influenced people's subsequent estimate of the percentage number of African countries in the United Nations.

Although social security numbers are arbitrary and have nothing to do with the price of wine, and random roulette wheel outcomes have nothing to with United Nations membership, the numbers get into people's heads and affect their judgements.

Thus, was it beyond the realms of possibility that the minimum repayment amount on my credit card bill was also producing the same psychological bias? If it was anchoring repayment amounts, it had big implications not just for me but for everyone with a credit card.

In 2014, in the UK alone, credit card debt stood at £70 billion across 30 million card holders, while according to the UK Financial Conduct Authority's (FCA) latest credit card market study, two million people are either in arrears or have had their debt written off, plus another two million have persistently high levels of debt and are at risk of not paying off their debt.

The FCA also estimates that 1.6 million people are making just the minimum repayment and so are taking longer to repay, adding to the overall cost of the debt due to compounding interest rates and having implications for their wider financial situation. Indeed, it found 360,000 people actually paid more in interest than they had borrowed, while another five million credit card holders will take more than 10 years to pay off their balance.

Perhaps some of the slowness in paying down credit card debt is because people simply misunderstand the minimum repayment. The minimum repayment is required by regulation in the UK and US to stop people feeling the full effect of compounding interest rates. It makes sure they pay off at least the interest charged each month, plus a little more. In the UK, minimum repayments must be at least the sum of interest, fees and charges plus one per cent of the outstanding balance.

In a survey of UK credit card holders by consumer campaigner *Which?*, of those who reported they made the minimum repayment, 48 per cent said that they thought it was an amount recommended by their credit card provider and 50 per cent believed it was the amount most people chose to pay.

And the effects of debt can be devastating. A survey by StepChange, a debt charity, suggests that rising debt can have a negative impact on people's physical and mental health and badly impacts their relationship with family and friends.

DROWNING IN DEBT? – Credit card users are being hindered in paying off their loan by a bad nudge

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Removing minimum repayment information nearly eliminated people paying at or below the minimum level

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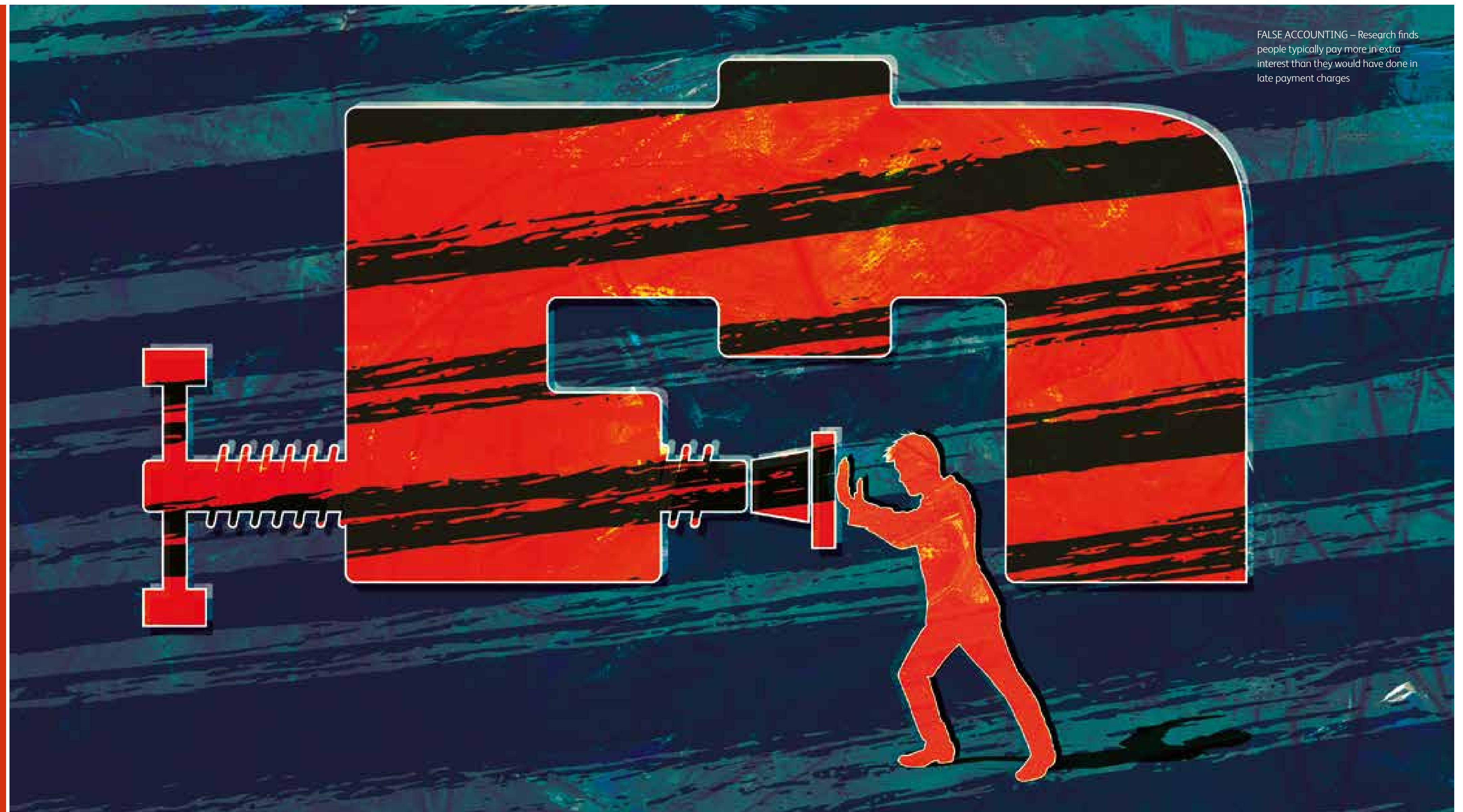

FALSE ACCOUNTING – Research finds people typically pay more in extra interest than they would have done in late payment charges

Additionally, the Consumer Protection Partnership found debt worries have an impact on people's ability to work, affecting their attendance or concentration. Plus they might also lose access to cars, telephones or the internet, and so make it doubly difficult to work or seek employment.

Nudges gone bad

It might seem that people taking longer to pay off their debts is good news for credit card companies, but only up to a certain point. After all, they also want the debt paid off. Writing off debts means they are making a big loss and so they want customers who can pay off their debts.

Firms can also earn revenue from the 'interchange fee', which is when the credit card is used to purchase goods and the provider takes a small percentage cut of the transaction.

The FCA believes firms benefit from people continually paying the minimum repayment. Thus, if people continually pay the minimum, they are profitable to the credit card firms and so might like to consider paying down more.

Thus, we conducted an experiment to test the theory by sending 413 volunteers a mocked-up credit card statement with a balance of £435.76. They were asked to pretend it had arrived that morning, with participants either seeing a minimum repayment of £5.42 or a statement without a minimum repayment.

Removing the minimum repayment information had a dramatic effect. The average repayment increased by 70 per cent from £99 to £175, thus providing evidence that the minimum repayment amount was having a strong anchoring effect – that is a bad nudge.

However, warnings about sticking to just the minimum repayment have been found to be ineffective in research I did with Daniel Navarro-Martinez. And more research providing alternative options to pay off more had no effect on total payments, while telling people about anchoring in other domains has also failed to alter behaviour.

In collaboration with Benedict Guttman-Kenney and Jesse Leary at the FCA, we put together a survey and a much larger randomised controlled trial to de-anchor repayment choices from the minimum.

Again, we used a hypothetical online credit card bill, directing the control group to a standard online bill, where they had to enter how much they were paying back. Meanwhile, another group received the same online bill but with the minimum repayment amount and the button to pay it removed.

In both cases, if somebody entered an amount less than the contractual minimum, a prompt appeared on screen that showed the minimum repayment and asked the consumer to reenter the quantity.

The experiment was split between groups having a low balance of £532.60 with a minimum repayment of £11.98 and a high debt of £3,217.36 with a minimum repayment of £72.38.

This time, the reduction in minimum repayments was even more dramatic. Removing minimum repayment information nearly eliminated people paying at or below the minimum level. Removing the minimum repayment also saw a surprising rise in the number of people paying in full, with between 4.4 per cent and 9.9 per cent more being paid in full, as it seemingly became a target for them to aim for.

Taking out the minimum repayment successfully de-anchored repayments, with a 44 per cent rise in the average amount compared to the control group.

This was broadly consistent with a low balance and a high amount to pay

back. In monetary terms, there was an average increase in repayments of £60 in the low balance scenario and £355 in the high balance scenario.

Of course, this was all a hypothetical situation. Would people react like this with real bills? Working with the FCA, they were able to compare the hypothetical repayments from our experiment to 1,200 real repayment decisions matching our low balance scenario and 3,218 actual repayment decisions that matched our high balance scenario.

Just like in our experiment, we found more repayments closer to the minimum in the high than the low balance scenario. Although for those with a real high balance, we saw a higher proportion of minimum repayments and fewer paying in full than the experimental version. Whereas in the real low balance world, the proportion of consumers choosing full repayments and minimum repayments was very similar to our hypothetical scenario.

Some doing the experiment also gave us consent to check their decisions against their real credit card repayment behaviour. There were 779 matched with the low balance scenario and 774 with the high and we found a reasonably strong correlation with their decisions made in the experiment. Another statistical analysis comparing people's repayment decisions in real life with their hypothetical ones again found they closely matched.

It shows people were taking the hypothetical bill seriously and acting as they would in real life, which means we can be more confident that de-anchoring bills by not showing the bad nudge – the minimum repayment option – when deciding how much to repay in real life could have a huge impact on consumer debt.

People would be prepared to pay their bills off quicker, thus reducing the amount of interest they pay and lowering their debt. It would also help firms as people would be less likely to fall behind on their payments and into financial distress, with their debt eventually being written off, which is expensive for credit card providers.

However, an increasing amount of consumers are using automatic payments or direct debits to handle their credit card bills. This seems the ideal system to avoid late payment charges.

But in research with Hiroaki Sakaguchi and John Gathergood, we found that people will often set the default at the minimum repayment level and then ignore their bills. And yet it is the exceptional one-off payments when they are feeling flush that finally pays off the credit card bill.

We have found that people typically pay more in extra interest for taking longer to pay off the bill than they would have done in late payment charges. In fact, we calculated that those setting automatic payments at the minimum level could save one third of the cost of their debt if they paid it off manually. Once again, the minimum repayment has acted as an anchor for people to set their automatic payments too low. The FCA is now considering consulting on a 'de-anchoring' rule that would prevent customers making repayments online or by telephone from being automatically told their minimum repayment. Our research indicates that this would increase debt repayments, reducing the total cost and duration of the debt.

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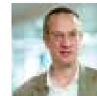

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RAINING MONEY – In one experiment, taking out the minimum repayment saw a 44 per cent rise in the average amount paid by people

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