

# 02

## Happy ever after or till death us do part?

### Leadership and technology

Think piece from the 2019 Public service: state of transformation report

#### It is about the technology

'It's not about the technology' is a phrase I hear a lot in gatherings of senior leaders, accompanied by a sigh of relief, and permission to talk about something else. I meet many senior leaders who are quite simply intimidated by the world of technology – believing they should know all about it, and yet being uncertain, suspicious and sometimes bewildered by the complexity, expense and lack of clarity about what is available, whether it will work and what benefits they might see.

In this brief article I want to set technology in context and explore how it might help us with the major leadership challenges that face those who lead our communities. Most of all I want to propose that if

leaders can come to understand both the scale of the change that is needed on this planet, at this time, and understand how different kinds of technology might help, then we could have a combination that can be truly transformational.

#### Technology is an ever-present character in the history of human development

Quite simply, technology has always been at the centre of the human story. The origin of the word is in ancient Greek transliterated: 'techne' and 'logos'. Techne means art, skill, or craft. Logos means word, as in the way which inward thought

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is expressed. Their combination has been responsible for the most momentous and most horrific episodes in history, from landing on the moon to the atomic bomb, the combination of intention and craft for better or for worse.

To further illustrate this point, the plain truth is that technology on its own does nothing. It is the uses to which it is put that makes the difference. Does Facebook or Instagram create pictures of anorexia or self-harm? No. Humans do that. What social media provides is the capability to spread that information rapidly, pervasively and sometimes invasively into the homes of young people. Yet blaming the technology and ignoring the humans using it is all too common.

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Many councils in England have recently declared a 'climate change emergency', and the evidence is that it was the use of technology that got us into this trouble (the combustion engine, the capacity to mine and create fossil fuels, the age of 'heavy' industry). The hope is it will get us out, as we look to other technologies (like solar power and other renewable sources of energy) in the belief that they will save us before it is too late.

It turns out that significant technologies go through a repetitive pattern that shows the best and worst of human nature. Perez<sup>1</sup> describes how their initial adoption is followed by mania and the creation of a bubble, followed by a crash and then reform in which the true abiding contribution of the technology can then manifest itself. She shows how canals and railways went through the same process as the internet is going through at the moment, as the dangers of platforms like Facebook become apparent and they now face regulation and restriction.

## **Global challenges and strategies**

At the Connected Places Catapult,<sup>2</sup> we are tracking the major global 'megatrends' and the likely local impact on parts of the UK. Wherever we look we see a frightening picture emerging and, in part, our mission is to stop people conceiving of 'smart' cities and places as the some-time-in-the-future location of flying cars, and to start realising

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## **Our mission is to stop people conceiving of 'smart' cities and places as the some-time-in-the-future location of flying cars, and to start realising that only by gearing up to deal with these trends now can we hope to ensure that our environment will be 'liveable' in the future.**

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that only by gearing up to deal with these trends now can we hope to ensure that our environment will be 'liveable' in the future.

Perhaps the most significant of the megatrends is a world population that is set to both grow (from 6.5 billion in 2005 to 9.1 billion in 2050) and urbanise by migrating to the cities. This creates real challenges for cities, which are, in a way, sophisticated machines that support large populations living in close proximity. As a city's population grows, the need for systems to move people and goods, deliver power and water and remove waste, together with institutions to support civic life, become critical to wellbeing. This trend will also offer challenges for rural areas if they are to remain sustainable. The growth and shift in the population will affect northern Europe less than other parts of the world, but will nevertheless have profound consequences for mobility, congestion, pollution, infrastructure, energy consumption, waste and ageing, to name but a few.

Traffic levels are set to rise by between 17 and 51 per cent by 2050 (depending on the level of economic growth) such that, even if autonomous vehicles become commonplace, people will need to change their mode of transport, or travel less. Waste levels are set to increase from an average of 777 kg to 840 kg per person per year in the richest economies. If current practices are maintained, UK demand for energy will grow from 1900 terawatt hours per year to 2200. The consequences of this growth for the greenhouse gas emissions target are stark – instead of seeing the annual metric tonnes of CO<sub>2</sub> reduce by 80 per cent (in line with the 2050 target) they will

actually increase by 4 per cent with all of the consequences for our planet. I could go on.

The human race is of course ingenious, and we are used to believing that 'necessity is the mother of invention'. This may have led us to the view that technology would help us to live our lives as they are without the need to change anything we do. What is clear is that in all the megatrend areas, technology may help, but it will not save us. The reality is that behaviours will need to change. People operating differently is at the centre of all the strategies we need to live sustainably. The key challenge therefore is to figure out how technology can play a part in the complex and brave work that leaders will have to undertake to persuade people to change the way we live our lives.

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## Technical versus adaptive change

In his first book, the Harvard professor Ronald Heifetz opened up a debate about the work of those leaders who stand out as people who have changed the course of history. His focus then was on what leaders do to bring about 'adaptive change'. He regarded this as different to 'technical change' saying that:

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**While technical problems may be very complex and critically important, they have known solutions that can be implemented by current know-how. They can be resolved through the application of authoritative expertise and through current structures, procedures, and ways of doing things. Adaptive challenges can only be addressed through changes in people's priorities, beliefs, habits, and loyalties.<sup>3</sup>**

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The process and tasks of adaptive change are different. Heifetz's book made a significant contribution to provide an alternative to the standard process espoused by 'men in the American military' – namely to obtain formal positional power, to set out an aim and objectives, to create systems in which people were told what to do and held accountable if they didn't do it. His observation was that those leaders that we all remember, Mandela, Martin Luther King, Gandhi and so on, were all people who achieved what they did without the use of formal, top-down, position-based power. They inspired people to change behaviours, often against the grain of self-interest, but for the greater good. Such leaders are exceptional, and they are often the living embodiment of their message, which is why people follow them. Along with this essence, Heifetz identified some discernible stages in their work:

### **1. Identify the adaptive challenge.**

The first task of leaders in adaptive change is to command attention. To call out the issue that people need to be focussed on, to convince people that there is a problem to be solved. If the information above about population, waste and energy shocked you into thinking something has to change, then it has done its job. We look at the big picture and determine its implications. This stage risks making leaders unpopular and creating such distress that people don't want to hear it. They may 'shoot the messenger' (the bearer of inconvenient truths) and possibly become 'deniers' of one sort or

another. It is for this reason that leaders often work through others to provide the material for this stage.

**2. Ripen the issue.** The second task then is to increase the pressure or ‘up the ante’ by bringing the issue home to individuals. This is a matter of fine judgement – too little and people won’t believe there is a problem to be solved, too much and people will reject the effort as alarmist. The key at this stage is to focus on the likely future and to show people the moral and practical consequences of not taking action.

**3. Make the right choice as easy as possible.** Supermarkets and public service leaders share one thing in common, they are both choice architects. Where they place things, how accessible, affordable and reachable they make things affect the choices people make. In San Francisco, the city council mapped every rooftop and then set up a micro-site that allowed people, on entering their address, to access a calculation that showed how much energy solar PV would generate, the cost of installation, the period of payback, the grants available to offset the initial cost

and a button that said ‘buy now’. This stage requires choice architects that have done their homework. If proposed solutions don’t work it will put the endeavour back, and to overpromise and under-deliver is fatal.

**4. Shift responsibility to the primary stakeholders.** The adoption of a particular technology needs three things: the invention itself, a generation of people who are prepared to use it, and a set of organisations that are willing to facilitate the making of positive choices. We see this increasingly in the growth of online retail as banks and other institutions create ‘channel shift’ sometimes through encouragement, sometimes through incentives and sometimes by forcing people to take the path they want.

**5. Lock in the change.** The final stage then is to turn off the previous choice. This move often takes the form of setting a deadline for this happening and helping the few remaining people to adopt the new practice.

Technology plays a role in all of these steps as the table below shows. For leaders, the work is to

understand where they are in the adaptive journey and to deploy technologies at the appropriate level. The table shows examples of different types of technology and the part they may play in the adaptive change journey.

This is of course easier said than done. There is a lack of reliable information about what works, and a significant factor undermining the use of technologies is the fact that buyers often have to rely on information provided by suppliers in order to make decisions. At the Connected Places Catapult, we are aware of this and, as a neutral body not tied to any suppliers, we are developing ratings of each emerging technology based on research. These are categorised in two ways. A 1-9 score describes the readiness of the technology where a score of 1 means that a technology concept has been formulated to a score of 9 where the ‘actual system [is] proven in an operational environment’. We also apply an adoption score on a 1-5 scale, where a score of 1 means that ‘no customers are using this technology’ to 5 where ‘this technology is mainstream’.

Adaptive change stage	Identify the adaptive challenge	Ripening the issue	Making the right choice	Shift responsibility to the primary stakeholders	Lock in the change
Appropriate technologies	Big data Open data Trend tracking and mapping	Data visualisation Predictive analytics Modelling technologies Personalised information	Choice architecture Efficient demand and supply side technologies Choice automation	Enabling customisation and ownership Encouraging, incentivising or forcing the adoption of solutions	Shutting down legacy systems

## The energy challenge

Climate change is one of the greatest challenges that faces the human race. The 'solution' will not only require changes to the way energy is supplied, but also to the amount that is demanded. The table above maps emerging technologies onto the adaptive change journey.

Adaptive change stage	Identify the adaptive challenge	Ripening the issue	Making the right choice	Shift responsibility to the primary stakeholders	Lock in the change
<b>Appropriate technologies</b>	<p>Predictive models such as the <b>DECC 2050 Calculator</b><sup>4</sup> which shows the different pathways to achieving the agreed target</p>	<p><b>Smart metering</b> that enables individuals to track their own energy consumption and patterns</p> <p><b>Carbon offset calculators</b> that enable individuals to see the impact of their lifestyle and travel choices</p> <p><b>Locality specific data visualisation</b> such as heat maps that show the amount and location of energy demand or pollution generation</p>	<p><b>Autonomous buildings</b> that adjust energy usage using sensors to respond to conditions</p> <p><b>Deep energy retrofit</b> as a way of making older buildings more energy-efficient</p> <p><b>3rd generation photovoltaic cells</b> which are significantly more efficient, working under cloud and producing far more power</p> <p><b>Offshore/ onshore wind power</b></p>	<p><b>District heating and cooling</b> (supply of heat or hot water from one source to a district or a group of buildings)</p> <p><b>Energy storage technologies</b> absorb energy and store it for a period of time before releasing it to supply energy or power services</p> <p><b>Micro-distributed energy generation grids</b> which are small-scale power grids that can operate independently or in conjunction with the area's main electrical grid</p>	<p>Shutting down legacy systems</p> <p>Differential pricing to make inefficient choices unaffordable</p>

## In conclusion – a tool not a salvation

Technology is an ever-present part of the human story that history shows can be used constructively or destructively. Many of the challenges we face are as a result of the use of technologies and many people will hope that we can use technology to meet these

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challenges. However, all of the evidence is that, whilst there are many better technology choices that will be available to us in the future, every significant megatrend area needs some element of human behaviour change. Leaders now more than ever need to understand the tools and techniques of adaptive change as well as the need to live the message they are trying to convey. Technology is not a salvation but a tool, and the more leaders understand the process of change and the available and deployable technologies that help with each stage the better.

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<sup>1</sup> Perez, Carlota (2003). *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*. Edgar Elgar Publishing

<sup>2</sup> <https://cp.catapult.org.uk/>

<sup>3</sup> Heifetz, Ronald A., Marty Linsky, and Alexander Grashow (2009). *The Practice of Adaptive Leadership: Tools and Tactics for Changing Your Organization and the World*. Harvard Business Press

<sup>4</sup> <http://2050-calculator-tool.decc.gov.uk/#/home>

### Max Wide

Max Wide's career began in welfare rights and then through work with homeless people he joined local government and worked for Hillingdon and then Enfield, initially in social care and then running best value. He joined SOLACE to lead their work on leadership and cultural change. From there he went to BT global services as Local Government Strategy Director during which time he was seconded to Barnet and Suffolk councils as Director of Organisational Change. He joined iMPower Consulting leading on children's services and then returned to local government as Strategic Director of Business Change for Bristol City Council. He is now an Associate Director of Connected Places Catapult and a freelance consultant, mentor and facilitator.  
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