Digital Disruption in the Public Sector

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Acknowledgements

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Digital Disruption – A Crash Course

For the last twenty years, our understanding of managing transformational change has been radically altered by the notion of disruption. The so-called "Godfather of Disruption", Clayton M. Christensen, has been at the forefront of the 'disruption revolution'.[1]

The key principles underpinning digital disruption were already apparent in his landmark "Disruptive Technologies" article with Joseph L. Bower, which showed how industries are traditionally loathe to invest in disruptive technologies, in favour of sticking with the tried and trusted existing technologies. They note that disruptive technologies show "Performance attributes…[which] at least, from the outset, are not valued by existing customers", and drew a key lesson: "Keep the disruptive organization independent", stressing the temptation of many managers to integrate structures into existing systems, and the benefits of keeping disruption at arm's length.[2]

The challenge for leaders – in radically altering the strategic direction of a whole organisation – is a particularly stark one. In the public sector, where there is far less existing practice in digital disruption, there are major challenges to recruiting and overseeing the necessary skills and talents to develop these activities, but also huge opportunities in being a pioneer of major ways to rationalise public sector delivery mechanisms. The shift in leadership mindset can be considerable, and involves moving on from "results leadership", in which decisions are based on immediately-apparent short-term results, and towards a strategy that embraces challenging the *status quo*.

But digital disruption is not uncontroversial; analysts such as Jill Lepore take a rather more sceptical view of disruption, arguing that it has run its course, and is much less relevant than twenty years ago. Lepore focuses on companies which have bucked the trend for disruption, and on disruptive initiatives which have failed. She believes, "Faith in disruption is the best illustration, and the worst case, of a larger historical transformation having to do with secularization, and what happens when the invisible hand replaces the hand of God as explanation and justification."[3] Nevertheless, the broader trend is towards disruption, and towards organisations maintaining long-term success by embedding disruptive thinking in their operations.

Adaptation around disruption has been widespread in both the commercial and voluntary sectors; private-sector providers to the digital aspect of disruption have been quick to adapt to its key tenets, while third-sector providers have often homed in on the change management aspects of disruption which tally with their *raison d'etre*.

Public sector providers, by contrast, have been oddly slow to adapt to disruption – particularly digital disruption. This is curious given how heavily political the shaping of the public sector is – it is, essentially, the product of political decisions – and how political decisions are all based around change management. It is therefore essential to any reshaping or remodelling of the public sector to integrate a disruption strategy, with or without the digital component.

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[1] The seminal article co-authored by Christensen is Joseph L. Bower and Clayton M. Christensen, 'Disruptive Technologies: Catching the Wave', *Harvard Business Review* (January–February 1995), pp. 43-53, which has kicked off much of the 'digital disruption' school of thought. A fuller fleshing-out of the argument can be found in Clayton M. Christensen, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (Cambridge, Massachusetts: Harvard University Business Press, 1997).

[2] Bower and Christensen (1995), pp. 47, 52, 53.

[3] Jill Lepore, 'The Disruption Machine: What the Gospel of Innovation Gets Wrong', *The New Yorker*, 23 June 2014.

Disrupting and Being Disrupted

A key underpinning principle of disruption is that it is a process which happens to groups and individuals. You can be the disruptor, or you can be disrupted. This is not always a welcome reality for leaders to face. The recent European Union referendum result has reinforced this point.

And with the pace of technological change ever accelerating, the implications for even the most traditional sectors are considerable – again, something highlighted by the EU result, with the markets reacting within hours of the final result, and then market counter-responses following within days.

In this framework, in a disruptive world, it is impossible for leaders to "opt out" of disruption – the world is going to be disruptive around you. The question, then, is whether organisations innovate and disrupt, or whether they are disrupted, and eventually rendered obsolete.

Digital – a means, not an end

Much of the work around "digital disruption" has focused on the "digital" side of the equation. The more "typical" responses of organisations to "digital disruption" include:

- **Reviewing the existing use of technology** by that organisation, and forecasting the probable "direction of travel". This approach suffers from inherently being based on the *status quo*, not on disruption.

- **Directing the organisation's existing, in-house digital staff** to conduct such a review. Again, with such staff being intimately involved in the status quo, they are often far from being best-placed to assess disruption or how they would be disrupted.

- **Commissioning external consultants** to conduct such a review. The results of this (invariably expensive) exercise can be highly variable, depending on many factors, including the degree to which the relevant consultancy understands the needs of the sector/organisation as well, as how well-attuned they are to disruption theory, and on how strong their commitment is to enabling their client to apply solutions independently.

- **Internally appointing a Chief Innovation Officer**, which has been a particularly common response in larger private-sector organisations. The degree of success or failure of such CIOs very much depends on how well-supported they are within the existing structures, how embedded they are in an organisation's planning, and the amount of resistance they meet. It is not unusual to find CIOs who feel highly isolated and under-resourced, and who meet considerable opposition from colleagues. As such, persuasion and negotiation skills are almost as important to an effective CIO as a strong grasp of innovation and disruption.

Yet Christensen states, "When thinking about how to predict disruptions, it's crucial to remember that it's not about the technology itself; disruptive innovation refers to a strategy that employs a technology, but the technology itself is not disruptive." In short, the "digital" part of disruption is merely a means to an end.[4] Disruption is a mindset which goes much further.

Nonetheless, the fact that "digital" is a means does not make it unimportant. The effectiveness of technology – and how seamlessly it is increasingly embedded into everyday life – can be a major determinant of success or failure.

[4] Clayton M. Christensen [ed. Anirban Sen], 'Disruptive Innovation is a Strategy, Not Just the Technology', *Business Today*, 4 January 2015, p. 154.

Take one of the most widely-derided initiatives of the John Major government in the 1990s: the "Cones Hotline". This was actually a spectacularly inept attempt at "digital disruption"; and is a good case study of how not to do digital disruption.

The central issue it was meant to address was a perfectly legitimate one – a sense of powerlessness among citizens using the roads, held up in traffic caused by "roadworks" which had been left unattended. It seemed perfectly plausible to create a channel for citizens to be able to report this for immediate remedial action. One can imagine that 25 years on, a simple mobile phone app would be developed to counter this problem, and that it would attract little adverse comment. But there were several rather major problems in the solution implemented in the early 1990s:

- It is questionable whether the technological channel available at the time (a telephone hotline) was particularly suited to this task. Today, such reports would most likely be handled by an automated form on a website, not a telephone number, and they would be followed up by email responses giving feedback on the steps taken.

- The hotline was in no way integrated into wider roadworks operations, which involved a variety of public and private suppliers. Many reports logged were simply "lost in the system", and the creation of the hotline was not matched by any attempt to reconfigure the system.

- A specific remedy around traffic cones was simply too niche to be required, or to be taken remotely seriously; a wider solution to traffic or roadworks may well have stood a greater chance.

- More damningly, the scheme had never been "idiot-proofed", and so a "Cones Hotline" looked ridiculously naff from day one. "Two 99s and a Cornetto, please" was a typical prank telephone call, and the scheme's death knell was sounded when a Parliamentary Question revealed that the hotline received considerably more prank calls than real calls.

All of these factors combined to turn what seemed like a broadly sensible, mildly technocratic "digital disruption" policy into a laughing stock. There are some lessons to be learned, therefore, of disruptive innovation, in terms of context, announcement, prominence, and integration into decision-making, as well as the practicalities of any technology involved.

Who (or What) is Disrupting in Government?

As noted, there has been an increasingly widespread (if at times controversial) prevalence of "digital disruption" practices across the private and voluntary sectors in the last twenty years. This involves wider changes in working culture and connectivity – sometimes successfully, sometimes less so.

But the public sector has lacked the same level of innovation. "We're not encouraged to take risks", rues one local government chief executive, while another expresses a common problem in saying, "We just don't have the time or resources, when we're overstretched and struggling to meet all our day-to-day commitments as it is, to set the time aside to experiment or innovate." These are perfectly natural responses, but they are also symptomatic of the problem; while the private and voluntary sectors increasingly base their model on setting aside some resources for disruptive innovation, mounting pressures on public services means that little disruptive innovation happens in the public sector, so existing practices become fixed, and resources are further stretched.

Nonetheless, some public-sector organisations have taken steps in digital disruption, and it is worth listing these here:

In local government, **Adur and Worthing Council** has been at the forefront of innovation around digital disruption in the UK. The two councils have worked in partnership since 2007, and their embrace of digital disruption came as a natural progression of early attempts to integrate more technology which, in isolation, wasn't delivering adequate results. Paul Brewer, the council's Director for Digital and Resources, explained, "We were seeking to disrupt and to allow the disruption of traditional businesses operating. We needed to move away from vertical lines of business and get rid of duplicate processes."[5] He clarifies how this is part of a wider social change underway: "think Blockbusters>Netflix, Waterstones>Amazon, Hotels>Airbnb, Black cabs>Uber, HMV>Spotify."[6] The strategy has evolved, initially using open-source software in place of expensive software packages, but gradually moving towards customised low-code software designed in-house, which allows for much greater co-production around processes. As part of this, the council has been able to identify and train its own low-code experts rather than retaining more expensive

[5] Liz Evanstad, 'Adur and Worthing Councils Take Low-Code Approach to Digital', *ComputerWeekly.com*, 26 October 2015, http://www.computerweekly.com/news/4500255766/Adur-and-Worthing-councils-take-low-code-approach-to-digital.
[6] Paul Brewer, 'Platforms and Tribes', *Methods Digital*, http://methodsdigital.co.uk/platforms-and-tribes/.

staff, and to avoid becoming dependent upon outside consultants. Some outside consultancies were used in the start-up **Methods Digital**, but primarily in the start-up process which Adur and Worthing has been able to independently spin off and sustain.[7]

CapGemini United Kingdom have done extensive work around digital transformation, highlighting and managing a number of processes by which public sector providers can innovate and disrupt.[8] However, as with Methods Digital, they are an external consultancy at the "sharp end" of applying such innovative practices in government, and few public-sector bodies are seeking to try and develop such capacities in-house.

In the United States, the **Mayor's Office in the city of Boston, Massachusetts**, has benefitted from numerous collaborations with New Urban Mechanics, a company spun out of MIT which focuses on data-driven disruptive technologies. One example of "digital disruption" has been Project Oscar, a pilot developing a co-designed compost bin for neighbourhoods. 150 families participated, composting 2,300 pounds of food, and the project found that 67% of participants had not previously composted their waster before the pilot, and reported a 93% satisfaction rate, with the pilot now being rolled out on a wider basis.[9]

What Areas of Public Policy Could See Further Disruption?

- **Data** is to be regarded as the "petrol" of digital disruption, informing all aspects of policy-making. Relevant, specific, broken down data has never been more freely available, both in the public domain, and drawing on private-sector data segmentation. But it is rare for local authorities to fully analyse and make use of the data already open to them, let alone to seek out more exhaustive data. There is a huge untapped potential for a further "data revolution" in government.

- **Education** is an area Christensen has highlighted as being highly likely to see major disruption in the coming years; however, Christensen has mainly focused on *higher* education.[10] In particular he foresaw how remote and long-distance learning would continue to be popularised through digital technology. Given that many digital disruptive changes are already happening organically at a local level – for instance, in the use of new technologies as teaching aids in everything from reading to assessment – it is just as legitimate to ask how the same changes as in higher education might affect primary, secondary and sixth-form-level schooling. However, serious questions remain about the lifespan of such technologies, and the longer-term sustainability and management of technological change in education. Investing in technology involves a commitment to invest in future upgrades to that technology, which often deters public-sector providers from serious investment in this area.

- **Health** is an area where digital disruption has already been underway for some time. Apps to monitor health regimes are now commonplace, both among healthy adults watching their exercise & diet, and among vulnerable members of the community with a condition that requires monitoring. The savings on GP visits or A&E visits can be considerable, in helping to eliminate unnecessary appointments. But the sustainability of such disruption must be considered, i.e. the discontinuation of the NHS's Symptoms Checker Advice online service, and its replacement by the 111 number in a bid towards greater integration. All of these steps are, however, very much in their infancy, and there is considerable scope for far greater digital disruption in an increasingly over-stretched health service facing severe budgetary pressures.

- **Crime**. Digital tools have already led to some low-level disruption around crime, most notably in the use of crime "heat maps" – first in their use in policy-making since the 1990s, and then in their being made publicly available over the last five years. This has had major knock-on effects in crime prevention as well as in areas as diverse as

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[7] See *Methods Digital*, https://methodsdigital.co.uk/.

[8] See 'Digital Transformation: The Road Ahead', *CapGemini*, https://www.uk.capgemini.com/beyond-the-buzz/digital-transformation-the-road-ahead.

[9] See 'Project Oscar', *New Urban Mechanics*, http://newurbanmechanics.org/project/project-oscar/; 'Mayor Walsh Expands Boston's Community Compost Program to Include City Hall', *City of Boston* website, 25 November 2015, http://www.cityofboston.gov/news/default.aspx?id=20447.

[10] See Clayton M. Christensen and Henry J. Eyring, *The Innovative University: Challenging the DNA of Higher Education* (New York: Wiley, 2011).

commuting patterns and the housing market. However, the publication of crime "heat maps" is itself contested, with opinion divided as to whether it is an aid to combating crime, or whether it contributes to worsening existing crime "hotspots".[11]

- **Housing** is an area with some scope for further digital disruption. There have already been developments in moving much of the housing market online, in allowing for far greater consumer power in choice of housing, in the comparison of housing stock, in access to professional advice, and in access to official records such as the Land Registry. With further upheaval to the UK housing market likely in the coming months and years, there is much potential for further disruption to the availability of information, and knock-on disruption to house-buying and renting behaviours. It should be noted that the present disruption has been around access to information and access to transactions; it has not fundamentally changed the basic housing model. Whether digital innovation that is significantly more disruptive to the entire model happens or not, remains to be seen.

- **The environment**. Many of the environmental challenges are as technological as they are environmental. In his introduction to the revised edition of his 1992 book, *Earth in the Balance*, Al Gore noted that the single most derided passage in the original book (which he stood by) was an aspiration to eliminate the internal combustion engine over a thirty-year period.[12] On the book's original publication, the remark was widely criticised as a commitment to punitive petrol taxes; but in its original context, this was not what Gore suggested. Instead, he recognised the overwhelming existing economic incentives for consuming fossil fuels over renewables; and suggested that greater research into renewables could deliver more efficient renewable-based sources which would be even cheaper than fossil fuels – at which point, economic realities would kick in and promote the use of renewables. 24 years ago, this seemed fanciful. With the latest generation of renewables being on the cusp of costing as much as fossil fuels, we are not that far from reaching the "tipping point" where this may be feasible. Nonetheless, technological developments affect all sides of the equation, and so the advent of fracking has dramatically pushed down the cost of natural gas, meaning that renewables would need to be even cheaper to compete.

- **Transport**. Christensen has identified the air travel industry as a prime example of digital disruption; for instance, in the way that smaller, regional airlines like easyJet and Ryanair were initially ignored by the existing major airlines that focused on long haul flights; but then as the smaller airlines' model became more profitable and they started to extend

the range of their flights, they began to seriously undercut existing major airlines, and this forced a disruption in the business model of the big airlines, which then needed to compete with smaller newcomers on both short-haul and long-haul flights in order to become profitable. Yet airlines are not the only form of transport vulnerable to disruption. Transport managed by the public sector is vulnerable, too. Railways are the most conspicuous example (particularly given the private-sector franchising arrangements which lend themselves to disruptive innovation fuelled by competition), with serious long-term questions around rail track, train stock, and high-speed rail, affecting both passenger rail and freight. Roads are another area of disruptive innovation: tests of driverless cars are at an advanced stage and are not far from being fully certifiable as safe, and the question of how this technology would be rolled out (perhaps initially on the motorways and in the centre of the busier cities) is very much something local and national governments would decide.

- **Employment** is an area arguably in urgent need of disruptive innovation, particularly in light of the economic outlook in the months ahead. Existing job websites primarily follow the structure of traditional labour exchanges. There is scope to re-examine the shape of such labour exchange technology, and the integration of job advertising and skills on offer, to tackle both unemployment and underemployment. Although the "end users" of such disruptive innovation are primarily in the private sector (although one should not altogether ignore the role of the state as an employer in its own right), it is very much of interest to the government of the day to be proactive in this area to minimise unemployment.

- **Pension** arrangements depend on individuals' own arrangements. The increasing proportion of the population relying on the state pension without any further private provision creates serious pressures on the state. There is considerable scope for disruptive innovation in the field of pensions in looking at pension fund tracking technologies to encourage citizens to monitor their state pensions in contrast to private pensions, and to create incentives for independent saving and pension provision on top of the basic state pension.

- **Culture, heritage, media, sport and leisure** – it is worth acknowledging that this area, which forms a plank of much public policy, is mainly provided for outside the public sector. It is also worth acknowledging that private and voluntary providers have long been at the forefront of digital disruption in this field; one need only look at digital integration in everything from online football ticket booking, through the National Trust app, through to Google news alerts, to gauge just how the entire model of behaviour, consumption and engagement has changed around such disruption. How people engage with digital disruption in their leisure hours says much about their preparedness to engage with change. The public sector has much it can learn from this.

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[11] The main UK-wide crime "heat map" can new viewed online at http://crimeview.psi.enakting.org/, while a series of similar app-based maps can be downloaded via https://www.police.uk/apps/.
[12] Al Gore, *Earth in the Balance: Forging a New Common Purpose* (New York: Earthscan, 1992, 2000 ed.), p. ix.

Conclusion

Digital disruption is still in its infancy in the public sector. Yet it has become a staple of change management strategies across private and voluntary sectors, and public policymakers ignore it at their peril.

For too long, public policymakers have overlooked its potential, yet at a time of unprecedented financial pressure and service redesign, it could give public services the design edge required to be sustainable, and for a minimal outlay of resources in research and development. The resources required to set up a digital disruption is relatively modest, yet there is much evidence that it can yield (and has yielded) massive, long-term benefits in ensuring that entire planning models benefit from innovation rather than being the victims of it.

The opportunity for leaders is to outline a fundamentally different strategy for government; one which requires gathering and developing different skills, with a different approach. It means reflecting and even embracing the greater uncertainty of the current climate, and working with that to disrupt rather than be disrupted. It means recognising that public leaders are no longer in the game of controlling, and are now in the business of influencing; and adopting more collaborative strategies to address that. And it means embracing the new opportunities of digital already being explored in other sectors, but rarely found in the public sector, and doing so in a self-sufficient way rather than one built on long-term reliance on external contractors.

Many of the methods and mindsets to problem-solving in the "digital disruption" sphere, including hackathons, co-production, and data analytics, still remain alien to much public policy development. Yet rather than being seen as optional add-ons, these techniques have the potential to fundamentally transform and renew overstretched services, and with massive disruption already likely to happen, it would be foolish to not explore this course. A new type of innovative leadership, cultivating and embracing digital disruption, can pioneer public service delivery for the 21st century.