MANAGING IN A DIGITAL FUTURE LESSONS FROM THE COVID-19 PANDEMIC

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CONTENTS

1. Introduction 3
2. Research Design 3
3. Key Messages 4
4. Readiness 5
5. Preferred Ways of Working 7
6. Boundaries between work and home life 8
7. Communications 9
   - Communication Benefits 9
   - Communication disadvantages 9
8. Leadership and Management 11
   - Trust 11
   - Focus on outcomes 11
   - Decision-making processes 11
9. Data Efficiency 13
10. Service delivery 14
11. Digital Divide and Access to Services 15
12. Conclusions and Implications 16
    - 12.1 Conclusions 16
    - 12.2 Lessons for Managing in a Digitalised World 17
    - 12.2.1 Leaders 17
    - 12.2.2 Human Resource Leads 17
    - 12.2.3 Digital Leads 17

References 18

Appendix – Glossary of Terms 20

1. INTRODUCTION

Faced with the COVID-19 pandemic, public service organisations responded rapidly to the March 23rd 2020 lockdown. Business continuity plans kicked in and almost overnight services that could be delivered virtually went online, whilst workforces were catapulted into a world of remote working supported by digital technology.

Although the extent of virtual service delivery we have seen in the past few months is unlikely to persist, no-one anticipates a return to the 2019 ways of working and providing public services. Digitisation and digitalisation were already widespread across public services organisations, with many also exploring the potential for more wide-reaching digital transformation. However, progress was slow and variable across different public service bodies.

The purpose of this study was to capture lessons for public service leadership from this pandemic-induced transformation for future working in an increasingly digitalised world.

2. RESEARCH DESIGN

The research was divided into two parts:

1. A literature review of grey and academic literature on public service organisations, digitalisation and impacts of the COVID-19 pandemic on ways of working.
2. Interviews with sixteen public sector senior and operational managers from local government, housing and health, including IT managers and digital leads. Participants were asked about their experience of transitioning when lockdown first occurred; the challenges, benefits and disadvantages of working and managing virtually, and what ways of working they would want to retain post-pandemic.

See Appendix for glossary of terms.

3. KEY MESSAGES

3.1 The report identifies eight key findings:

i. Readiness
ii. Preferred ways of working
iii. Boundaries between work and home life
iv. Communications
vi Leadership and Management
vi. Data efficiency
vii. Service delivery
viii. Digital divide and access to services

3.2 Four key implications for managing a digital future are identified from the pandemic experience of rapid transition to remote working, managing and service provision:

i. Digital maturity
ii. Space and place of work
iii. Virtual organising
iv. Digital divide and digital exclusion

3.3 Future public service leaders will need to show the following four attributes:

i. A virtual team leader
ii. Emotionally intelligent
iii Digitally literate
iv. Conscious of digital exclusion

3.4 Implications for HR leads – HR policies are needed to respond to a future of increased remote working, recognising that not all staff can do so.

3.5 Implications for Digital leads – digital design needs to recognise that a substantial minority of service users are either not digitally literate or not online, or both.

The findings are expanded on next, with quotes from interviewees presented in italics.

4. READINESS

Prior to the lockdown restrictions, digital transformation within the public sector was considered to be hindered by insufficient political, cultural and financial commitment *(Gianluca, 2020; Bousdekis, 2020)*. All those interviewed for this study described a rapid and relatively smooth response to the lockdown in March 2020, illustrated by the quotes below.

The pandemic cut through former cultural and political obstacles, propelling staff and organisations onto a steep learning curve, which has produced a number of surprising and positive conclusions.

Technology readiness

All the organisations we spoke to already had adequate software for digital working (Microsoft Teams as part of Office 365, Zoom or similar, Sharepoint for collaborative work on documents). Many had also replaced reliance on desktops with laptops.

The challenges experienced were more to do with hardware (chairs, desks, laptops), licences and systems capacity to cope with an upsurge in online traffic. The point was made that if a lockdown had occurred just five years earlier, the transition to remote working and virtual communication would not have been as easy as it was.

Capability readiness

A rapid learning curve was common as staff learnt to use the software they already had at hand, and to learn the etiquette for virtual meetings. A key component to this was the availability of IT support staff and the willingness of individuals and organisations with knowledge to share their expertise.

Digital maturity

An organisation's ability to facilitate remote working is an indicator of digitalisation, however, agile working is a more sophisticated measure of a tech-driven modernised work environment/workforce (Penketh, 2020). Digitally mature organisations are said to show the capacity both

Sample quotes

In the space of about a week, we went from very traditional office-based work ... with a focus on physical meetings to working remotely ... 4500 people onto Teams [local government]

We were well placed to deal with pandemic because we had a laptop estate. Very quickly after the lockdown, we were all at home on our laptops ... all 4000 of us. [county council]

We had upgraded to Teams on our platform for about a year but never used it. [local government]

A very comfortable transition. Introduced Teams two years ago. Already on the cusp of introducing a smarter working package: kind of more smarter working patterns of maybe one or two days a week in the office. [health]

We *had been rolling out agile working across the workforce, ... a lot of people already had devices, so when lockdown came they could switch to home working quickly.* [housing]

Because we had already moved to an environment where all our staff were provided with laptops, and all of our services are already being delivered out of the cloud, when the global pandemic struck, so to speak, we were already in a position where all of our staff overnight, overnight, could move into delivering exactly the same services from home [health]

It has been a challenge for the boomers, I think there was a lot of learning. I have never used Teams or Zoom. In a couple of weeks we were using the platforms like never before. [local government]

for exploitation of technologies to achieve efficiencies through digitalisation and for exploration of new technologies for digital transformations that can make significant changes to the business model and services (Magnusson and Neilsson, 2020) [see Appendix - Glossary of terms for further detail]. Magnusson et al (2020) describe organisations that combine the two as digitally ambidextrous, defined as "[...] the simultaneous handling of established business activities and rapidly changing new digital activities" (Piccinini et al., 2015:12, cited Magnusson et al, 2020: 2).

Compared to private sector organisations, those in the public sector have tended to be much more likely to show digital exploitation because of constraints of funding, governance and decision-making processes (Magnusson et al, 2020). However, the disruptive effect of the pandemic has led to examples of digital exploration and innovation. As an example in one local authority: *Some councils invented a community app to gather volunteers. Also, they made it open source so they could share that data across councils. They are really good examples of where councils saw a problem and came up with a sharable solution.*

Organisations were also driven to bypass conventional decision-making processes in an effort to distribute equipment and install data protection measures that enabled them to work remotely.

> *This has opened up the discussion in the organisation ... are our processes stifling innovate practice and should there be ways that a really good idea can be put into process really quickly ... do we need to look at ourselves and think are we responsive as an organisation going forward or should we allow this kind of innovation and urgent response to happen more naturally within the public bodies.* [local government]

5. PREFERRED WAYS OF WORKING

Post pandemic, many people forecast a permanent change to ways of working, with a reduction in office space, permanent flexible working measures and a move away from the traditional 9-5 (or 8-6) core working hours.

Prior to the pandemic, it was already common for some to be advocating for agile working, including flexible hours and remote working, but facing opposition

> *I've been fighting against the organisation and trying to get more agile working.* [Head of I.T, local government].
>
> *It has accelerated our technical and cultural change massively ... our chief executive was usually anti-working from home. It has advanced us years in terms of agile working.* [local government]
>
> *HR fears that you can't work from home if you have a child at home. People have proven that they can* [local government]
>
> *People now know that working from home is not skiving. We already had a good understand of remote working in theory yet there were always managers that were reluctant.* [local government]

The enforced home-working during the 2020 pandemic has dissolved much of the resistance.

Almost unanimously, those interviewed expressed a preference for a future that involved no more than a day or two a week in an office. This is echoed by other studies (McCarthy et al, 2020).

> *Some of them really loved it and went for it, but it's also clear that for some of them, it was really difficult and alienating.* [health]
>
> *We have a wide spectrum of staff who want to go back to work and some who have thrived at home.* [local government]

However, there was recognition that people are different in their liking for remote and virtual working, particularly if this was working from home.

Two main reasons were identified:

1. Unsuitable spaces for working at home.

> *Some people are desperate to get back to the office, because their domestic circumstances mean working from home is an unpleasant, difficult, complex experience. I think we need to recognise that we're going to have to come up with not one size fits all for this.* [health]
>
> *Staff are living in a range of different situations and may not be in an ideal situation for working from home. For some, this is because of a lack of access to technology, such as computers, phones or internet.* [local government]
>
> *For other younger workers, whose working environment is their bedroom ... more thought needs to be had over who goes back into the office. It is okay for homeowners with separate study.* [local government]

2. Needing other people

> *Some of our staff members are more extroverted and have found this more difficult.* [local government]
>
> *Other people derive enormous amounts of political power, by being in the presence of others. And using their power. They're not wanting to give it up.* [health]

6. BOUNDARIES BETWEEN WORK AND HOME LIFE

Views varied as to whether the enforced home-based working improved the balance between work and life.

For some there was enhanced '*ability to control your circumstances'* as well as the hours of work. Several commented that boundaries between work and home life seemed to have relaxed in a positive way

There is better perspective on how your private life affects your professional life and people are more tolerant of childcare issues and just in general that we are rounded people [local government]

The whole discussion around family friendly practices has been brought into really sharp focus… I have some older managers who are brilliant technically, who perform and deliver their targets, but trying the get them the see the benefits of having colleagues who can work from home or be trusted at a distance had been a real challenge. [housing]

Others, however, experienced examples of intensification

Another concern is the hours that people are putting in. The work life balance is an issue [local government]

You have a lot more meetings…you start at nine o'clock and you finish at six o'clock and you have meetings all the way through [housing]

The downside is the risk of burnout … you've been on team meetings back to back and you have no time to action anything [local government]

One Health manager spoke of *people's feeling about lack of boundaries and also feeling like they couldn't say no* and recounted the story of a colleague:

one guy was talking about how he kept getting scheduled into multiple simultaneous digital meetings and, or having people phone him during the digital meetings. People would expect that he would pick up he said that's like people like knocking on your door when you're in a physical meeting and expecting to come in, but they don't think about it that way.

It is unclear whether such intensification was the result purely of remote working or was exacerbated by the crisis of the pandemic. Nevertheless, it echoes other findings (McCarthy et al, 2020) that a major challenge people find with remote working is the difficulty of switching off. This highlights the necessity for managing work boundaries to avoid burnout and maintain well-being.

7. COMMUNICATIONS

Communication with employees, citizens and customers has been pivotal during the pandemic and there was much evidence of thoughtful, deliberate and frequent communication through daily and weekly bulletins, through staff surveys, a Chief Executive weekly video, as well as individual phonecalls to clients. In addition, there were widespread attempts to replicate the informal 'water cooler' and 'corridor chat' settings of office interactions through the use of Zoom, Teams, Slack and other platforms for informal 'coffee morning' sessions, quizzes and the like.

Experiences and opinions of this world of exclusively virtual communication varied, with some interviewees identifying benefits, and others pointing to disadvantages.

Communication Benefits

Several interviewees commented that they found the use of digital platforms such as Microsoft Teams and Zoom flattened the organisation hierarchy and made senior leaders feel more accessible to staff

It's enabled us to work in a very non-hierarchical way … flattening hierarchy, feeling more connected to the, you know, the directors and the executive levels. … So you know, some people might be a bit conscious of what your grade was, or where you were in the hierarchy within a team was, but we worked much more virtually in that way. You know it didn't, no one cared, it didn't matter. [health]

I think that it has made the business less hierarchal, I think digital platforms flatten out hierarchal structures" [local government]

Relatedly, several thought digital communication improved the level of participation and involvement of people, both within and outside the organisation.

This effect of increased participation was achieved not only through virtual meetings, but also through people learning to use document-sharing (such as Sharepoint) for collaborative report writing, as one local government interviewee described: *When colleagues edit and comment on documents it is less "my boss is marking my work" and more so "someone is trying to help".*

We have become more inclusive. We started a youth advisory group before this happened. We would have booked a room. Their attendance has improved since going digital. We had 250 attendees. Although it removes the human element, it does create room for more inclusion. [local government]

"There has been more cross team collaboration, more than there was before lockdown I think". We are working collaboratively not just internally but externally as well with different organisations. [local government]

The strange bi-product of lockdown is … because they have had to communicate through Teams, we've actually found that different parts of the organisations have worked better together" [local government]

I think it was a big shock when we were able to, to deliver a training session to, to roughly I think, 17 /1800 people at one time. And even or, you know, one of our directors was quite surprised that, very experienced, he said, this is the biggest audience I've ever worked with. …for us to do that in person, you would have to hire a football stadium [health]

Communication disadvantages

Four particular disadvantages of relying exclusively on digital communication whilst remote working were highlighted:

i. Firstly, the loss of informal, opportunistic interaction that might wrap around formal in-person meetings were mourned for the benefits these have for **relationship-building**.

It's establishing relationships … because you don't have the breakout sessions, you don't have the lunch, you don't have the coffee breaks, you don't have that time to talk to people and that's been quite a challenge [health]

ii. Secondly, virtual communication was not seen to offer equivalent benefits for more **complex interactions,** such as problem-solving innovation or resolving conflicts

> *The danger of remote working is that innovation happens when teams come together and when you are brainstorming and having innovate ideas. You can't replicate that on Teams or Zoom. It's too formalised and innovation happens over lunch, at the water cooler, in the lift.* [local government]

iii. A third disadvantage experienced was the replacement of informal face-to-face encounters with formal virtual meetings and the resultant **intensification** of communication

> [pre-pandemic] *if you had a query about something or you wanted to thrash something out, you would just go to some of these desks and speak about it. Whereas now everything has to revolve around the meet and appointment. So, you've got meetings for absolutely everything. So it's something you know, like the 300% increase in all sort of formal appointments you have in your diary*. [health]

One person suggested that there needed to be a radical rethink about the purpose and format of meetings when working virtually: *I think part of the problem is that we've transported meetings from sort of physical space into digital space, but you don't really have to meet in the same way, in digital space.* [health]

iv. A fourth drawback of the reliance on digital communication related to future recruitment and acculturation of **new staff**. The challenge of how to induct newcomers to a virtual organisation has not yet been cracked

> *How do we induct new people? A lot of the benefits of working in big organisations is the cross-fertilisations of getting to know people and having quick chats* [local government]

8. LEADERSHIP AND MANAGEMENT

We have been worried about trying to keep our positive culture. We have used the analogy of a long-distance relationship. To thrive during remote working you need the following things: Strong Connection to start with; Commitment from both sides; Creativity – cannot just meet up once a month [housing]

Prior to the pandemic, the literature already reported that a different management approach is required for remote working and virtual teams: one that is more outcomes-focused and relies on trust rather than input of visible presence (Lee, 2014). This was echoed by participants in this study.

Trust

Many noted how the lockdown had exacerbated the flaws within traditional management styles and elevated the more emotionally intelligent, flexible and innovative leaders, who could adapt to staff not being physically within sight, and could trust that their staff were still working

> *Managers have had to find different ways to engage with their teams. ...Those managers that trust their staff have coped better than those who do not* [local government]
>
> *Some of the managers and heads of service feel uncomfortable that they can't go up to their staff and say you need to work harder*. [local government]

For some, the pandemic helped their organisations implement new ways of working by proving that remote working could still be productive. And there was plenty of evidence that middle managers responded well to having greater trust and autonomy

> *We had tried to roll out an agile working scheme, some fully embraced it and some didn't ... for me it was about trust and clearly they didn't trust their staff ... now they have had no choice but to have trust/faith* [local government]
>
> *Leaders have enjoyed the autonomy to make decisions.* [housing]

Some managers were honest about the ways in which they had been forced to learn to delegate more because of constraints imposed by the pandemic, or to be conscious of the messages their implicit lack of trust might be conveying to staff.

> *Thinking about things like digital presenteeism - are there things that I do as a manager, that's signalled to people that they have to get back to me immediately, that I'm expecting something that maybe ... I'm not really expecting ... or how, what kind of demands do I put on people? [health]*

Focus on outcomes

Allied to the questions of trust and delegation, another theme highlighted by several was *the importance of managing to outcomes* rather than inputs and processes.

Decision-making processes

Invariably the pandemic-provoked lockdown upended many existing organisational processes, as more service delivery moved online and thousands of staff transitioned to home-based working within days. Interviewees reported much quicker turnaround for decision-making as, of necessity, decisions had to made in the moment, at the point of need (for example on purchases of equipment for home working or modes of communication to citizens), rather than the more common traditional public sector hierarchical process of signing off decisions and expenditure.

Some such changes may only be temporary, as multiple checks and balances are a necessary part of public sector accountability.

However, other changes are provoking reflection on whether they really would be better not reversed post-pandemic

We stopped reporting the usual things that we would have usually reported and focused on more important issues. Moving forward I think we will bring that practice back. [local government]

This has opened up the discussion in the organisation ... are our processes stifling innovative practice and should there be ways that a really good idea can be put into process really quickly ... it's a conversation that we have had with other local authorities as well.... Do we need to look at ourselves and think are we responsive as an organisation going forward or should we allow this kind of innovation and urgent response to happen more naturally within the public bodies? [local government]

I think what people really took from it was that a lot of the very lengthy bureaucratic processes were perhaps not as necessary [health]

9. DATA EFFICIENCY

Data efficiency is the process of making data easier to use, manage, and access (Adams, 2020). The term goes beyond the position that data collection is a means to an end and acknowledges implications for investment in the right infrastructure to store, protect and access data.

Beyond communicating through digital means, three key lessons about data can be drawn from the pandemic.

Awareness

At the time of this study, for most of our interviewees, their experience of data in the limited timescale since the start of the pandemic did not extend beyond document sharing and accessing databases.

For digital leads, however, the pandemic reinforced the importance and awareness of a more extensive digitalised future

Data is still key, and how we can access it and who can access the data is still going to be really important for providing public services going forward. [health digital lead 1].

I think that that has been a profound wake up and it hopefully will really accelerate public sector identification and realisation that cloud based solutions and particularly public cloud based solutions is the future. [health digital lead 2].

Public trust

Of course, internationally the responses to try and quash the COVID-19 pandemic provide extensive illustration of the potential for data sharing as digital health surveillance systems brought together AI, big data, and 5G technology, intersecting with drones and robotics to trace infected people and track their movements (Hussein et al; Ting et al, 2020). Systematic evaluation of this experience is yet to be done, but case accounts highlight issues of privacy, regulation over unauthorised data sharing, and, most significantly, the necessity for public trust if such systems are to be effective.

Transparency

The summer 2020 controversy over AI-determined exam grades in A'levels (Lough, 2020; Seith, 2020) and the International Baccalaureate (Evgeniou et al, 2020), underlined the importance of transparency in the use of data and the coding within algorithms. The legal implications of failing to have a system for explaining judgments and offering a process for appealing against public service decisions made with digital technology, such as through deep learning, were highlighted (Chae et al, 2020).

Security

The pandemic experience also emphasized the crucial importance of data security measures. For example, Google was reported as stopping 18 million COVID-19 scam emails per day (Tidy, 2020). In part this was because the rapid move to remote working introduced particular risks where people had to use their own devices or where confidential material was potentially exposed to family members in the home.

International research amongst business professionals across 158 countries had already raised "questions about how prepared businesses are to face new ethical challenges, such as ransomware attacks, crypto-currency transactions, intellectual property disputes, and customer privacy" (ACCA, 2017). The pandemic experience reinforces the importance of data protection around digitalisation and, as technologies rapidly emerge, the effectiveness of legal protection for security, intellectual property and privacy (*General Data Protection Act 2018)* needs continual monitoring.

10. SERVICE DELIVERY

A further lesson from the pandemic has been to challenge some of the sacred cows of what is possible for service delivery. Whilst certain public services could never be virtual (for example waste collection), others have proved surprisingly successful.

If you had tried to enforce digital and remote working then one of the most resistant groups would have been social workers, in particular children's social workers. This is because they use a lot of soft skills to determine the dynamics of what is going on in that situation, it is a part of the professional skill set. My team conducted WhatsApp calls to contact the children. … Having had to do it, it was found that it was actually well received by young people.

We also had a music teacher service that could be conducted through Teams. The music teachers would have previously been a group of people that would have said that it was impossible to do what they did over the internet. [local government]

Section 11 below, Digital Divide, reports evidence that the pandemic worsened exclusion from digital services for many people. However, there is also some evidence that a minority of previously digitally excluded people became more digitally literate during the pandemic. For example national figures found 32% report feeling more digitally confident (Lloyds Bank, 2020).

11. DIGITAL DIVIDE AND ACCESS TO SERVICES

The idea of a 'digital divide' captures a situation in which only some people have the relevant skills to use digital technologies and access their infrastructure, whilst others remain excluded. The COVID-19 pandemic has deepened this divide and exacerbated the resulting inequalities (Elahi, 2020).

the digital divide has widened because of COVID, … the library has closed for example. People who needed mediated access are struggling. Organisations are trying to offer their services online but if people can't access online … then it will most likely be reduced to a telephone call [local government]

People's ability to access digital public services is affected both by their physical access to the internet and by skills such as digital literacy (Park, 2017). Prior to the pandemic, there was already research evidence raising concerns that digitalised public services can both reinforce existing lines of social stratification as well as produce new forms of digital exclusion (Schou & Pors, 2018). Although some 97% of public services are now available online in the UK, this has not so far resulted in an equivalent rise in the use of e-government resources or programmes (Elahi, 2020).

While most UK adults have access to the internet, 7% (3.6 million people) are almost totally offline (Lloyds Bank, 2020) and this proportion rises amongst vulnerable groups such as those who are unemployed or aged over 65, who are especially reliant on public services. Furthermore, according to the Lloyds Bank UK Consumer Digital Index 2020, 33% of the UK population (16.9 million people) have low digital engagement, rising to 40% of benefit claimants. This digital divide is still predicted to affect 25% of the population in 2030 (Lloyds Bank, 2020).

This study highlighted instances where the recognition of a digital divide and potential exclusion from digital services only came through the sudden shift to remote delivery of most services during the pandemic. As one IT Director openly said:

From an I.T. perspective, it has been something we don't really think about. We don't think about people's private life. We presume that everyone had Wi-Fi or mobile phones … it really has focused the mind that there is that gap. [local government]

In contrast, there were other examples where the extreme situation produced by the pandemic was used by organisations to find ways to increase digital inclusion.

From a customer point of view there has been some positives. We have been trying to get digital engagement…. A way we are getting people online is by getting them E-prescriptions and at the same time trying to get them to engage with our digital platforms. We offer support if they need it. We managed to get a donation. We distributed 250 tablets to encourage digitalisation. [housing]

We picked up a massive issue within digital poverty. From this we have developed a principle called Engagement First … we must engage with people who have the problem and then find a solution.

Now when we are talking to big suppliers about digital connectivity, we are talking to them about digital exclusion as well. … we will ask what are the suppliers going to do to make their systems more accessible. [local government]

12. CONCLUSIONS AND IMPLICATIONS

This study sought to identify lessons from the responses made by public service organisations to the COVID-19 pandemic for working in an increasingly digitalised world. Below we offer the following conclusions, with implications for future working presented in italics. The final section draws out lessons for managing, for leaders in general and specifically for Human Resource Leads and Digital Leads.

12.1 Conclusions

The pandemic experience of rapid transition to remote working, managing and service provision has led to several lessons for managing a digital future, relating to:

- Digital maturity
- Space and place of work
- Virtual organising
- Digital divide and digital exclusion

i. Digital maturity.

Public service organisations have demonstrated their technological readiness for digitalisation. The bigger gaps were in capability and understanding. Many organisations have also demonstrated their digital maturity (ability to both explore and exploit digital technology) with respect to communications – they already had the technology to enable remote working, but the pandemic cut through cultural barriers to its use, and with the input of advice and training, staff were able to cope with the learning curve they were propelled onto.

- *The digital maturity model is a potential way for evaluating effective vs ineffective digitalisation and determining what interventions are needed to produce both exploitation and exploration.*
- *Legal protections for security, intellectual property and privacy need ongoing monitoring and updating to keep up with the pace of technological change.*

ii. Space and Place of Work

The pandemic experience has dispelled many concerns regarding productivity from home working, and the resultant cultural shift towards remote working is predicted to endure.

There is greater appreciation that family life and caring responsibilities are entangled with the experience of work. Many employees have found the appeal and flexibility of at least some degree of remote working. However, one size does not fit all – home based working suits many, but the use of domestic space and domestic arrangements is not suitable for others.

- *Use of time and space is likely to change permanently leading to an extended window of service provision; flexibility to work your hours within this around family or other commitments; with boundaries to protect employees either from pressure to be digitally present throughout, to over work, or to be made excessive demands of by others.*
- *Mixed location working is likely for the future – part office-based/part remote, either at home or in a hub.*
- *Post lockdown, many organisations forecast the closure of offices, permanent flexible working measures, and movement towards the more digitally progressive agile working.*

iii. Virtual organising.

Digital meetings have shown the potential to increase participation and engagement, as well as reducing time and cost spent on travel. However, full days of virtual meetings are more demanding than the equivalent in-person and replacing all encounters with formal meetings is leading to overload.

- *The future is likely to consist of hybrid meetings – with some members attending in person, and others remotely.*
- *A rethink of the purpose of synchronous meetings would be valuable, with consideration of asynchronous alternatives for some purposes.*

Those managers who fared best in the pandemic transition to greater virtual working and service provision were those with emotional intelligence and adaptability, able to trust their staff, and also to recognise the challenges for well-being wrought not only by the pandemic, but by the different pressures of remote working.

- *Staff will need to be encouraged to establish boundaries to avoid overload and burnout.*
- *Induction of new staff to a virtual organisation remains a challenge*
- *Management by outcomes not presence is likely to become more important.*

iv. **Digital Divide and Digital Exclusion.**

The pandemic saw a rapid transition to move any service that could be to virtual provision. Some were surprisingly successful, which may lead to new and hybrid forms of future provision. Some organisations were able to bring more clients into digital access through close, supportive individual work. However, there is increasing recognition that a persistent proportion of the population, and particularly those vulnerable and reliant on public services, cannot access services online.

12.2 Lessons for Managing in a Digitalised World

12.2.1 Leaders

Based on the review of literature and data collected for this study, it is clear that leaders of digital public service organisations are and will be facing a number of new challenges in addition to those of traditional management. Four key features of future leaders can be identified as a consequence:

A virtual team leader

They will often be the hub around which a virtual team works in different locations, at different times across an extended working day. They are skilled at managing remote working and building virtual teams, managing through trust, engagement and a focus on outcomes. They know the importance of induction to enable new starters to feel part of something quickly and they understand how to mitigate the risks of social isolation, boundary creep and burnout for remote workers.

Emotionally intelligent

Able to manage ambiguity and uncertainty. They are agile in their approach - open-minded and flexible. They look to design jobs that allow employees to work in ways with flexibility and a degree of autonomy.

Digitally literate

The digital leader understands that data is a central resource for their work. They grasp the potential of digital technologies for service transformation and have sufficient digital literacy to manage their own internal digital specialists as well as to be 'intelligent commissioners' of digital. They have the knowledge management skills to understand the nature of knowledge sharing and distribution behind the use of any AI.

Conscious of digital exclusion

They are alert to the potential of digital exclusion and the consequent lack of access to services. They work with digital providers to find ways to increase access. They recognise that there are judgements and human choices to be made in writing algorithms.

12.2.2 Human Resource Leads

The initial emphasis during the pandemic was on making the technology work to facilitate remote working digitally, and on supporting staff through the process. If the future is to be more of a hybrid split between onsite and remote working there will be implications for HR policy to respond.

For example, in any enthusiasm to further exploit the potential of digitalisation to reduce office space and make cost savings, those staff (typically in lower graded and lower paid roles) who need to be in the office and not at home in light of domestic pressures on space or other circumstances must not be forgotten.

Equally, whilst many staff welcomed the experience of home-based working and want to continue with at least some measure, other staff need the structure and social context of a workplace. Future policies for home-based working will need to recognise that diversity.

12.2.3 Digital Leads

One clear implication for digital leads from this study is the reminder that a substantial minority of service users are either not digitally literate or not online, or both. This has repercussions when designing new services and systems, to consider how to improve access and connectivity.

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APPENDIX – GLOSSARY OF TERMS

Key Terms	Definition
Digitisation	The process of converting information from a physical or analogue format into a digital one, for example, scanning documents, recording audio to a computer or making digital copies of old photographs. The business model does not change.
Digitalisation	Goes deeper, enabling, improving and/or transforming business operations and processes by leveraging digital technologies and use of digitised data.
Digital Transformation	A process that aims to improve an organisation by triggering significant changes to its business model through combinations of information, computing, communication, and connectivity technologies (*Vial, 2019*)
Digital Divide	The gap between individuals, households, businesses and geographic areas of different socio-economical levels with regard both to their opportunities to access information and communication technologies and to their use of internet for a wide variety of activities (*OECD, 2020: 5)*
Digital Exclusion	Can be defined as having no access to the internet. *(Elahi, 2020*)
Internet of Things (IoT)	The interconnection via the Internet of computing devices embedded in everyday objects, enabling them to send and receive data
Data Efficiency	Data efficiency is the process of making data easier to use, manage, and access *(Adams, 2020*)
Digital Maturity	Is the ability of an organization to respond and take advantage of technological developments that change how the market functions. *(Deloitte, 2020)*
Digital Capability	The ability of the organization to sense, seize and re-configure on the basis of digital opportunities in line with definitions of dynamic capabilities *(Teece, Peteraf, Leih, 2016)*

Agile working, Flexible working and Remote working (Penketh, 2020)

Agile Working	Agile working focuses more on the organisation as a whole. It is a way of working that incorporates flexible working yet goes beyond this and addresses where, how and when employees work. It involves the conscious break down of traditional limitations such as dedicated desk, static technology, and non-ergonomic office design in favour of more innovative approaches to workspace design and heavier reliance on technology
Flexible Working	Employee focused. Can be used to meet the lifestyle demands of individual members of staff by breaking down the barriers of a traditional 9-5 working day
Remote Working	A style of work that allows professionals to work outside of a traditional office environment. Remote working is a type of flexible working.

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