Digital Transformation for the Public Sector

Dr. Antonio Weiss

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Digital Transformation for the Public Sector

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PREFACE

The P-Insights, short for "Productivity Insights," is an extension of the Productivity Talk (P-Talk) series, which is a flagship program under the APO Secretariat's digital information initiative. Born out of both necessity and creativity under the prolonged COVID-19 pandemic, the interactive, livestreamed P-Talks bring practitioners, experts, policymakers, and ordinary citizens from all walks of life with a passion for productivity to share their experience, views, and practical tips on productivity improvement.

With speakers from every corner of the world, the P-Talks effectively convey productivity information to APO member countries and beyond. However, it was recognized that many of the P-Talk speakers had much more to offer beyond the 60-minute presentations and Q&A sessions that are the hallmarks of the series. To take full advantage of their broad knowledge and expertise, some were invited to elaborate on their P-Talks, resulting in this publication. It is hoped that the P-Insights will give readers a deeper understanding of the practices and applications of productivity as they are evolving during the pandemic and being adapted to meet different needs in the anticipated new normal.

INTRODUCTION

Public services are a key part of every economy. However, most economic and policymaking attention is focused on how the private sector can deliver growth and improve productivity. This can make public services seem wrongly neglected. In most APO members, public services comprise at least 20% of GDP and usually significantly more. Public services matter enormously to productivity.

Relatedly, digital technologies have been shown to play a material role in reducing resourcing requirements across many sectors. Warehouses with high levels of robotic adoption are far more productive than human labor-intensive ones. Automated algorithmic trading has greatly reduced the number of physical traders, as well as associated real estate costs, in financial services. Digital marketing is cheaper, more scalable, more targeted, and more measurable than traditional advertising campaigns.

The many great advances that digital transformation has brought about in recent decades are applicable to public services (Box 1). But there are important nuances and subtleties with public services that must be acknowledged and addressed for effective digital transformation to succeed. First, public services are universal in nature. They must be accessible to all citizens, not just those with high levels of digital comfort and literacy. Second, the burden of expectations on successful transformation in the public sector tends to be far greater than in the private sector. While transformation efforts frequently fail in all sectors (with some estimates suggesting the failure rate is as high as 70%), much more attention is paid by the media, commentators, and politicians to failures in the former than the latter [1]. This additional pressure leads to risk aversion when it comes to transformation efforts. Third, the talent pool for digital experts in public services is often shallower. Caps on public-sector salaries, outlandish private-sector pay and perks, and the aforementioned pressures of working in public services often mean that the best and brightest from the field of technology do not choose government careers.

These challenges, to a greater or lesser extent, are common to all APO members. In this P-Insights article, I set out 10 principles to help meet these challenges

based on my own experiences and those of others who have successfully, and less successfully, undertaken public service digital transformation efforts throughout the world.

This report is primarily aimed at politicians, policymakers, and digital practitioners with responsibility for "whole-of-government" digital transformation efforts. Usually, the responsibility for such efforts sits with central government ministries. This report should also, however, be of benefit to those working on specific initiatives within wider change programs and private-sector actors looking to partner and support governments.

Digital transformation is a rapidly moving field. A definition today will be dated by tomorrow. As such, the steps outlined here are appropriate for digital transformation in its broadest sense: from commodity technologies such as cloud-based transactional digital services and single domains; to evolving platforms and components covering identity, payments, safe data access, and cybersecurity; to advanced AI/ML applications, web3, the metaverse, and crypto. Digital transformation encompasses all.

BOX 1

SUMMARY OF THE BENEFITS OF DIGITAL TRANSFORMATION APPLICABLE TO PUBLIC SERVICES.

Benefits of digital transformation and public services

Private-sector organizations will typically embark on digital transformation efforts either to improve competitive advantage, reduce costs, or both.

Governments should be wary of "lifting and shifting" these imperatives for change to the public sector. The dynamics are different. The risk calculus and appetite are different in public services, and the citizen user-base is wider. As such, governments should consider the benefits of digital transformation to be first and foremost about using digital technologies to make the lives of citizens and public-sector workers better. This will inevitably lead to the creation of simple, understandable, safe, accessible services. Other important benefits such as efficiency or innovation spillovers will follow.

UNDERSTANDING "GOOD PRACTICE"

Before we start: a word of warning. For as long as nation states have existed, they have sought to compare themselves to one another. Unsurprisingly, there is no shortage of rankings of "who is the leading digital government?" Different ranking systems include: the OECD Digital Toolkit; World Bank Digital Government Readiness Assessment Toolkit; UN e-Government Development Index; and many more [2].

There is undoubtedly utility in understanding what governments around the world are doing. But beware of the importance of context. It is simply not possible to "copy and paste" a digital strategy from one nation and apply it to another. Critical factors such as culture, digital literacy, internet access, and attitudes toward sharing information will entirely shape how citizens do or do not take up new digital technologies. Legal and regulatory issues matter enormously too. European global exemplars of digital transformation are governed by laws such as the General Data Protection Regulation (GDPR), which sets out detailed, specific requirements for government departments and technology suppliers and may not be relevant to APO members.

It is therefore best to understand rankings to provide an indicator of "good practice" as opposed to "best practice." My research with Tanya Filer at Cambridge University indicates that some of the very best digital nations take full heed of this understanding. They also openly share knowledge and experiences of the successes and failures of their digital efforts with trusted nations via "minilateral" organizations, i.e., small, trust-based groups of nation states [3]. The APO is a good example of such a minilateral, and you should consider how you may wish to share and learn from the experiences of APO members.

10 PRINCIPLES FOR PUBLIC SERVICE LEADERS

BOX 2

TEN PRINCIPLES TO GUIDE PUBLIC SERVICE LEADERS EMBARKING ON DIGITAL TRANSFORMATION.

1. Put *all users* at the heart of your thinking
2. Set a vision and iterate toward it
3. Embrace agile ways of working
4. Fund with failure in mind
5. Get the right skills and talent in place
6. Focus relentlessly on the data
7. Expect to be attacked
8. Always do the right thing
9. Make your positive contribution to the digital world
10. Look to the next horizon

Box 2 summarizes the 10 principles that should guide why, what, and how you embark on the digital transformation of your public services. They are designed to be relevant irrespective of national setting and institutional culture. Some will be harder to live by than others, but they are all important.

1. Put *All Users* at the Heart of Your Thinking

First and foremost, your job should be to make the lives of your citizens better. In digital-speak, this means being "user-centered": designing digital services to meet the needs of your users rather than those of bureaucratic or administrative processes. An example of good user-centered design in action is the UK

government's "Tell us once" service. This is designed to help alleviate the stress and strain that families suffer after a bereavement. Prior to the service, it was necessary for a bereaved relative to tell each separate government institution about a death. This might include local government, the ministry for housing, passport office, tax office, and more. The reason for this was the needs of government. Each government office was separate and worked in its own silo and so needed to be informed separately. However, the "Tell us once" service took a user-centered view rather than a government view. It recognized that for those suffering from the heartache of loss, all they wanted to do was the bare minimum in order to let the government know of the death. A digital service was therefore set up which enabled citizens to inform the state of a death once, and this information would subsequently be shared across all other government departments without any further input from the citizens.

Being user-centered also requires thinking of all users. This means focusing not just on citizens who are digitally savvy and glued to their smartphones, but also those who are less comfortable or trusting of government, or technology, or both. This may sound impossible, but it is not. Research and now real-world evidence abounds in terms of ways that "seldom heard" groups can be reached, by proactively engaging with them, offering physical as well as digital services (Mongolia runs e-kiosk pop-ups across the country, for instance), using simple language (including translations), and more.

The final point about user-centeredness is that noncitizen users matter hugely too. Government work is undertaken by government officials. Across the world, tax officers spend hours of their days reading posted, written documents, and then writing details from these documents into spreadsheets. These spreadsheets will then be emailed to colleagues who transpose excerpts from spreadsheets into tax software. This is no way to work and it is far from productive. Your digital transformation efforts need to make the working lives of internal users, i.e., government and public-sector officials, better too.

2. Set a Vision and Iterate toward It

Transformation efforts need direction and a degree of precision. It is unhelpful to say, "We are going to digitally transform public services." This could mean too many things. Conversely, being too narrow and prescriptive will seem like you are lacking ambition. Announcing a new government portal will hardly excite anyone.

As a leader of digital transformation efforts, it is your job to find an appropriate middle ground between these extremes. There are a variety of ways of doing this. You could set input targets such as "Every government service will be available digitally." Or you could set output targets, for instance: "Our digital transformation efforts will increase labor productivity in public services by 20%." Outcome targets will always be challenging (such as improvements in life expectancy) because digital technologies are only a small component of such big changes.

You should also be clear on time scales. For your teams and public service officials, setting a deadline by which you need to have achieved your targets will give them a sense of urgency and a steer as to how to best deploy resources. While being too tightly defined in scope can hinder innovation efforts, it is also helpful to indicate what is in scope in terms of sectors of the economy: Will health, justice, and crime all be included? Are you focusing on specific regions or territories? From a government perspective, such directives should help to signal to ministries where collaboration will be required.

Agreeing on a vision will usually require discussions and negotiations with political stakeholders. Once you have this in place, it is important to stress to them that what matters is achieving the vision, not how you achieve it. This is where the concept of iteration comes into play. Iteration means being flexible and pragmatic as you strive to achieve the vision. It shares parallels with the Silicon Valley mantra of "failing fast." In essence, as you move toward your vision, you should be constantly learning more and more about what does and does not work, dialing down what does not work and scaling up faster when you know you are on a clear path toward achieving your goals.

3. Embrace Agile Ways of Working

Agile ways of working help you iterate effectively. Emerging from changes in the IT project management landscape at the turn of the 21st century, agile has at its heart a basic yet powerful concept: When the world you are working in is uncertain, do not pretend otherwise.

In sharp contrast to "waterfall" project management approaches that lay out precise details of deliverables years in advance, agile ways of working take a goal, a team, and time and chunk activities into "sprints" (phases of work) that are all designed to build up to achieving the goal.

Agile has a few underlying principles: Teams that deliver digital engagement should be multidisciplinary (as opposed to just IT professionals); working should be done openly and collaboratively, with knowledge and lessons shared throughout; and working patterns should be shaped by a small number of key so-called agile rituals, comprising daily stand-ups, planning sessions at the start of sprints, retrospective review sessions at the end of sprints, tracking of activities (using kanban boards) by team members, etc. All are done through open, nonhierarchical cultures in teams.

Sometimes this can be jarring for more traditional civil servants used to waterfall approaches. But if you want to attract the best digital talent and you want to deliver fast and effectively, agile is the only way to do things.

4. Fund with Failure in Mind

Digital transformation does not come cheap. A typical agile multidisciplinary team working on building a government service from scratch will easily cost USD1 million per year. A healthcare electronic patient record for a population of 2–3 million will typically cost between 10–50 times that. A large, multiyear, national-scale digital program looking to replace legacy technology could reach the USD1 billion mark (and often does).

It is one thing recognizing that change is expensive. It is yet another to honestly embrace the reality that many transformation efforts fail. With this in mind, you will need to manage expectations effectively with your finance and treasury colleagues. Be prepared for failure.

It is also important to recognize the "whole-life costs" of digital transformation. Building a digital service is not the same as running, hosting, and securing it for its lifespan. Somebody needs to pay for these elements. In order to maximize the success of your engagement, keep in mind the commercial model of the service (who is paying and can they pay for it in perpetuity if needed?), when funds are released (release in tranches rather than all in one "big bang"), and how benefits are monitored and realized.

Many digital transformation efforts will be undertaken as public–private partnerships. There is nothing inherently wrong with this (and often good reasons for doing so) but it is imperative you do not get "locked in" to contracts

and license agreements with suppliers. Relatedly, if you are building a government asset, make sure that the government owns the asset, rather than your suppliers. Happily, moves toward open-source technologies pioneered in Europe are becoming more commonplace as it becomes more generally accepted that governments should never be trapped into large multiyear agreements by technology suppliers [4].

5. Get the Right Skills and Talent in Place

The most effective digital nations work hard to attract talent to the public sector. The Canadian Digital Service, Danish Agency for Digital Government, and others work via a "digital government unit" model, a central, core capability of multidisciplinary technology talent which sits at the heart of the government infrastructure, deployed to work across public services. Such an "engine room," where the best and brightest work, collaborate, and learn from each other, can be a particularly attractive sell to candidates who are often asked to accept lower salaries to work in the public sector.

The skills and talent required are different from traditional government administrative roles. Nations such as the UK have modernized their civil service job frameworks to include digital, data, and technology (DDaT) professionals. These frameworks now include roles from the best agile, multidisciplinary teams. Technical and enterprise architects, software engineers, and DevOps practitioners as well as business analysts, program and project managers, and design specialists such as service designers, content designers, and UX and user researchers will all be needed in your efforts.

Given the immense demand for technology professionals, it is not unreasonable to use public–private partnerships. This is where public services bring in private-sector capability to supplement their own talent. Often this can create a rewarding and stimulating dynamic for all parties. Much of Estonia's pioneering e-Health platform was delivered this way [5]. However, it is important that the public-sector partner is always the dominant one, both in terms of leadership and ideally proportion of digital talent in the partnership. A hollowed-out public sector without its own digital specialists will quickly become beholden to technology suppliers. This creates the wrong incentives, delivers poor value for money, and will mean you lose control of the digital transformation agenda.

6. Focus Relentlessly on the Data

The most celebrated government digital transformation to date has been typically in the transactional, Web2.0 domain. In other words: websites and portals. The focus has been on making information available to citizens via the internet and for citizens to upload relatively simple information back to the state via secure websites. There is much to commend in this, and much still to be done. However, the rise of cloud computing since the 2000s coupled with advances in machine learning capabilities have afforded far greater possibilities in the field of data.

Good data and its effective use are transformational. They make preventive healthcare possible, by flagging alerts to care providers if a patient is suffering heart complications, for example. They can spot patterns so that educational provision can be tailored to learners' needs. And they can allow governments to do the simple things well, like ensuring that citizens only need to submit their data once. All of this requires great effort to be concentrated on data quality, data standards, data sharing, and data storage. This needs expertise in the fields of data matching, cloud computing, data science, and analytics. No government transformation efforts should commence without this expertise and focus in place.

7. Expect to Be Attacked

Your government offices have high levels of physical security checks: barriers; airport-style scanners; guards; and more. Your government digital services must have commensurate levels of security in place too. Cybersecurity should be at the top of every digital leader's agenda. Your considerations need to be broad, from protecting citizen data to confidential government information. Online crime, particularly identity theft, is now the most common crime in many countries. Every government across the world has been the victim of cybercrime either from state-sponsored activities or criminal groups seeking ransoms. You must be alert.

Just like traditional crime, the scale and scope of state infrastructure mean that it is impossible to expect to avoid or defend against all attacks. But you need to do your best to minimize them and mitigate them when they occur. This means designing digital services with security at the forefront, continuously testing your services for vulnerabilities and rapidly issuing improvements when they

are spotted, having clear disaster recovery and business continuity plans in place, and, most importantly, remembering that your staff are your most vulnerable point of attack. Ensure that they are trained in best-practice cyberprotections, define and proscribe their access to key government services tightly, and make sure that multifactor authentication is in place for all your services.

8. Always Do the Right Thing

Technology is not ideologically neutral. How data and what data are captured, shared, and used can betray the prejudices of society. There is copious evidence to suggest that many datasets and the algorithms based on them can actively discriminate against certain groups in society [6]. It is your job to ensure that these problems are identified and addressed and your solutions publicly communicated. For citizens to use your digital services requires trust, and this trust can only be won by demonstrating that you are doing the right thing.

Seeking to eradicate discrimination and bias for any services is a must. But you should also go further and use digital transformation to proactively address future challenges. Sustainability and climate change are an obvious and huge issue that technology can help address by investing in clean technologies, by using data to make the best use of scarce resources, and by ensuring that digital services are delivered in low carbon-intensive ways.

Doing the right thing is not just good for trust, it is good for attracting talent. The digital workforce of today tends to be highly motivated about social and environmental issues. If you can demonstrate that working on government digital services will help make their society better and fairer, you will go a long way to helping in your bid to attract the best talent to government.

9. Make Your Positive Contribution to the Digital World

The modern internet was founded on the principles of openness, fairness, and collaboration. With the rise of large tech giants, many of which operate in closed development systems, these principles are very much under attack. Nation states have an enormous impact on the digital world. They can influence it through regulation, investment, and service delivery. You must proactively think through how each of these influence levers can make a positive

contribution. Can regulation ensure that there is greater competition but also collaboration between technology providers, so citizens get the best system possible? How can you ensure that fairness is achieved by who you choose to invest in? To help join up public services so that citizens do not need to constantly repeat what information they give to government departments, how can you ensure that common technology standards are followed?

One of the biggest contributions states can make relates to the open-source movement. This can mean many things to different people, but broadly you should view open source as a means of reducing development costs (because you are not locked into long-term licenses), improving quality (because there are more developers working on large open-source technologies), and encouraging the adoption of "good practice" (because you can use source code from other places). EU members have already made commitments to open-source working in government technology initiatives [4]. If you encourage your suppliers to work in the open, you will be proactively helping yourself and others in their digital transformation aims.

10. Look to the Next Horizon

Change does not stand still. Moore's Law, the observation that the power of technological innovation, measured by transistors on a silicon chip, doubles every two years, is a stark reminder that if you embark on a multiyear transformation effort, the technology you deploy will be old by the time you finish. You need to be agile in this ever-changing landscape. This means not fixing yourself too rigidly to goals many years in the future. It involves constantly engaging with suppliers, innovators, and other nations to find out what is and is not working for them. And it involves managing political expectations accordingly: Digital government will never be "done."

As the technology world is abuzz with frontier developments in the metaverse, web3, crypto fields, and more, it is also important for you to remain grounded as to what is appropriate for the public sector and when. While you should be alert to new innovations, it is also risky to move too fast into adopting immature technologies. Key eyes open and ears close to new developments, but beware that the public sector is, for many good reasons, more risk averse than the private sector. That is just a simple reality of the field you work in. Over the course of the next decade, it is likely that most digital government

focus will evolve from a focus on "reactive, transactional" digital services (which wait on a citizen to make an application for something) to more "joined-up, proactive" digital services (which use data and identity verification to join up public services around citizen needs and proactively reach out to citizens with services).

CONCLUSION

This is an exciting time for digital public services. The levels of investment and attention are at their highest in modern history. Citizen expectations, raised by the rapid ascent of social media and the digital economy, are elevated. Meeting these expectations will not be easy, but you should be reassured that you are not alone. Minilateral groups such as the APO are a brilliant place to share knowledge and experience. You may even look to share codebase, which is something a number of digital nation members (another minilateral) have done in the recent past for notification technologies.

We rightly concern ourselves with productivity, but remember that improving the lives of your citizens should be your primary goal. If you can save them time from undertaking bureaucratic tasks, that gives them more time back in their lives to work, play, and contribute to economic growth. Remember too that improving the working experience of public-sector officials brings huge benefits. The less time they spend on low-value, labor-intensive activities such as transposition of data from physical to digital settings, the more time they in turn have to focus on higher-value, more productive work.

Political leadership matters too. Digital transformation should not be the sole preserve of administrators and technocrats. Important decisions about the nature of a society are impacted by technology decisions: when and how data are shared; whether identity schemes should be mandatory or not; and how algorithms are developed and governed. This requires political leaders who understand the possibilities and challenges posed by the rapid technological change all our societies are undergoing.

Amid all of this, as the digital leaders who will help shepherd in this new era of digital government, be positive and confident. Technology allows us to be more connected, more collaborative, and more innovative than ever before. Use these amazing opportunities for good.

REFERENCES

[1] McKinsey & Company. Why do most transformations fail? https://www.mckinsey.com/capabilities/transformation/our-insights/why-do-most-transformations-fail-a-conversation-with-harry-robinson (accessed on 28 September 2022).

[2] Institute for Global Change. Are we on track? https://institute.global/policy/are-we-track-reflecting-our-global-survey-digital-government-transformation (accessed on 28 September 2022).

[3] Bennett Institute. Digital minilateralism: How governments cooperate on digital governance. https://www.bennettinstitute.cam.ac.uk/publications/digital-minilateralism-how-governments-cooperate-d/ (accessed on 28 September 2022).

[4] European Commission. Open source software strategy. https://ec.europa.eu/info/departments/informatics/open-source-software-strategy_en (accessed on 28 September 2022).

[5] e-Estonia. Estonian public-private partnerships pay off as new apps gain adoption. https://e-estonia.com/estonian-public-private-partnerships/ (accessed on 28 September 2022).

[6] Brookings Institution. Algorithmic bias detection and mitigation. https://www.brookings.edu/research/algorithmic-bias-detection-and-mitigation-best-practices-and-policies-to-reduce-consumer-harms/ (accessed on 28 September 2022).