Public Sector Readiness in the Age of Disruption

Seven Imperatives to Navigate your Journey to Readiness

David Suarez
Ehssan Abdallah Ph.D.

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Executive summary

The world today is undergoing a period of unprecedented change, brought about by global 'megatrends' which include changes in demographics, shifts in global economic power, large-scale urbanization, natural resources scarcity and climate change, to name a few. But by far the most dramatic changes are happening in technology, digitization and science, where the disruption is exponential. Government and public sector organizations find themselves at the epicenter of this 'perfect storm', and have to re-think what it means to lead in an age of disruption. Crucially, they need to do so while regaining the public's trust, which seems to be in decline in multiple places around the world.

In an environment where the sands are constantly shifting, public sector organizations have a critical role to play in serving their citizens by balancing the opportunities created by disruption (e.g. technological advancements such as the Internet of Things), alongside the threats created by the very enablers of these opportunities (e.g. cyber-terrorism).

This study highlights the seven key imperatives to achieve public sector readiness in this age of disruption, and can be used as a 'playbook 'for leaders to successfully navigate through these challenging waters. How ready is your organization to adapt? Use our Public Sector Readiness Index located at the back of the paper to understand where you are in this journey.
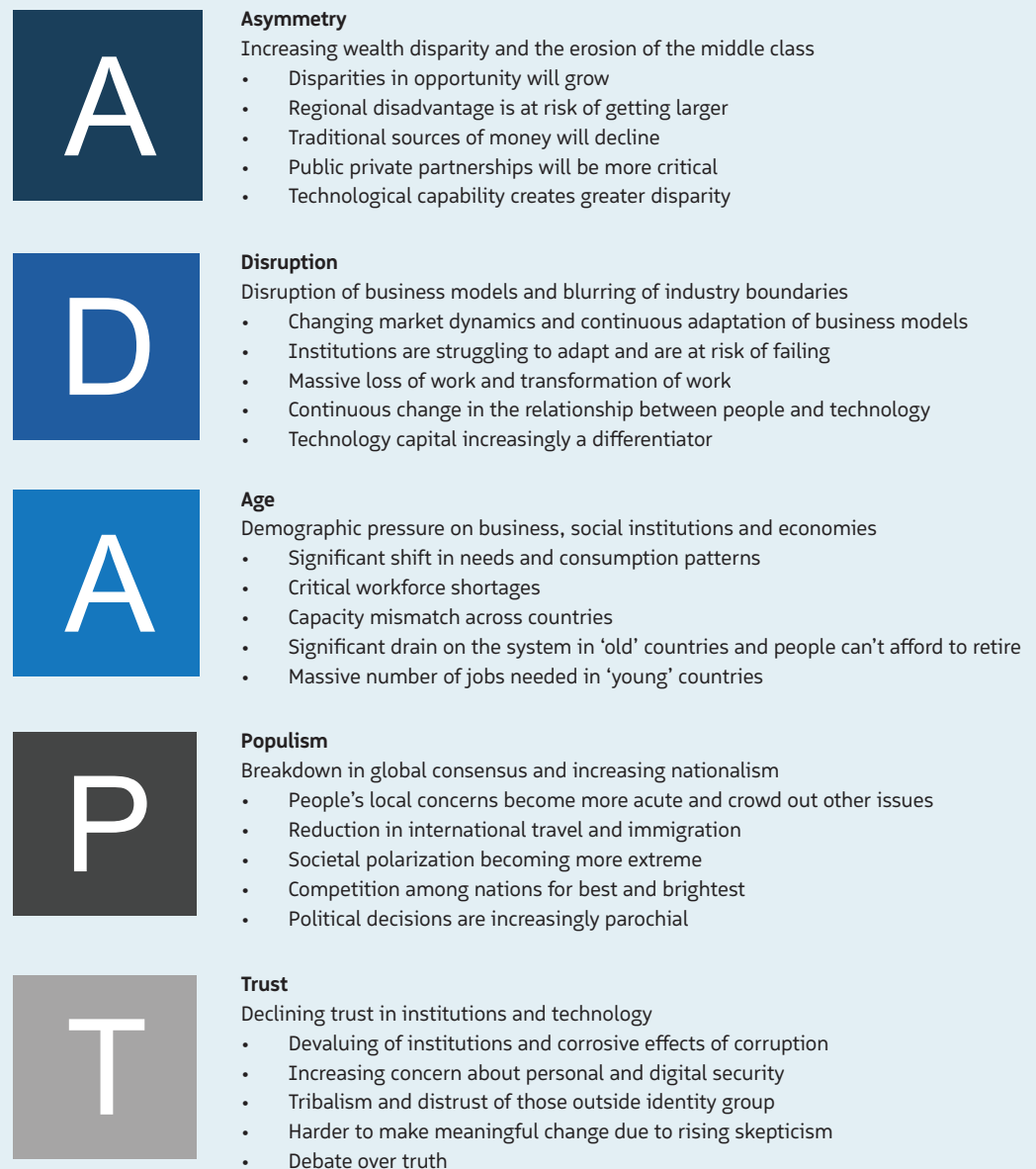
Introduction

The world is undergoing an unprecedented period of change. A number of large-scale, all-pervasive trends are fundamentally affecting the way we live. The world is shifting: whether it's economics (the E7 countries' economies will be greater than their G7 counterparts by 2025); or demographics and social change (people living longer, having fewer children); or natural resources (energy, water, agricultural land), which are becoming more scarce as we head towards 10 billion humans on earth by the year 2065; or the fact that more people live in cities today than at any other time in our history as humankind. All of these forces are reshaping the world we live in today, and actively impacting our future.

Over the past five years, we at PwC have been studying the impact of these global megatrends. Their existence and influence on us has become apparent. But the world is complex and difficult to understand, to the point that we can become paralyzed by complexity. Indeed, governments, organizations and society as a whole are all struggling with the near-term manifestations of these trends, and looking for actionable solutions.

In an effort to help organizations deal with and adapt to these challenges, we have developed the ADAPT framework, (fig.1).

Figure 1

PwC's ADAPT Framework

A

Asymmetry
Increasing wealth disparity and the erosion of the middle class
- Disparities in opportunity will grow
- Regional disadvantage is at risk of getting larger
- Traditional sources of money will decline
- Public private partnerships will be more critical
- Technological capability creates greater disparity

D

Disruption
Disruption of business models and blurring of industry boundaries
- Changing market dynamics and continuous adaptation of business models
- Institutions are struggling to adapt and are at risk of failing
- Massive loss of work and transformation of work
- Continuous change in the relationship between people and technology
- Technology capital increasingly a differentiator

A

Age
Demographic pressure on business, social institutions and economies
- Significant shift in needs and consumption patterns
- Critical workforce shortages
- Capacity mismatch across countries
- Significant drain on the system in 'old' countries and people can't afford to retire
- Massive number of jobs needed in 'young' countries

P

Populism
Breakdown in global consensus and increasing nationalism
- People's local concerns become more acute and crowd out other issues
- Reduction in international travel and immigration
- Societal polarization becoming more extreme
- Competition among nations for best and brightest
- Political decisions are increasingly parochial

T

Trust
Declining trust in institutions and technology
- Devaluing of institutions and corrosive effects of corruption
- Increasing concern about personal and digital security
- Tribalism and distrust of those outside identity group
- Harder to make meaningful change due to rising skepticism
- Debate over truth

Source: PwC[1]

Out of the five dimensions of ADAPT, the most significant, fast-paced, most dramatic changes are happening around "Disruption": Advances in technology, digitization, science are allowing new ways of doing business, giving rise to entire new sectors in the economy, disintermediating complete value chains, enabling new consumer economics and displacing century-old corporations. These changes are fundamentally transforming the way the world works.

Advances in information technology, big data, biotechnology, genetics, robotics and artificial intelligence, to name a few, are causing massive disruption. And with disruption come both opportunities, as well as threats.

Opportunities, which exemplify the "bright side" of technology disruption, offer all of us the potential to thrive. As we have witnessed, the advance of disruptive technology can enable benefits such as greater standards and reliability of healthcare, improved educational services, sustainable smart-city design, efficient transportation, and improved agri-food development and distribution. In today's world, these are just some examples of technology operating at its finest.

Threats, which exemplify the "dark side" of technology disruption, bring about fake news, fake identities, run-away artificial intelligence, hacking of IoT-connected devices and new forms of cyber-terrorism, among other things. We live in an era where a false rumor can spread like wildfire, yielding sometimes unintended, drastic consequences. A phenomenon like fake news is incrementally causing harm to the overall trust that citizens place in institutions and technology.

Governments are sitting at the epicentre of this "perfect storm", and face unprecedented change and challenges. Citizens are looking to governments to provide a guiding hand and steer a course that continues to bring prosperity in the midst of uncertainty.
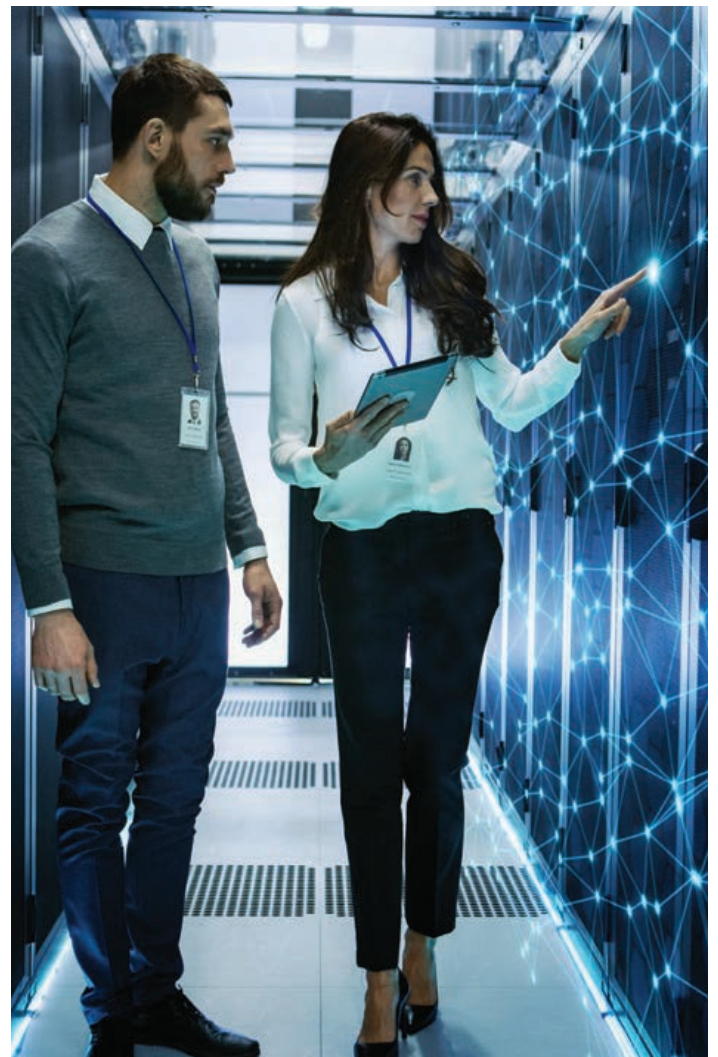
In this context, it is critical for government leaders need to take a fresh look towards public sector organizational readiness.

Public sector organizations (fig.2) also have to deal with competing tensions which result from technology disruption. For instance, balancing between driving innovation while maintaining effective governance and regulation, is just one challenge they are having to grapple with, both tactically and strategically. At the forefront of such complexity, the public sector is having to shape their agenda under immense time pressure.

Figure 2

Past and Future of Government
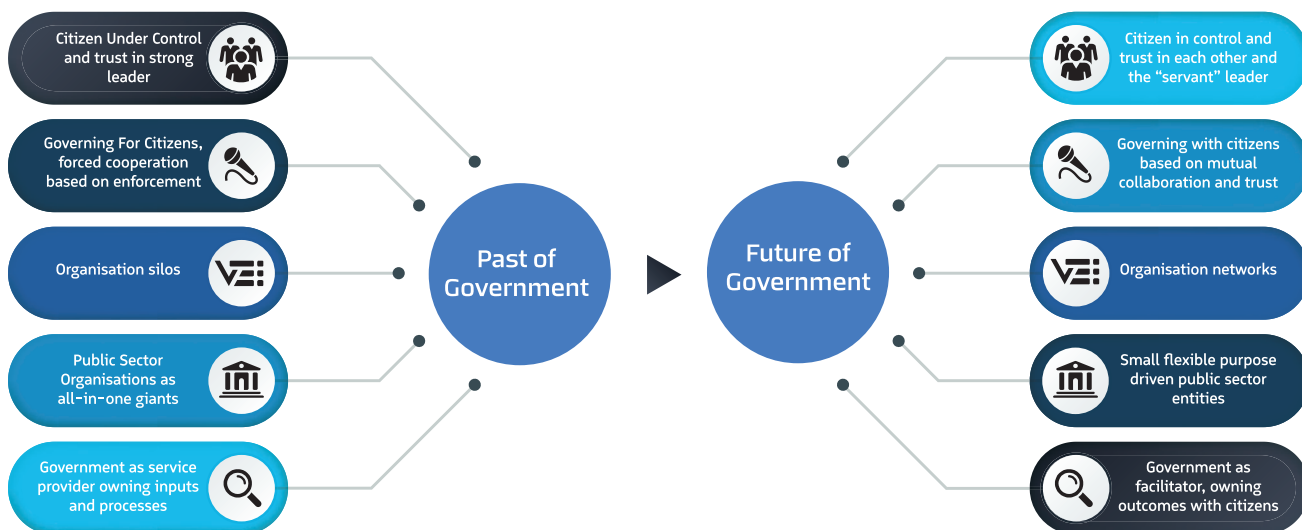
Source: PwC

Readiness Imperatives In An Age Of Disruption
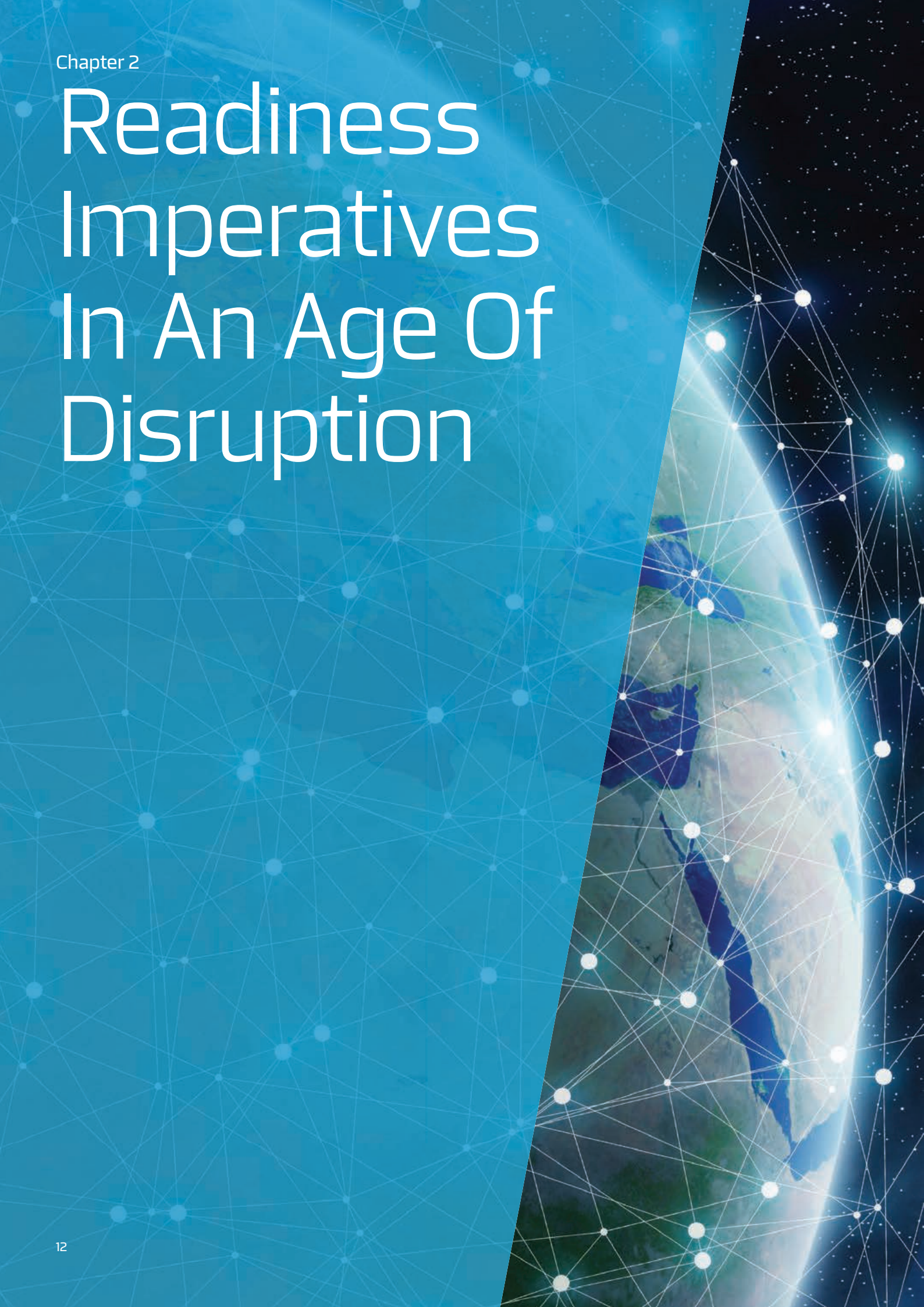
When re-examining concepts and re-prioritizing ideas, it is always good to go back to the fundamentals. In this era of digital disruption it might be easy to forget that governments and the public sector's overall's mandate and true calling is to serve its citizens. The word 'Minister', after all, comes from the Latin word 'ministrare', which means, literally, 'to serve' or 'to attend to'.

Hence, putting citizens and citizen experience once again at the very core of the government's calling and mandate is fundamental.

Digital disruptions create many possibilities to do so, bringing the citizen back to the very core.

When it comes to Disruption, and specifically technology-enabled disruption, PwC has examined the key question of 'what are the main public sector organization's imperatives for today and tomorrow?' (fig.3). The following sections of this paper shed light on these imperatives, and the lessons learned. They also illustrate how some government and public sector organisations are already putting into practice some of these imperatives to enhance their readiness in navigating and thriving in this new world. In particular, several case studies from the UAE shed light on how the public sector is looking to build its readiness in the age of disruption as it focuses on innovation and delivering a high quality of life to its citizens and residents alike[2].

Figure 3

Government and Public Sector Readiness Imperatives in an Age of Disruption

| Enabling trust and transparency **1** | Building disruptive public-private partnerships **2** | Balancing innovation and regulation **3** | Making decisions enabled by Big Data **4** |
| Being Digital **5** | Building "Renaissance" Talent **6** | Building holistic, citizen-centered organizational performance **7** | |

1

The 1st Organizational Readiness Imperative:
Enabling trust and transparency

Trust in institutions (private, public, NGOs) has been gradually eroding, particularly as they have grown larger, becoming more detached from the people they represent. Trust in technology has also declined, driven by increased automation on the one hand, the willingness of users to provide personal data in exchange for free access on the other, and particularly as a result of several data breaching incidents that have caused public outrage. This erosion of trust in institutions is corroborated by, for instance, the Edelman Trust Index in 2019 which still sees a continuous lack of trust among the public especially with global systems failing them and a record high in trust inequality among segments of the global population[3].

For governments and public sector entities, as guardians of a social and political system which is trustworthy, creating and enabling a sense of trust and transparency are fundamental when dealing with digital disruption.

This need is further amplified given the visibility and public scrutiny of government-led initiatives and their wider impact on a nation or community's development. However, astute government entities have used the theatre of disruption to their advantage in building bridges with the community and in doing so, have built an extra avenue of trust when it has been in most need. When it comes to planning and delivering services around smart cities, job creation, healthcare and transportation, major uncertainty and caution exists around the world. Public sector organizations have played a key role in informing the public as well as creating a heightened sense of enthusiasm. According to Birgitte Andersen, CEO of the UK-based Big Innovation Centre, "the public sector needs to lead this revolution [that] will bring a lot of optimism... you really need to open up public data, business data, so services can become more efficient[4]".

Such an unwavering focus on trust and transparency is exemplified by the Singapore Government's "smartnation" initiative, where the purpose and mission of the digital transformation is never lost across the public sector where

"a Digital Government that serves with heart is one that is able to automate work where possible, in order to provide a personal touch in a way that enriches the citizen's experience[5]".

This openness and sense of public accountability will need to permeate everything the organization does, with the citizen at the core. It will need to come in the way services are planned and delivered in an ever changing world and would need to be underpinned by an effective communication and confidence building process. Denmark, a high-expenditure welfare state with an ageing population, tackles this imperative quite differently from Singapore, a centralized service-based economy. One way the Danish Government has looked to build trust and transparency by effectively using AI and Big Data by improving the efficiency, quality and transparency in the distribution of pensions and healthcare to the elderly (where mobility can be an additional challenge), even in the most remote parts of the country[6].

Call to action:
Building trust and transparency in public-sector organizations:

- ☑ Raise level of public awareness and knowledge about data privacy laws.

- ☑ Make data as publicly available and transparent as allowed by data privacy laws.

- ☑ Share the AI Agenda with the public, specifically which data sources are used for key algorithms.

- ☑ Seek feedback and insights from all stakeholders, citizens in particular, regarding the AI Agenda.

2

The 2nd Organizational Readiness Imperative:
Building disruptive public-private partnerships

The questions we as a society need to tackle have become so complex, so fundamental, so essential to our long-term survival as a species, that it requires us to rethink the concept of private-public partnership.

We need to think about partnerships not in terms of what one side gets vs. the other, but more in terms of what is the overall problem we are trying to solve, and what can each party bring to the table to find a common solution.

What could we (private and public) achieve together? One would argue that issues like cyber-terrorism, where coordinated attacks could cripple significant parts of the economy, cannot be answered by governments or the private enterprise with a conventional response around collaboration. The complexity of the elements involved around physical infrastructure, IT, engineering, law enforcement, public health and other highly complex, large-scale factors, is simply too great to allow for a simple contractor-vendor relationship.

Public-Private partnerships have traditionally been built around cutting up the multiple dimensions of the "pie", such as risk, profit, benefit, investment. Typically the public side would bear all risk, and the private could reap significant benefit as an incentive to partner.

We would argue that disruptive partnership models would first rethink how risk, profit, benefit and investment is shared, and then bring in additional dimensions, such as sharing of ideas, data, and resources, among others.

Data: identify data sources collected by either side, and feed to new algorithms for further insight

Human resources: share resources across the aisle, enabling faster capability building on the job

Ideas: bring in not only parties from either side, but engage the citizen in the co-design process

Leveraging data collected by government has proven a major success in the way the private sector is able to contribute to a nation's economic development and citizen engagement. Creating an atmosphere of alliance also helps mitigate any risks associated with AI and technology projects, as well as building on other inherent strengths of both sectors.

Many data sharing examples stand out in healthcare, policing, and education planning; but the City of Pittsburgh's approach to automated traffic control represents an outstanding public-private partnership (PPP). The city's Department of Transportation worked with Rapid Flow Technologies, a private enterprise, to deploy the Surtrac (Scalable Urban Traffic Control) system to help monitor, manage and project traffic in heavily-congested parts of the city[7].

Combining Surtac's AI technologies with data and traffic flow access from the Department, this program was able to reduce travel time, number of stops and waiting time for all citizens and emergency services. Such a successful alliance wouldn't have been possible without the City of Pittsburgh's vision of creating the right policies and trust in such a frontier-like landscape such as AI, between public and private sectors, as well as the wider community alike.

In the GCC, where the role of the private sector has yet to be fully realized, the opportunities for further collaboration using less conventional partnership models are enormous.

Most, if not all national agendas rely on private-public sector collaboration as a key lever for economic diversification, growth and the ability to meet changing demographic demands.   For instance, the Dubai Health Authority is looking to meet its changing healthcare needs based on a dynamic partnership with private providers. This is being driven by a growing and ageing population, along with the high prevalence of chronic and non-communicable diseases such as cardiovascular diseases, cancer and diabetes[8].

In doing so, the Dubai Health Authority recently launched a PPP for the establishment of a specialized "Cardiac Centre of Excellence facility that will cater for 120 beds covering cardiac emergency and inpatient/outpatient services[9]." This partnership will see a private provider not only finance but also operate the world class facility as part of the Rashid Medical Complex. There will also be a capability transfer arrangement throughout the 25 year partnership and the deployment of the latest medical technologies.

With such critical needs that require specialist disease management and expertise, the DHA also acknowledged sees the role big data and the latest digital healthcare technology as vital in managing and combating these trends, based on the Private Sector's existing capabilities. According to Dr. Ibtesam AlBastaki, Director of Investments and PPP, the DHA "through a series of initiatives and continued engagement with the Private sector, [will continue] to foster the growth and development of specialized and super-specialized health services led and managed by the Private Sector." Here, clarity around the DHA's regulatory requirements, through their "Communicate – Promote- Engage" Strategy with the Private Sector, is seen as a key enabler in building trust and transparency in order to foster innovative healthcare service delivery.

This new paradigm of public-private sector collaboration will also allow for public sector organizations to stay ahead of and be much readier for further disruption in their sector, putting them in a position to update either the relevant regulations, legal framework, or service delivery model in light of the latest developments.

Call to action:

Re-thinking the partnerships between the public and private sectors:

☑ Identify data sources collected by either side (private, public), and feed to new algorithms for further insight.

☑ Share human resources across the aisle, enabling faster cross-fertilization of ideas and capability building.

☑ Involve the citizen in co-creation and development of new ideas and collaboration models.

☑ Use idea creation to think ahead of new regulation / legal framework required.

3

The 3rd Organizational Readiness Imperative:
Balancing innovation and regulation

In a world where disruption reigns, one of the toughest challenges government and public sector organizations face is to strike the right balance between regulation and innovation. Regulation is needed to ensure the "rules of engagement" and overall norms are stable, predictable, fostering investment and prosperity in the sector being regulated. Innovation, particularly in an age of disruption, is anything but predictable: the more it's done to allow for implementing new ideas, products and services, without fear of failure, the better.

From an innovation perspective, public-sector entities can foster it by building the right ecosystem and environment, both within their own organizations, as well as across the partners, suppliers, citizen groups, and other government and public-sector bodies that they interact with.

The right ecosystem starts with elements such as structure, people and incentives (addressed under the 5th and 6th Imperatives below), decision rights and information flows.

Artificial intelligence, one of the main driving forces of technology-driven disruption today, has enabled public sector organizations to innovate in new areas that would have been unimaginable in the past. Given the tight controls and fiscal prudence across public services, let alone the impact on public sector culture and operating models, the thought of an innovative government entity has been traditionally considered an anomaly. In this brave new world of disruption, machines and data "reduce the cost of curiosity", and allow organizations a safer environment to encourage greater creativity and energy within teams. In recent years, the technological disruption of drones, for instance, has allowed emergency services to act and reach communities in crisis far more effectively than ever before. Drones are also essential in prospecting natural resources such as oil and gas, along with other mineral deposits[10].

From a regulatory perspective, public-sector entities need to evolve the regulatory frameworks they control to ensure they are as flexible as possible, establishing clear "red lines" that cannot be crossed, but within which there is flexibility and multiple ways for stakeholders to play.

Regulation should become more "principles-based" (as opposed to rules-based"), ensuring adaptability is built into the very nature of these principles.

Such principles, for instance, could include citizen centricity (e.g. does this regulation ultimately protect and serve the citizen, as opposed to any given interest group?), transparency, accountability, consistency with other applicable regulation, etc[11].

As an example, the State Government of Florida stands out at having been able to adopt a flexible policy to enable greater innovation to meet the needs of its citizenry. After the boom of the ridesharing industry spurned by Uber, Lyft and other new players, taxi companies around the US lobbied for anti-ridesharing legislation to make it difficult for such providers to operate, while protecting their own incumbency in the sector. While some states passed laws in favour of the taxi companies, the State of Florida was quick to act upon the responses and sentiments of its citizens, who wanted greater transportation choice.

Untangling a web of outdated legislation, the Florida Senate passed Committee Substitute for House Bill 221 by a vote of 36 to 1, establishing a regulatory framework for the operation of transportation network companies (TNCs) in the State of Florida. This basically permitted the new transport disruptors to operate, affording Floridians safe and affordable transportation throughout the state, thus opening up communities and economies towards each other.

Call to action:
Balancing public sector regulation and innovation

☑ Maintain a constant scan for leading-edge digital solutions that can be deployed to meet the needs of the community and staying ahead of the curve -- ensure such a mechanism is built into public-sector entity governance.

☑ Develop regulations with industry input created with the spirit of setting standards in the interests of elevating quality and reducing costs for the private sector, thus enhancing the citizen experience.

☑ Create bodies of knowledge tied to these standards that can be a baseline-hub for innovative Centers of Excellence that can be tapped into across industries.

☑ Develop design principles for future regulation that allow it to be adaptable to future developments -- principles should not change, even if technologies evolve. These principles would include "red lines" that cannot be crossed, and which establish the limit within which regulation can move.

☑ Create special technology- or design-focused assignments on selected interest areas to help further our institutional digital knowledge.
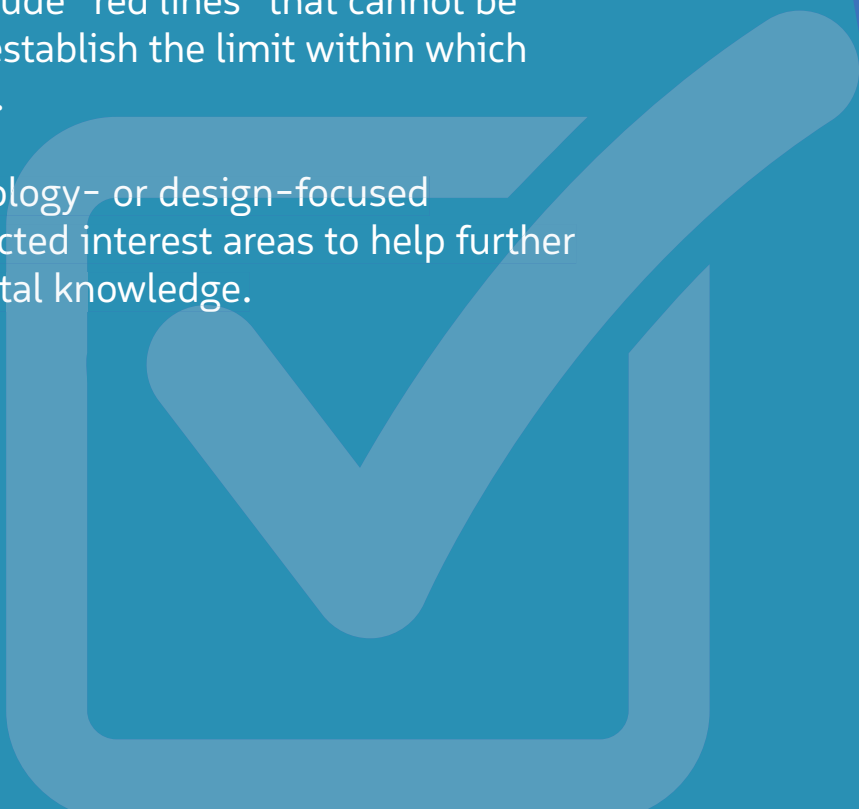
4

The 4th Organizational Readiness Imperative:
Making decisions enabled by Big Data

Decision making is paramount in any organization, whether we are talking about the leadership, mid-management, or all the way down the chain of command. Decisions need to be informed by insights, and insights by data.

Over the past 20 years the world has seen exponential growth in data. Every minute that passes 300 hours of video are updated to YouTube. Each day, over 4 million blog posts are published on the Internet, more than 500 million tweets are sent every day, and 5 billion Google searches are made. Governments around the world (e.g. the US, Singapore, Australia, Japan, Korea, to name a few) are making increasingly more data sets available for public consumption. The Health section of www.data.gov, the U.S. government data repository, has nearly 1,500 data sets available for free access.

As more and more data becomes available, businesses and governments are coming up with new ways of acquiring, organizing, analyzing and visualizing data in ever greater levels of complexity. Tools such as Hadoop, RapidMiner, or Tableau did not exist a mere 10 or 15 years ago, and are now becoming mainstream. At its full potential, Big Data promises real-time access and analysis across both structured and unstructured data sets, including text, images, audio, video, graphs, and more. Combine that with the algorithmic power of machine learning and data analytics and the possibilities are endless.

For public sector organizations, the applications of Big Data in decision making include[12]:

Public Health: Detecting spread of outbreaks by monitoring social media data

Transportation: Optimization of traffic routes and traffic lights through real-time geolocation data

Monitoring of online activity: For instance, use of online channels vs. conventional for government agency transaction processing.

Public Safety in Smart Cities: Large volumes of data available from sensors, social media, and emergency calls can be combined to provide effective public safety.

Law Enforcement: Predictive policing, using historical data to automatically discover trends and patterns.

The role of Big Data deployment provides exponential value, but still has to place the citizen in the center of public sector service delivery excellence. This is confirmed by the CEO of the UAE-based Saaed Traffic Systems, Eng. Ibrahim Yousef Ramel:

"Our utilization of big-data in supporting the delivery of efficient government services and road safety is shaped around focus on increasing happiness, in and out, by harnessing the customer experience provided.... Just as bad habits of smartphone usage while driving [the dark side of digitization] presents dangers and risk, uncareful maxed-out digital transformation in our field of activity increases the risks of losing touch with the citizen and eroding the underlying value."

Despite advances, many public sector organizations around the world are still in their infancy when it comes to harnessing the power of Big Data. Many suffer from historic siloed mentalities and lack of inter-entity collaboration, where there is little or no data sharing. To add to this, some are even struggling with basic data quality issues, which may render any analysis of such data questionable to begin with. The decision-making processes of public sector organizations of the past tends to be somewhat rigid, sluggish, and highly bureaucratic. This, in turn, has created an environment – and ensuing processes, people and culture– that places a premium on protocol rather than agility, perhaps with more focus on process rather than the right outcomes.

Given the need to ADAPT and meet the more complex needs of citizens, government organizations of the future will need to be less centralized, more mobile, flexible and responsive. Thus, it is critical that governments promote and adopt self-organization within their entities, driven by technology and Big Data to help make critical decisions and problem solve more efficiently and effectively.

In light of this current state of play, and given both advances and possibilities of this Disruption, what should be a realistic agenda and priority set for public sector entities to integrate Big Data into decision making? A few are provided in the list below.

Call to action:
Integrating Big Data into its decision making processes

☑ Start with focus on data quality -- ensure accurate data capture (for structured data sets).

☑ Shift to an open-data mindset -- make data available and pursue alternative sources of information and insights when making critical decisions. Remove data silos.

☑ Gradually increase the level of sophistication in data analysis. From descriptive (looking back), to predictive (looking forward), to prescriptive analytics (automating some decisions).

☑ Involve multiple relevant stakeholders from the private sector and community in the decision making process.

5

The 5th Organizational Readiness Imperative:
Being Digital

Digital disruption presents unprecedented opportunities for government entities to serve citizens better. However, traversing this under the pressures of growing fiscal and resource constraints, along with complex public expectations, presents a major risk around how entities become digital.

Companies around the world, public or private, are going through a "digital transformation" of their business. Depending on the nature of the sector a company operates in, it is easier for some to become, or simply "be" digital. For "Digital Natives" like Uber, AirBnB, TeamSnap, and companies whose product and services were born digital, this in inherent in their very DNA. Other companies that were not born as such can go through this transformation more easily to the degree that their product and service portfolio can be digitized (for instance, software development companies). To this point, a lot of entities in the government and public sector space can likely transact in a far more digital way than they do today, and this presents an opportunity.

Digitization, or digital transformation, in the end, is not so much about automating or digitizing what we do today. It's far more about thinking and behaving with a digital mindset.

This digital mindset is all about speed, information access, simplification, re-thinking traditional or conventional ways of transacting. It is not just about becoming more knowledgeable about digital tools, although that is part of it; it's fundamentally about rethinking business models, partner relationships, stakeholder management, and the company's very culture.

When it comes to organizational readiness, the 'digital catalyst' starts at the top - with leadership. 'Being Digital' is how public sector leaders are able to think, feel and act and then cascade such a philosophy throughout their organization.

According to the OECD's report on "Core skills for public sector innovation,[13]" this application is built upon:

Focus on people (capability building)	**Put knowledge to use (free flow of information and learning)**
Work together (breakdown barriers and enhance partnerships)	**Rethink the rules (policies and processes)**

Dr. Aisha Bin Bishr, Director General of The Smart Dubai Office, outlined at the World Economic Forum the Emirate's ambitions to:

"ease residents' lives by providing 90 per cent of the daily needs through digital services [across all services]... coupled with the deployment of the latest traffic management technologies, including autonomous mobility technologies to provide safe, quick, convenient and low-emission transportation options[14]."

In order to do this well, it is not critical for public sector leaders to be the digital domain experts.

However, they will need strong awareness about how they role model their leadership and prioritize the digital agenda amongst the day-to-day demands of their responsibilities.

In particular, being digital will require public sector leaders and organizations to become comfortable with the prototyping process as a way to unlock innovation potential through experimentation and nudging. Operating models will need to change to reflect the need for such flexibility, tied to the citizen-based needs.

The Dubai Government for its part, has embraced being digital with vigour by setting itself a series of ambitious digital targets to help not only enhance citizenship and resident standards of living, but also reduce carbon emissions in the process.

Tied to these, are accountabilities set across government that reflect 42 strategic KPIs including 12% of city trips to be made through autonomous driverless systems by 2021. Similarly, "all eligible, open and shared city data will be shared through the Smart Dubai Platform by 2021." This strategy is not an isolated, Dubai Government single-handed initiative. Rather, it involves international and local technology partners from the private sector, and the buy-in and activation of the community, as highlighted in the aforementioned Public Sector Imperatives.
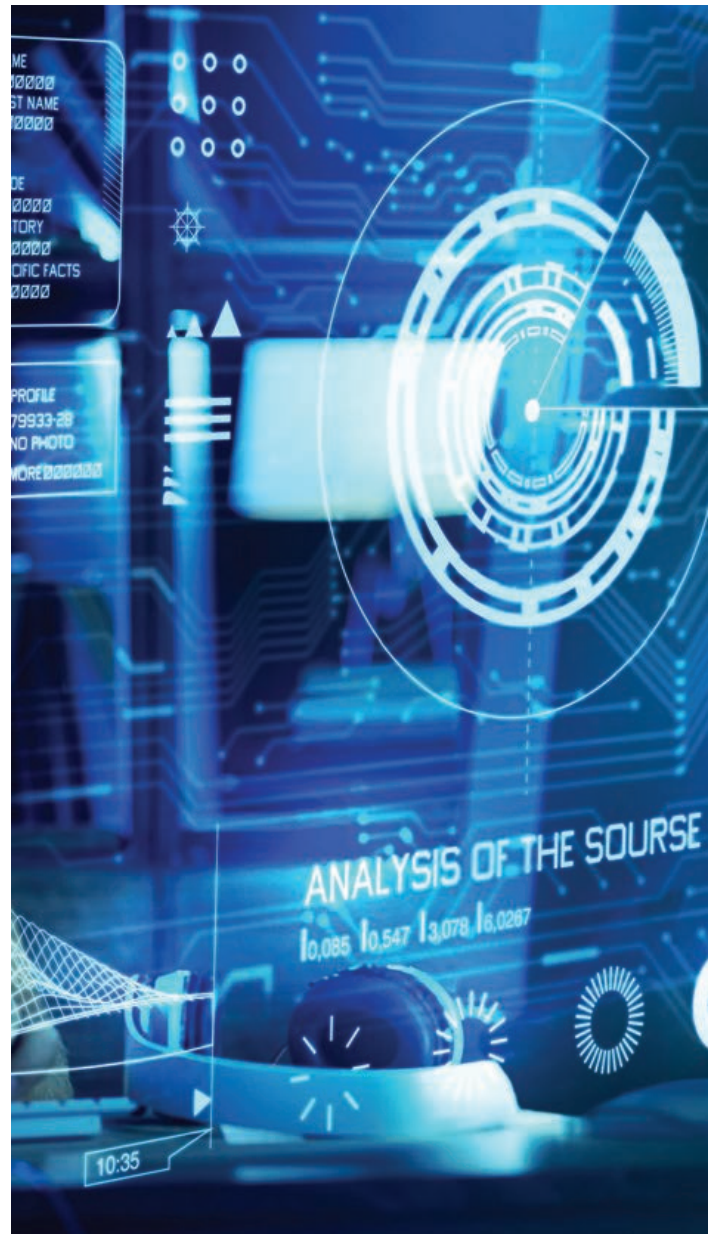
Call to action:
Being Digital

☑ Develop a digital agenda for your organization, which addresses skills, mindsets, and outcomes desired.

☑ Ensure a laser-like focus on 3-4 critical behaviours (i.e. morning huddles or weekly community workshops) that will drive the being digital mindset and culture from the top. The criteria of what to focus on is based on applicability, visibility, measurable and speedy impact, and ease of implementation.

☑ Encourage a wider digital-centric culture that invites challenge and debate, looks for opportunities to enhance traditional service delivery and works in collaboration across teams and departments.

☑ Communicate the organization's digital purpose, needs and priorities when it comes to serving citizens and the nation.

☑ Progressively align the organization's capabilities, processes, people, systems, KPIs to reinforce being digital.

6

The 6th Organizational Readiness Imperative:
Building "Renaissance" Talent

The Renaissance, a period that characterized European culture, art and science from the 14th – 17th century, was the movement that awoke a dormant Europe from the dark middle ages, and brought it into the modern era. Bringing back to life lost knowledge from classical Greece and Rome, oftentimes through the influence of muslim scholars who saved classical knowledge from oblivion, this period was witness to some of the most beautiful expressions of art, science and engineering that the world had seen to date. It was the period of Michaelangelo, Bruneleschi, Leonardo da Vinci, Galileo, Johannes Guttenberg. All of these men were not just exceptional in one particular field, but they often mastered multiple ones. They were individuals of wide learning, polymaths of the Renaissance, so to speak. Leonardo da Vinci, for instance, was both a great artist, a great scientist , an engineer and inventor. The need for such "Digital Polymaths", across all industries and sections of society, today is greater than ever.

Over the past two hundred years and more, the tendency in educational systems around the world has been to develop talent that was ever more specialized. This has created an enormously large set of functional areas of specialties across pretty much every field of knowledge, with expert talent ever more focused on the respective areas of expertise, increasing the number of functional silos.

But the challenges brought about by Disruption require us to use "Renaissance" talent, meaning, talent which is far more cross-functional, cross-discipline, cross-field than ever before.

This is the best way to (1) future proof our jobs, which increasingly become more automated by machines, and (2) tackle and ADAPT to problems that are becoming far more complex both in root causes and solutions.

This Renaissance Talent brings multiple dimensions, among others:

Technology savvy, ideally digital native ("Digital Polymaths")

Industry or domain expertise

Right and left-brain thinking

Data literate

Highly creative and artistic

In order to embed the philosophy of being digital, public sector organizations need to build this type of talent, and become future-proof in the disruptive age.

Leaders need to focus and invest on upskilling and laterally developing their workforces accordingly. Roles and career progression needs to be focused on the long-term picture of the government entity, beyond just a job-for-life mindset. Here, AI and digital disruption allows for greater engagement and opportunity as careers progress and life-long learning becomes fundamental.

"Learning never exhausts the mind"

Leonardo da Vinci

A risk, however, faced by all public sector leaders is the high demand for such desirable talent globally. To counter this, leaders must think first about multiple talent sourcing options (i.e. in an era where the gig economy reigns, full-timers are not the only way to access talent), as well as what value proposition are they putting on the table to attract the right talent (full- or part-time). The value proposition, other than compensation, should address multiple areas, such as:

Purpose and Impact: What are the ultimate citizen-centric problem(s) we are trying to solve here? What impact could this new talent have in society/citizens if they join?

Work Environment: New ideas are expected, and space will be given to teams to improve or re-think service delivery, and how that differs from tech companies that are likely to be better positioned to attract this talent.

Project-by-project Growth: Rather than seeking the "employee for life" staff, we focus our talent on specific projects to maximize personal development and growth in minimum time.

Work-life Balance: For instance, new policies are in place that enable staff to work remotely and in far more flexible ways than before.

Thus, the risk of talent scarcity can be countered by providing an engaging and purposeful tech-centric environment- not only serving the community efficiently, but also playing a leading role in shaping the disruption agenda. Beyond the development of a clear value proposition, governments and public sector organizations have three approaches to deal with this risk:

Short-Medium Term Development:
develop critical capabilities in a very tactical manner across a particular government department.

Medium Term Deployment:
adopt a government-wide cross departmental talent strategy where human resources are seen as a whole-of-government asset on specific disruptive technology initiatives, until capabilities and capacities are at a level of acceptability.

Long-Term Generational Evolution:
infusing strategic digital literacy programs throughout primary and secondary schooling, as well as a specific programs for retirees, and others outside the education life-cycle, to include and have them contribute to the digital transformation.

Earlier we discussed the use of drone technology applied to delivery of medical services in the field. Extracting maximum value from drone technology would not have been possible without an iterative process within the relevant emergency services or departments. Additionally, public sector leaders here must be smart and willing to assemble their teams accordingly based on capability then aligned to the right technologies. This doesn't have to come at the cost of basic service delivery, and can work parallel to any public sector organization's operations. Special elite tech-units or SWAT (Savvy With All Technology) Teams[15] can be assembled and mandated to operate in the spirit of limitless possibility within a citizen-first mindset. Allowing such teams the breadth and resources to look at the world differently and leverage the insights and increased accuracy of machines and AI is crucial in order to help shape what regulations can be nudged and what remains the status quo.

Taking this key imperative to the next level, the Singapore Government has embarked on a bold plan to strategically upskill and develop all public sector officials[16]. Their Digital Government Blueprint aims to build a public sector that is "digitally confident… supported by a digitally-enabled workplace and digital tools." Rather than a piecemeal or individual driven approach, the Singapore case illustrates a comprehensive nation-wide approach considered key to ensuring success and inclusivity in their nation's digital journey.

Case Study:

Looking to build its own tech-savvy capabilities within the UAE, the Special Olympics World Games – Abu Dhabi 19 (SOWG) event is providing a necessary moment of truth for the UAE's public and NGO sectors when it comes to disruption. AI and Big Data play key part in this event. The focus is placed on ensuring the health and safety of people of determination athletes (with intellectual disabilities) or in short Special Olympians, visitors and volunteers, along with delivering a customer-centric journey for all. In partnership with UAE-based Injazat, and over 18 other international and local organizations, the Games' Local Organizing Committee (LOC) is leveraging digital data in real time to manage and optimize all processes and experiences across transportation, venue management, human resourcing, health and safety, accommodation within the event that will take place in over 10 venues across Abu Dhabi. Access to a multi-lingual Special Olympics World Games app will be available to all to help capture the data and needs of customers in the international event. However, this is not without its challenges, including the synchronization of the different requirements of the design and delivery phase.

Dr. Yousef Al Hammadi, Chief Intelligence Officer – SOWG, maintains that his biggest challenge is creating the fluidity for his teams and managers:

"To trust the data and make key decisions in real-time based on the strength and accuracy of the data is crucial. This responsiveness is critical to ensure efficiency, but more importantly, a memorable and happy experience for all customers and visitors in this important event."

Call to action:
Building "Renaissance" Talent

☑ Assess the critical capabilities required to deliver on your organization's current and future disruptional requirements. This will require seeking input and feedback on talent and environmental trends/developments from other departments and even industry.

☑ Create a talent value proposition that makes your organization attractive vs. tech and other companies -- find the differentiating factors, focus on impact on society and beyond.

☑ Select for "Renaissance", multi-discipline talent (digital, industry, function, etc.) to deliver on these current and future needs, and embed the talent accordingly to help accelerate the digital-centricity across non-digital teams.

☑ Seek high-impact projects that can leverage the multi-discipline capabilities to create scale and build future-proof capabilities and institutional knowledge within your organization.

☑ Continuously connect with industry, subject matter experts and contribute to the knowledge transfer agenda across all community groups.

7

The 7th Organizational Readiness Imperative:
Building holistic, citizen-centered organizational performance

For well over 10 years, politicians, economists and thought leaders have been arguing that GDP is not a good measure of wellbeing, prosperity and progress. Nobel prize winner Joseph E. Stiglitz led the International Commission on the Measurement of Economic Performance and Social Progress back in 2008, producing the report, 'Mismeasuring Our Lives: Why GDP Doesn't Add Up'[17]. Today, at a time where entire companies, governments and nations have to ADAPT to the complex challenges we have been discussing in this paper, moving beyond GDP as a measure of progress and prosperity is paramount.

As an example, the OECD developed the Better Life Index (see www.oecdbetterlifeindex.org) in 2011 precisely to measure these other dimensions. The index has a total of 11 areas it tracks across all OECD member states, including housing, income, jobs, community, education, health, environment, safety and work-life balance, among others.

Just like GDP is an incomplete indicator to measure a nation's progress, one would argue that revenue, profit, and even total shareholder return are incomplete indicators to measure a company's performance.

Public sector entities have an additional challenge, in that oftentimes their mandate is not revenue or profit generating. Thus, measuring the overall entity's impact (in the segments of the population they serve, the environment and use of natural resources, their employees, their partners and suppliers) is key.

There are multiple frameworks available that measure overall impact of a given enterprise. Several years ago PwC launched its Total Impact Measurement and Management Framework (a.k.a. TIMM), which measured economic, social, environmental and tax impact of a given corporation

Figure 4

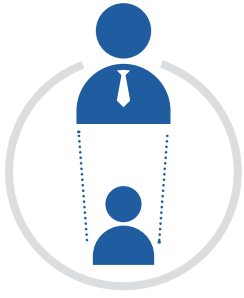PwC's Total Impact Measurement and Management Framework
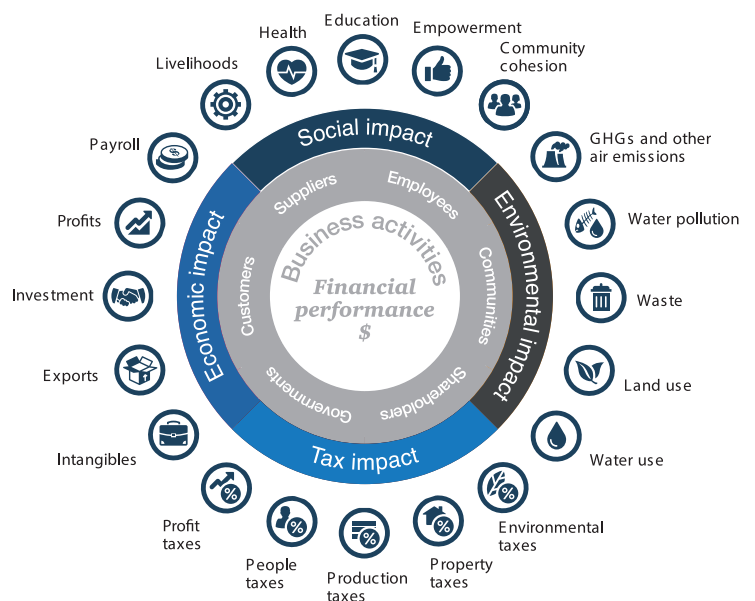
Source: PwC

As public sector organizations have grown in size, they have become more detached from the very citizens that give a reason to their purpose, oftentimes increasingly failing to meet their needs. One of the main levers for government and public sector organizations to regain that trust from their constituents, is to reaffirm the fundamental values around citizen centricity, and then translate those values into the right behaviors, skills, and eventually outcomes that can be measured. In short, we are talking about shifting the culture of the organization to a citizen-centric enterprise. It many sound obvious, but putting these things into practice is anything but obvious.

How can public sector organizations put citizens again at the center? We suggest five levers:

| Role-modeling from the top | Citizen analytics | Citizen engagement channels | Outcomes-based measurement | Motivational levers |

Role-modeling from the top: It is crucial that leaders of public sector organizations truly believe and live by a citizen-centric philosophy.

This will include not only broadcasting the right messages from the top, but also visible leadership actions that something is different.

It could be implementing new protocols for citizen feedback, or using new KPIs which measure citizen focus in employee performance.

Citizen analytics: This lever covers data (or Big Data) analytics applied to the citizen, to the main constituent of the public sector organization we are considering. It evolution should follow the "call to action" given in the Big Data section above, moving from descriptive, to predictive, and eventually prescriptive citizen analytics. It should measure citizen satisfaction (a lagging indicator) across the public entity's services portfolio, and provide analysis to understand the root causes (or drivers) that lead to such satisfaction (the leading indicators, for instance, waiting time to be served).

This analysis should uncover what emotional and rational components of the citizen engagement process matter most.

Overall, this process will help public sector balance what are the hidden pain points for citizens, as well as manage their processes and resourcing effectively, while proactively managing the citizen experience.

Citizen engagement channels: The forementioned levers need to be augmented by further citizen insights that come from direct engagement with the constituents.

This engagement needs to use increasingly more digital channels, but also face-to-face channels as a way to bring back a face, a name, a story, and making it real for the relevant public sector organization staff.

After all, citizens need to feel there is a human being on the other side of the line, not just a chatbot. Otherwise disengagement is likely to continue. And for the staff member, the citizen will continue to be an impersonal construct, a piece of data. These channels should emphasize, in particular, both success and failure stories, that have a first name and a last name associated with them.

Outcomes-based measurement: Ultimately, any organization's performance should be measured by the whether they have addressed the needs of their constituents in line with expectations.

They need to measure actual outcomes.

The healthcare sector, which in many parts around the world is moving to a value-based, and outcomes-based model, is a good example. What measures good healthcare is not based on the services a patient receives, or the number of visits to the ER or the doctor. Rather, it is about whether a given patient has gotten healthier as a result of the relevant interventions. Similarly, public sector organizations need to shift their focus to outcomes: whether it's housing, jobs, income, environment, impact on the community, civic engagement, or otherwise, it should keep in mind the ultimate outcome it is trying to achieve as a result of the public sector entity's performance.

Motivational levers: None of this will yield the right results if the public entity staff are not motivated to behave in a citizen-centered manner. Needless to say that the usual measures around KPI's, performance contracts and the like would need to be put in place, and modified so that a prioritized performance dimension around citizen centricity can be taken into account. In addition to that, we would like to move beyond this "Carrot & Stick", or "If-Then"rewards. Writer Daniel H. Pink deals with this topic at length in the book "Drive: the surprising truth about what motivates us[18]". The main thesis of the writer is that people today are not just motivated by the hope of reward or the fear of punishments. There are three levers that make up the core of his "Motivation 3.0" approach: Purpose, Mastery, and Autonomy. Purpose refers to the fact that people need to have a purpose why they are doing something. The more important this purpose is to the individual, the more motivated this person will be. Mastery refers to the fact that people are also motivated to do something if in so doing they increase the level of skill at what they do. This is typically seen, for instance, in athletes or musicians. It is the driving force behind "practice makes perfect". Autonomy refers to the fact that people will be more motivated to the degree that they are empowered and given the space to solve a given problem. Hence empowerment, with the right level of transparency and accountability, can bring about tremendous amount of motivation.

People today are not fundamentally motivated by the hope of financial reward or fear of punishment. Rather, they are motivated by finding meaning and purpose in what they do, and by the degree to which they can master what they do with high levels of self determination.

Out of the three, one can argue that Purpose is something that a lot of public sector organizations can provide to employees: they are serving a particular need of society, they have, in a way, a higher calling than simply making money. This argument could be used far more effectively in public sector organizations than it would appear to be today.

As an example of how citizen centricity can rally up a government organization, here is a success story from the government of New Zealand. With its high public service expenditure for a small nation, the cost of delivering government services in the country had become a challenge. With a dispersed population, but the need to reduce costs of service delivery without impacting the quality, New Zealand Government turned to a comprehensive digital transformation agenda that put at its heart the citizen. This was established to:

"Put people first. We're focusing on what people need from government in these fast-changing times and how we can meet their needs using emerging technologies, data and changes to government culture, practices and processes.[19]"

After several years of deploying this ambitious program, with the citizen firmly in the middle of their universe, have set themselves the target of reducing the cost of dealing with government by 25% and matching that of the private sector. This has been driven by a digitized whole-of-government approach to service delivery, but more importantly, a relentless focus on the customer journey[20] across all services; coupled by the realignment of citizen-centered KPIs.

Focusing on a balance of leading as well as lagging indicators allows for the effective design and deployment of policies and interventions, especially in the age of disruption. In turn, these boost the public sector's role and ability to enhance national prosperity and standard of living with the efficacy and relevance as illustrated with the New Zealand Government's experience. With a re-focus on these indicators, public sector organizations will be far more enabled, and with a stronger sense of confidence, share and co-own the outcomes of its policies with its citizens.

"A successful government reaches out to the citizens rather than waits for them to come to it"

HH Sheikh Mohammed bin Rashid Al Maktoum, the vice president and prime minister of the United Arab Emirates and the ruler of Dubai

Call to action:
Building holistic, citizen-centered organizational performance

☑ At government level (national, regional, local): Adopt a Better-Life index or equivalent to measure social, environmental, economic and related factors in a holistic manner.

☑ Those in public sector leadership positions should seek to focus on one or two behaviors that send a signal to their organizations that the citizen is at the center and core of the public sector entity's mission.

☑ Proactively focus on tracking and forecasting citizen needs and requirements for the future- through the use of Big Data (Macro trends).

☑ Upgrade your scorecard to include two or three leading indicators that are closely related to citizen outcomes (e.g. average service waiting time), and start tracking performance and root causes.

☑ Establish clear feedback, engagement and monitoring channels with citizens directly impacted by our entity's services.
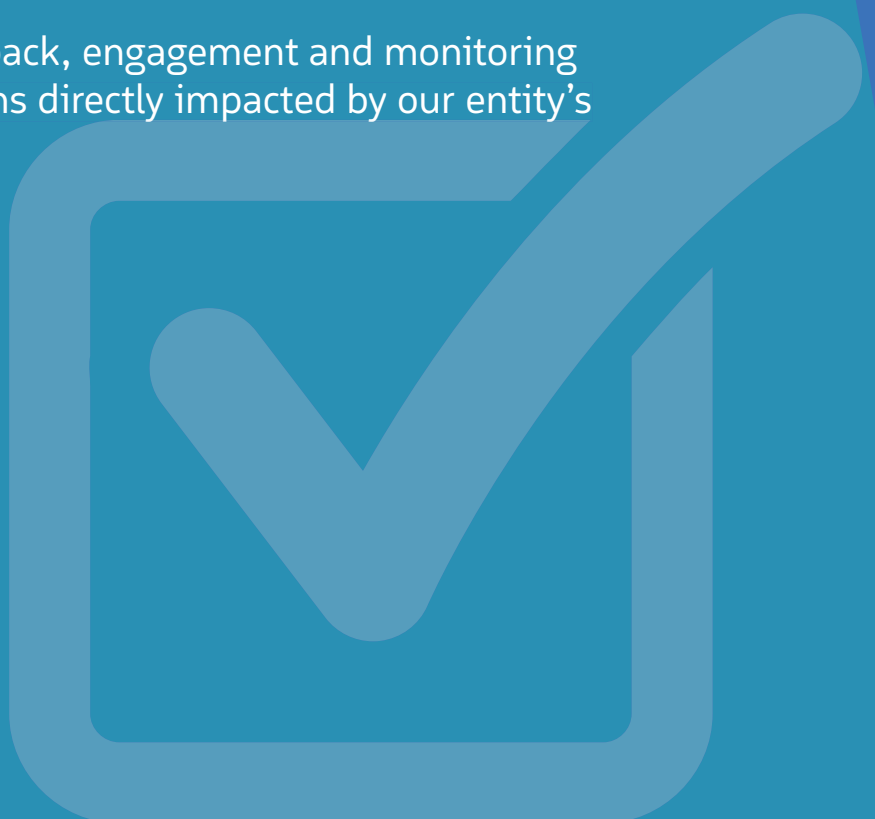
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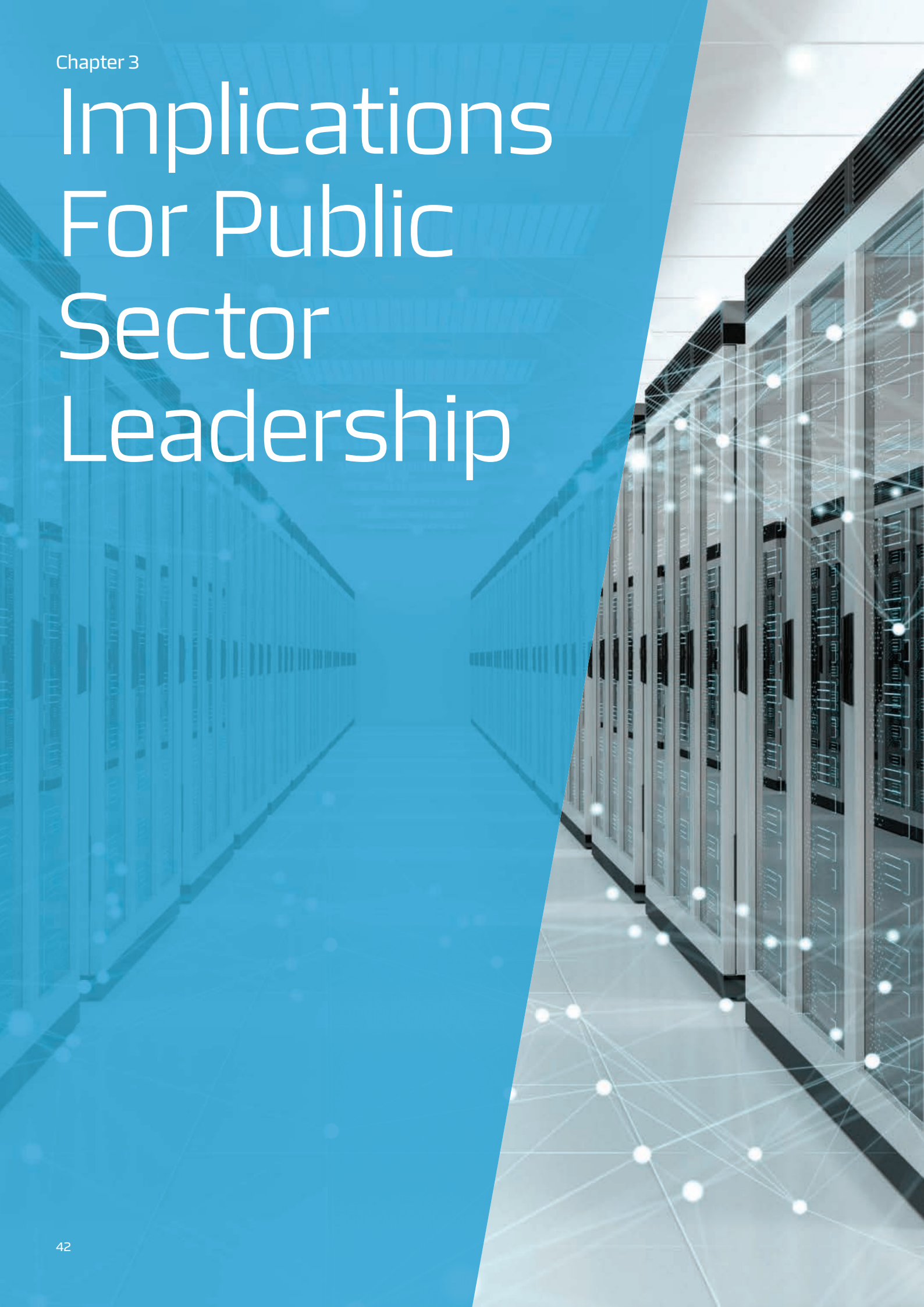
As we have seen, public sector organizations continue to address their respective disruption agendas through a variety of strategies and initiatives. These are often based on inherent strengths, legacies and need (e.g. efficiency and citizen experience in New Zealand or Aged Care in Denmark). However, no disruption agenda is designed nor implemented by accident. Public sector leadership is the driving force behind this, and the difference between struggle and survival in sustaining prosperity.

In order to shape the disruption agenda ahead of the pace, public sector leaders are front-and-center when it comes to building trust both with the community, and also with the private sector.

While these may seem at odds with each other, the independence and strength of governance (accountability and transparency) that embody what it means to serve a community and nation, are invaluable tools for leaders in managing the uncertainty around AI and Big Data in today's world.

Public sector leaders need to lead the citizen centricity agenda in the age of disruption.

They need to be in-tune and relevant in the eyes of all citizens to ensure they are able to understand these complexities better and how to address any changes effectively. The only way to do this is to lead with action (first), lead with words (second), setting the right tone when it comes to their organization's citizen-centric values and behaviors. This will reinforce the social contract between government and its citizens, building greater social cohesion, prosperity and improving overall government service delivery.

Undoubtedly, big data and digital platforms may have provided an added avenue in public sector engagement with citizens. Nevertheless, public sector leaders still need to be able to make sense of the data generated from such channels, and be able to discriminate between the "noise" and the real data that will have the greatest impact.

The need for bold, effective and efficient decision-making in the age of disruption becomes one the most fundamental demands of public sector leadership.

The ability to blend expertise and relevant data has a major impact on how public sector leaders activate their vision and connect it to the day-to-day lives of citizens and the private sector.

It is idealistic to think that public sector leaders can lead and manage the disruption agenda alone. As we have seen with disruptive partnerships alongside the private sector and enduring connections with citizens alike, leaders must also be tightly aligned to their organizational cultures.

Leaders within the public sector will always be the catalysts for organizational culture. This will require the active role-modelling of the right actions, intentions and thinking needed to ferment organizational readiness across the imperatives. Collaboration with other government entities, fostering critical thinking and debate, the emphasis on servant-leadership, measuring rewarding performance aligned to the citizen; are just some of the behaviours public sector leaders must challenge themselves and others to live, breath and embody.

For the disruption-ready leader, galvanizing the team and organizational culture around such behaviours offers a unique chance to use the age of disruption as an opportunity to contribute to a nation/ community's social and economic well being like never before.

Where are you on the journey to public sector readiness?

This study has examined cases of excellence stemming from international and UAE government entities. Using these as a reference, the Public Sector Disruption Readiness Index (fig 3.0) has been developed to help you measure your organization's level of fitness and preparedness. The findings elicited from running this index are designed to serve as a call-to-action and conversation starter to help public sector organizations focus on what matters most on their journey, and how to generate your unique formula required to thrive in the age of disruption.

Guidelines for Use:

- Examine the Imperatives and Drivers in Relation to your Organization's Service Delivery Model and answer with honest reflection and candidness. Remember, this is not a Performance Review.

- Make sure to share the Index among your leadership and across critical roles throughout the Organization

- Compare and contrast the total score, as well as the areas of strength and improvement

- Use the data to drive the discussion with your top teams and units, looking for contrasts and different perspectives (across hierarchy and function)

- Focus on 2-3 Imperatives to drive readiness excellence, that will have the greatest impact on your citizens and with the most feasibility – build momentum around these

- In moving into action, ask yourself and teams:
    - What does a 5 (perfect score) look like for us? What will it take us to get there?
    - What recipe recommendations from the research can we use to help get to a "5"?
    - Can we build a dedicated initiative around this?
    - What will be the impact?
    - Who will be accountable to make this happen?

1 Strongly Disagree

2 Disagree

3 Neither Agree nor Disagree

4 Agree

5 Strongly Agree

State of Readiness	Far From Ready	Almost Ready	Ready	Ready and On Alert
Total Readiness Score	0-70	71-110	111-130	131 – 150

#	Readiness Imperative	Readiness Drivers As a public sector entity, we:	1-5 Scale
1	Enabling Trust and Transparency	• Raise level of public awareness and knowledge about data privacy laws • Make data as publicly available and transparent as allowed by data privacy laws • Share the AI Agenda with the public, specifically which data sources are used for key algorithms • Seek feedback and insights from all stakeholders, citizens in particular, regarding the AI Agenda	
2	Building disruptive public-private partnerships	• Identify data sources collected by either side (private, public), and feed to new algorithms for further insight • Share human resources across the aisle, enabling faster cross-fertilization of ideas and capability building • Involve the citizen in co-creation and development of new ideas and collaboration models • Use idea creation to think ahead of new regulation / legal framework required	
3	Balancing innovation and regulation	• Scan for leading-edge digital solutions that can be deployed to meet the needs of the community and staying ahead of the curve • Shape a nimble regulatory environment that maintains the balance between governance and agility in enabling innovation while enhancing citizen experience • Create special tech teams and/or assignments to help further our institutional digital knowledge	
4	Making decisions enabled by Big Data	• Start with focus on data quality -- ensure accurate data capture (for structured data sets) • Shift to an open-data mindset -- make data available and pursue alternative sources of information and insights when making critical decisions. Remove data silos. • Increase the level of sophistication in data analysis gradually. From descriptive, to predictive, to prescriptive analytics • Involve multiple relevant stakeholders from the private sector and community in the decision making process	
5	Being Digital	• Develop a digital agenda for your organization, which addresses skills, mindsets, and outcomes desired • Ensure a laser-like focus on 3-4 critical behaviours that will drive the "being digital" mindset and culture from the top • Communicate the organization's digital purpose, needs and priorities when it comes to serving citizens and the nation • Progressively align the organization's capabilities, processes, people, systems, KPIs to reinforce being digital	
6	Building "Renaissance" Talent	• Assess the critical capabilities required to deliver on your organization's current and future disruptional requirements • Create a talent value proposition that makes your organization attractive vs. tech and other companies • Select for "Renaissance Talent", multi-discipline talent (digital, industry, function, etc.) to deliver on these current and future needs • Embed the talent accordingly to help accelerate the digital-centricity across non-digital teams • Seek high-impact projects that use multi-discipline capabilities to create scale and build future-proof knowledge within the organization • Continuously connect with industry, subject matter experts and contribute to the knowledge transfer agenda	
7	Building holistic, citizen-centered organizational performance	• Adopt a Better-Life index or equivalent to measure social, environmental, economic and related factors in a holistic manner • Leaders to focus on one or two behaviors to role-model citizen-centric mindset and bias for action • Track and forecast citizen needs and requirements for the future through the use of Big Data • Upgrade scorecard and align organization to include two or three leading indicators that are closely related to citizen outcomes • Establish clear feedback, engagement and monitoring channels with citizens directly impacted by our entity's services	
Total Score			

Authors

David
Suarez

Partner, People & Organisation Leader
david.suarez@pwc.com

David is a Partner at PricewaterhouseCoopers, based in Dubai, and leads all human capital consulting activities for the firm across the Middle East. David has over 20 years of experience in strategy and management consulting, focusing on how people, organizational behavior and effectiveness enable large-scale business change and transformation. His areas of expertise include human capital strategy, talent and leadership development, organisational culture and change management.

For the past three years, David has been studying the impact of technological disruption, demographic changes and other large-scale megatrends and what they mean for the future of work, the future of the workforce, and the readiness of organizations, particularly in the public sector, to deal with these challenges.

As a management consultant, David has served clients across a range of industries, including government & public sector, transportation, oil & gas, chemicals, healthcare, aerospace and telecom across the Middle East, Europe, the Americas and the Far East. Prior to PwC, David worked at Booz & Company, Deloitte Consulting, and before that as a design engineer at Abaqus Inc., now a Dassault Systèmes company.

David is also an Associate Professor of Strategy at IE Business School in Spain, where he's been teaching courses on Strategy Execution for their Global MBA program since 2009. He is also a member of IE University's Advisory Board. He has as multiple Master degrees in Engineering from Stanford University, Bachelor degrees in Engineering and Computer Science from Brown University, and a MBA from IE Business School.

Ehssan
Abdallah

Regional Lead – Leadership and Culture Center of Excellence
ehssan.abdallah@pwc.com

Ehssan is a Director with PwC, and is the Regional Lead for the firm's Leadership and Culture Center of Excellence in the MENA region. With over 15 years of experience in leadership and organizational consulting, Ehssan seeks to build leadership and organizational capability with clients.

Ehssan's expertise includes leadership and talent strategy, change management, transformation, executive & board effectiveness, and culture shaping.

Working closely with executives and leadership teams, Ehssan has led key initiatives across a range of industries, including: the public sector, healthcare, education, consumer, automotive, aviation, telecommunications/ technology and financial services.

Prior to joining PwC, Ehssan set up two international consulting practices in the MENA region, as well as led the Victorian Government's (Australia) International Development initiatives across the Middle East and Asia-Pacific regions.

Ehssan holds an Executive MBA from IE Business School and a Ph.D. in Behavioral Economics from Deakin University, Melbourne.

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