Government & the 18th Annual Global CEO Survey

Government and the Global CEO: Delivering outcomes, creating value

72%

of CEOs are concerned about geopolitical uncertainty and government responses to fiscal deficits and debts

44%

of CEOs, and 49% of state backed CEOs, intend collaborating with government over the next three years to deliver a skilled, adaptable workforce

1,322

CEOs surveyed in over 70 countries and 50 government representatives/ state backed CEOs

pwc

www.psrc.pwc.com

At a glance

As the world tries to cope with rising tensions, we remain optimistic that together business and government can deliver what citizens really want by putting good growth and good jobs at the heart of the purpose and mission of public bodies.

Geopolitical uncertainty on the rise

Making government affordable

Rising to the digital challenge

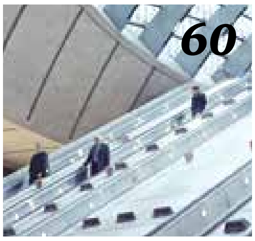
Investing for growth

Collaborating to deliver outcomes

Reducing the burdens on business

What do public leaders value?

An agenda for action



Meet our interviewees

Delivering outcomes, creating value

Welcome to 'Delivering outcomes, creating value: Government and the Global CEO', in which we assess the changing relationship between government, business and society.

Each year, PwC's Annual Global CEO Survey captures issues at the top of the business agenda. As in past years, we have deepened the research for PwC's 18th Annual Global CEO Survey[1] by including a range of interviews with senior decision makers in governmental organisations and public bodies across the world.

Our aim in doing this is to understand better the views of business and government as well as informing the public policy and delivery responses needed. Our hope is that this will help to develop stronger relationships between the public and private sectors – and, in turn, create the society of the future for the citizens of tomorrow – today – by a trusted, sustainable and collaborative government.

Last year, PwC's 17th Annual Global CEO Survey[2] found that CEOs were making changes across their organisations to make their businesses fit for the future in the context of a reshaping of society's expectations of business, with CEOs recognising the importance of good growth to build and sustain trust.

So, what are we exploring this year? The 18th Annual Global CEO Survey has built on this theme and looked at the impact of global megatrends and how successful competitors are moving towards a focus on outcomes: helping customers, suppliers and partners, as well as wider society, achieve desired goals by harnessing the power of digital technology and talent diversity and adaptability.

In turn, with our public sector interviews we have looked at how public sector organisations are applying their capabilities to deliver outcomes for society, and particularly how technology is having an impact in a digital age.

This report looks at CEO confidence, concerns and opportunities for growth. It then sets out businesses' priorities for government, and discusses how public bodies can:

- **become more affordable**, through a focus on sustainable cost reduction;
- **rise to the digital challenge**, improving productivity and outcomes;
- **invest in growth**, particularly skills and infrastructure;
- **collaborate with business**, delivering societal outcomes; and
- **reduce business burdens**, adopting smarter approaches to regulation and tax.

We would like to thank not only the 1,322 company leaders across the world who shared their views with us for PwC's 18th Annual Global CEO Survey, but also the 50 government representatives and state backed CEOs who took the time to share their thoughts in depth with us.[3] We are grateful to them for their cooperation and insights.


Jan Sturesson

Global Leader
Government and
Public Services


Scott McIntyre

Global Government
& Public Services
Co-Leader


Richard Abadie

Global Leader,
Capital Projects
and Infrastructure


Nick C Jones

Director, PwC's
Public Sector
Research Centre

1 PwC's 18th Annual Global CEO Survey, 'A marketplace without boundaries? Responding to disruption', 2015. www.pwc.com/gx/en/ceo-survey/2015/assets/pwc-18th-annual-global-ceo-survey-jan-2015.pdf

2 PwC's 17th Annual Global CEO Survey, 'Fit for the future: Capitalising on global trends', 2014. www.pwc.com/gx/en/ceo-survey/2014/assets/pwc-17th-annual-global-ceo-survey-jan-2014.pdf

3 See Annex for details

Summary

72%
of CEOs are concerned about the threat of fiscal deficits

The CEOs who responded to the 18th Annual Global CEO Survey have become less optimistic about global economic growth prospects. Nearly half of the CEOs surveyed believe that global growth will plateau over the next 12 months, with a smaller proportion (just over a third) suggesting it will improve.

Over-regulation, fiscal deficits, an increasing tax burden and geopolitical uncertainty are the clouds on the horizon for business, with over seven in ten of the CEOs surveyed 'somewhat' or 'extremely' concerned about each (with similar responses from state backed CEOs,[4] the biggest difference being for the tax burden, at 59%). All of these threats to business have government at their heart.

Perhaps reflecting these threats to their businesses, CEOs place an internationally competitive and efficient tax system (67% of those surveyed, although this falls to 56% of state backed CEOs), a skilled and adaptable workforce (60%) and adequate physical infrastructure (49%) top of their wish lists for government attention. Meanwhile there has been a dramatic shift in the priority accorded to access to affordable capital: the proportion of CEOs surveyed seeing this as a priority has almost halved to 29% compared to last year, probably reflecting global economic recovery.

In response to these findings, we believe that governments and public sector organisations need to respond in five key ways.

4 State backed CEOs comprise 13% of the total responses. A forthcoming PwC report will dive deeper into the role of State Owned Enterprises (SOEs).

Dealing with fiscal deficits and making government affordable

Fiscal deficits remain in the spotlight, with 72% of CEOs surveyed 'somewhat' or 'extremely' concerned about this threat. The challenge remains for public sector organisations to 'do better for less' while focusing on the outcomes that society needs and wants.

This requires governments committing to a renewed focus on achieving fiscal balance, with a spotlight on understanding, and sustainably reducing, costs while building the agility of public sector organisations to cope with changes in the future.

Rising to the digital challenge

With affordable government the new reality, digital technology has the potential to be a key enabler, offering the scope to deliver higher productivity and better outcomes while also reducing costs.

Public bodies need to embrace digital technology as a tool to drive innovation, transform how they engage with citizens, foster the interaction of citizens with each other and explore how outcomes can be better secured.

Digital technology is opening up new opportunities to involve citizens in the design and delivery of services and co-produce outcomes. Public sector organisations need to develop a clear vision, strategy and plan to get the most value out of their digital investments as well as the digital capacity and capability to respond to these opportunities, including the use of data analytics to generate insight from 'Big Data'.

Investing in growth

Public sector organisations at all levels have an important role to play in creating a platform for growth which is financially, socially and environmentally sustainable – good growth – with a focus on the key levers of skills and physical infrastructure.

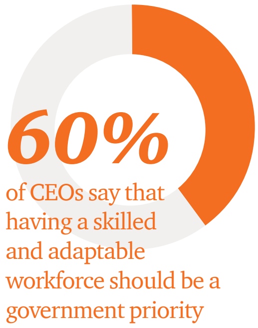
For a majority (60%) of the CEOs surveyed this year having a skilled and adaptable workforce should be a government priority, second only behind having an internationally competitive and efficient tax system. Adequate physical infrastructure is third on the list of government priorities.

This requires public leadership to facilitate a more demand driven skills system, meeting employer needs, as well as developing a workforce comprising people from different backgrounds who are adaptable and able to think and work in diverse ways. In parallel, governments need to deliver effective, efficient and sustainable infrastructure which is essential to provide the backbone from which economic success and prosperity can grow.

Collaborating with business to deliver societal outcomes

The impact of megatrends – shifts in global economic power, demographic and social change, rapid urbanisation, technological breakthroughs and climate change and resource scarcity – and the rise in geopolitical uncertainty, mean that it is as important now as ever before for better government-to-government collaboration across national boundaries.

Although business can be a reluctant partner with government, the two are co-dependent in delivering the outcomes of good growth and good jobs. As such, governments need to provide business with the confidence to invest, including working together to reduce the barriers to doing business, such as restrictions on skilled labour mobility.



Tackling the burdens of regulation and tax

Over-regulation remains at the top of the perceived threats to business, with over three quarters (78%) of the CEOs surveyed ‘somewhat’ or ‘extremely’ concerned, with an increasing tax burden not far behind (70%). The challenge for government is to reduce the burdens on business while safeguarding the rights of citizens as employees and customers. This requires smarter approaches to regulation and a willingness to pursue tax reform

Finally, there is an important agenda for **public leaders** to deliver on these five areas. Delivering on business priorities, alongside societal outcomes, requires real leadership and trust between citizens and the state for each to do the right thing. Leaders in the public and private sectors have an important role to play in developing a culture and mindset, supported by performance measurement and incentive structures, which reward a ‘whole of enterprise’, ‘whole of government’ and ‘whole of society’ view, focused on outcomes and impact as opposed to structures, processes and outputs.

Geopolitical uncertainty on the rise

44%

of CEOs believe that economic growth will stay the same over the next 12 months

CEOs who responded to the 18th Annual Global CEO Survey have become less optimistic about global economic growth prospects. Nearly half of CEOs surveyed believe that global growth will plateau over the next 12 months, with a smaller proportion (just over a third) suggesting it will improve. Over-regulation, fiscal deficits, an increasing tax burden and geopolitical uncertainty are the clouds on the horizon for business: all have government at their heart.

Many CEOs remain concerned about the ability of governments, particularly in developed countries, to tackle fiscal deficits with their anxiety at similar levels to the last two years. Last year, 71% of CEOs surveyed were concerned about fiscal deficits including countries not undertaking major austerity measures (the same as in 2013). This year, concerns about fiscal deficits have stayed at a high level (72%).

But CEOs are seeing the return of a more enduring issue – that of over-regulation, which is the top threat to business this year by some distance. In addition, trade regulation is seen as the most disruptive trend over the next five years.

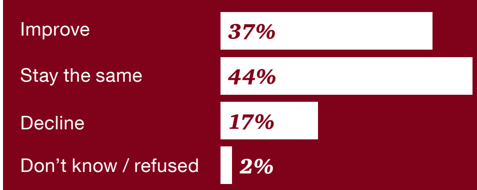
How confident are CEOs?

Over four out of ten (44%) of CEOs who responded to this year's Survey believe that global economic growth will stay the same over the next 12 months (see Figure 1).

Figure 1

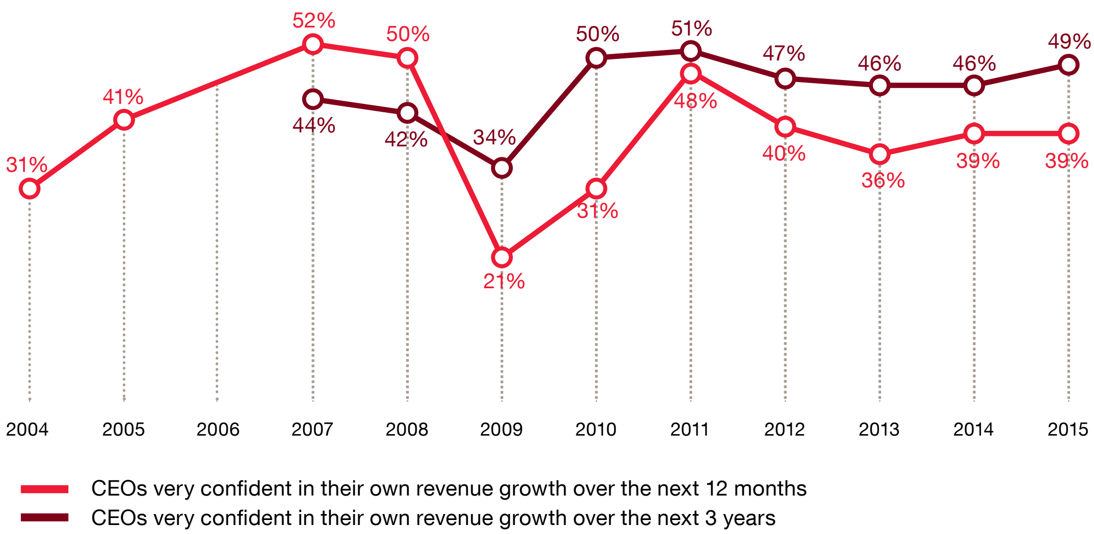
Plateau in confidence in global growth

Q: Do you believe global economic growth will improve, stay the same, or decline over the next 12 months?



Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

Figure 2 CEO confidence in revenue growth



Base: All respondents (2015=1,322; 2014=1,344; 2013=1,330; 2012=1,258; 2011=1,201; 2010=1,198; 2009=1,124; 2008=1,150; 2007=1,084; 2005=1,324; 2004=1,386)
Source: PwC 18th Annual Global CEO Survey

There are, however, some regional differences in sentiment. One region stands out – CEOs in Central and Eastern Europe (CEE) are the least optimistic with only 16% of CEOs surveyed expecting global economic growth to improve over the next 12 months. In contrast, CEOs in Asia Pacific and the Middle East are the most optimistic, with over four in ten CEOs expecting global economic growth to improve (45% and 44% respectively).

Yet despite lacklustre economic growth, and rising concerns about potential threats (discussed later), 39% of CEOs are very confident in their short term business growth prospects (see Figure 2). Short term confidence is down most markedly, however, in the Western Europe and CEE, with only around three in ten CEOs confident about revenue growth in the next 12 months, which is likely to be the result of worries about recovery in the Eurozone. Confidence is highest for CEOs in Asia Pacific and Middle East over the short term (about 45% in both cases) and Africa in the longer term (57%).

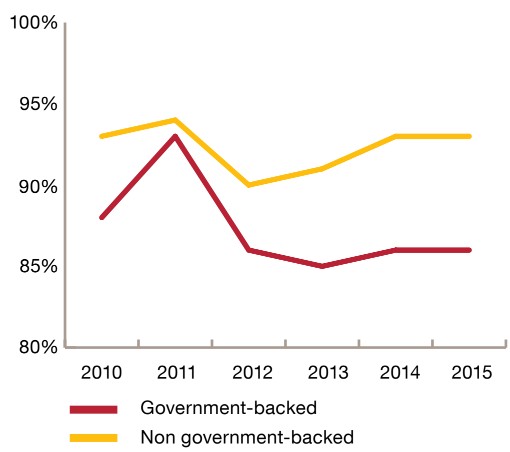
Meanwhile, there has been an uptick in the three year confidence outlook, although CEO responses are still just below the peak of 2011. State backed CEOs are slightly less confident, particularly in their three year outlook (at 39%).

CEO perspectives over the years

When considering responses by CEOs over the last few years, state backed CEOs are generally less confident about their long term (three year) prospects for revenue growth (see Figure 3). The gap in expectations for long term growth between state backed CEOs and their private sector counterparts has been widening since the depths of the recession. We discuss some of the implications in our forthcoming publication on State Owned Enterprises.

Figure 3 State backed CEOs less confident

Percentage of CEOs somewhat/very confident about their company's prospects for revenue growth over the next three years



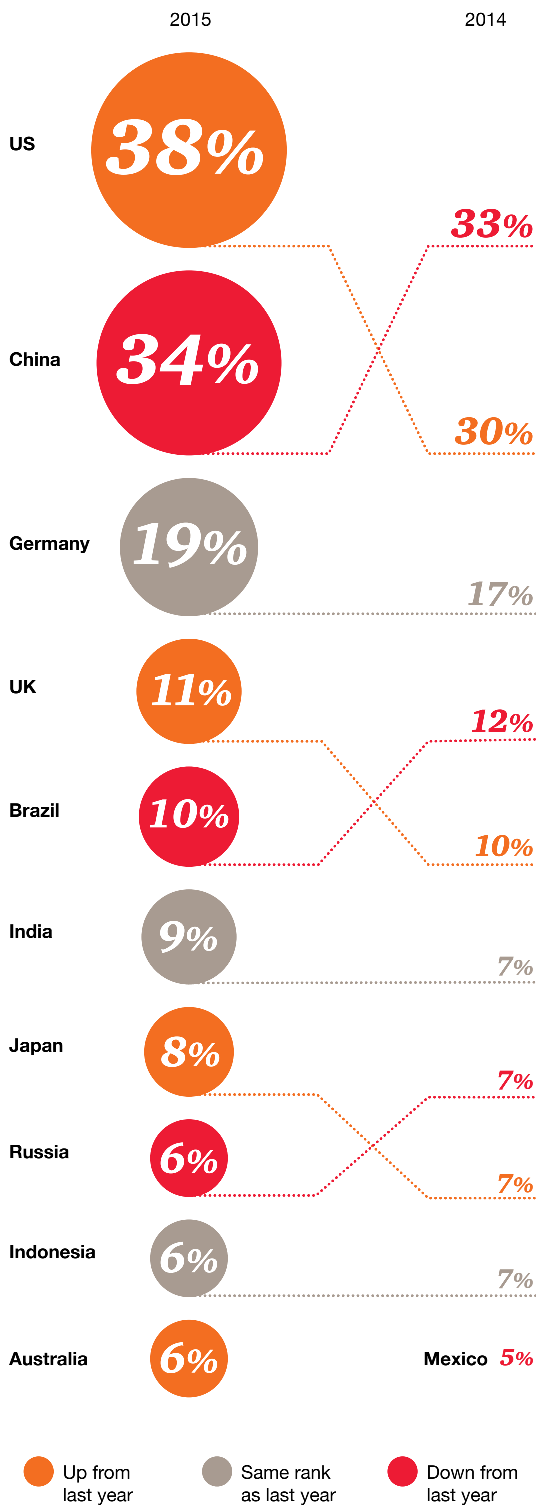
Where is growth coming from?
CEOs see growth opportunities emanating from more diverse places. Mature markets are generally in favour, notably the US, which has overtaken China as the most important country for the overall growth prospects in the next 12 months by the CEOs surveyed. Meanwhile, Australia has re-entered the top ten this year (see Figure 4).

All of the BRIC economies (Brazil, Russia, India and China) remain in the top ten most important countries for company growth prospects. This again reflects their growing maturity as core markets. Indonesia is the top target emerging market outside the BRICs.

But the marketplace is becoming increasingly volatile, and the Eurozone still poses a major risk to global growth. About six in ten of the CEOs surveyed identify more growth opportunities than three years ago while a similar proportion see more threats (see Figure 5).

Figure 4 Top 10 attractive markets for growth

Q: Which countries, excluding the one in which you are based, do you consider most important for your overall growth prospects over the next 12 months?



Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

Figure 5 Glass half empty or half full?

Q: How much do you agree/disagree that there are more growth opportunities/threats for your company than there were three years ago?

Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

What keeps CEOs awake at night?

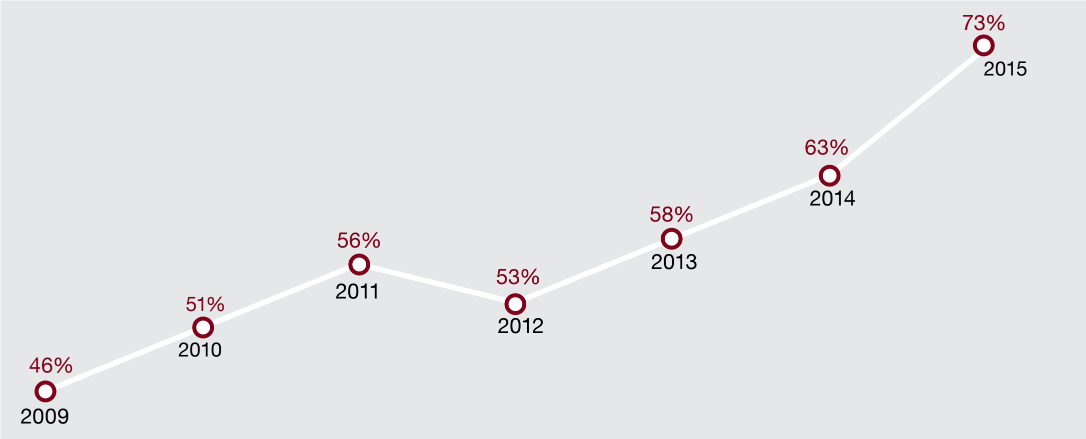
The threats to business growth are wide-ranging and increasing in perceived severity, for both the private sector and state backed CEOs. The top five threats identified by the CEOs surveyed relate in large part to governments, with three of these threats consistently high up the list in our Surveys over recent years:

- **Over-regulation:** this is a particular problem for CEOs surveyed in North America (85%) and CEOs (86%) in large companies (over $10 billion revenues) as well as state backed CEOs (80%).
- **Government response to fiscal deficit and debt burden:** there is a large variation of concerns, ranging from almost all African CEOs surveyed (94%) to a relatively low proportion in CEE (63%) and the Middle East (62%).
- **An increasing tax burden:** this is perceived as a particular threat by the CEOs surveyed in Africa (82%) and Latin America (81%) but for far less state backed CEOs (59%).

78%
of CEOs in companies with revenues over $1bn were concerned about geopolitical uncertainty

Figure 6 A step jump in concerns about availability of skills

Q: How concerned are you about the following potential economic and policy/business threats to your organisations growth prospects? (Availability of key skills was one of the threats CEOs named.)



Base: All respondents (2015=1,322; 2014=1,344; 2013=1,330; 2012=1,258; 2011=1,201; 2010=1,198; 2009=1,124)
Source: PwC 18th Annual Global CEO Survey

A fourth threat – the availability of key skills – has shown a jump up from its already increasing trend over recent years, by 10 percentage points since last year (Figure 6). As global growth has resumed, the capacity and capability constraints for some areas appear to be hitting the buffers. This is seen as a particular threat for CEOs surveyed in Africa (90%) and Asia Pacific (82%).

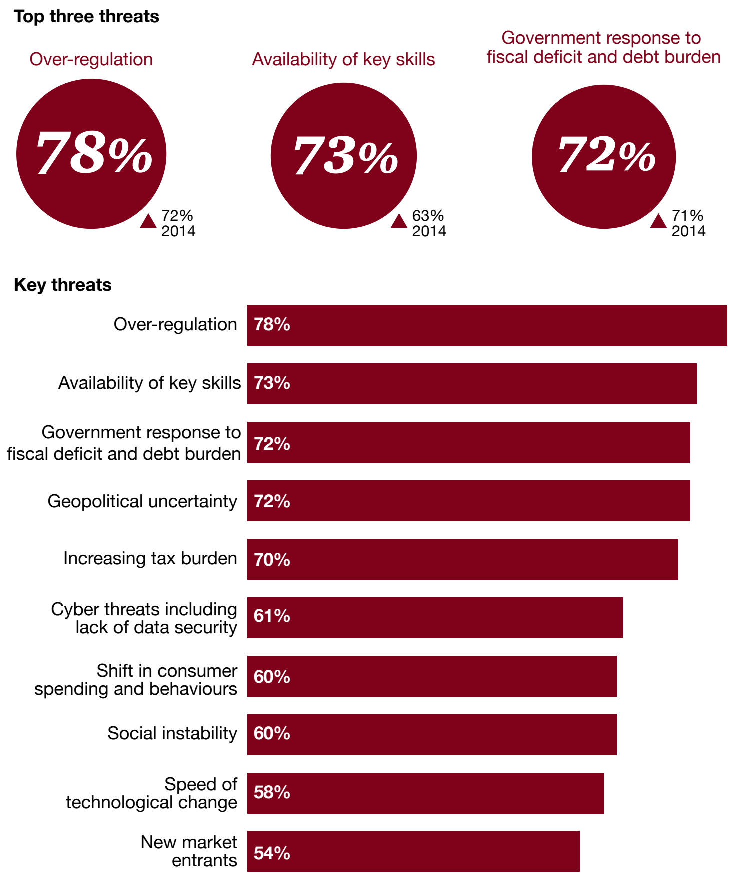
The new threat added to this year's Survey, which has achieved a high response, is **geopolitical uncertainty** (see Figure 7). Increasing tensions, from Russia/Ukraine to upheaval in the Middle East, have clearly come to the forefront of the minds of many of the CEOs surveyed, except in Latin America (54%). And a higher proportion of the state backed CEOs surveyed were concerned about social instability (65%).

Geopolitical uncertainty, in turn, has an impact on business investment and locational decisions. Indeed, the CEOs surveyed in companies with over $1 bn revenues in the last year, and those most likely to have the greatest international exposure, appear to be extremely or somewhat concerned by this threat (about 78%). Politicians grasp this too: as the G20 Leaders' Communique from the Brisbane Summit stated: "Risks persist, including in financial markets and from geopolitical tensions."[5]

5 www.g20.org/sites/default/files/g20_resources/library/brisbane_g20_leaders_summit_communique.pdf

Figure 7 Threats to business

Q: How concerned are you about the following potential economic, policy, social and business threats to your organisation's growth prospects?



Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

In general, CEOs appear to be increasingly concerned across all potential threats (compared to previous years). But for three threats there has been an increase of ten percentage points or more for the CEOs surveyed: skills (as mentioned above) as well as for cybersecurity (13 percentage points) and technological change (11 percentage points). Concerns about infrastructure, new markets entrants and supply chain disruption are also increasing.

What are CEOs' priorities for government?

Perhaps reflecting the threats to their businesses, CEOs put an internationally competitive and efficient tax system (67% of those surveyed, although this falls to 56% of state backed CEOs), a skilled and adaptable workforce (60%) and adequate physical infrastructure (49%) top of their wish lists for government attention (see Figure 8).

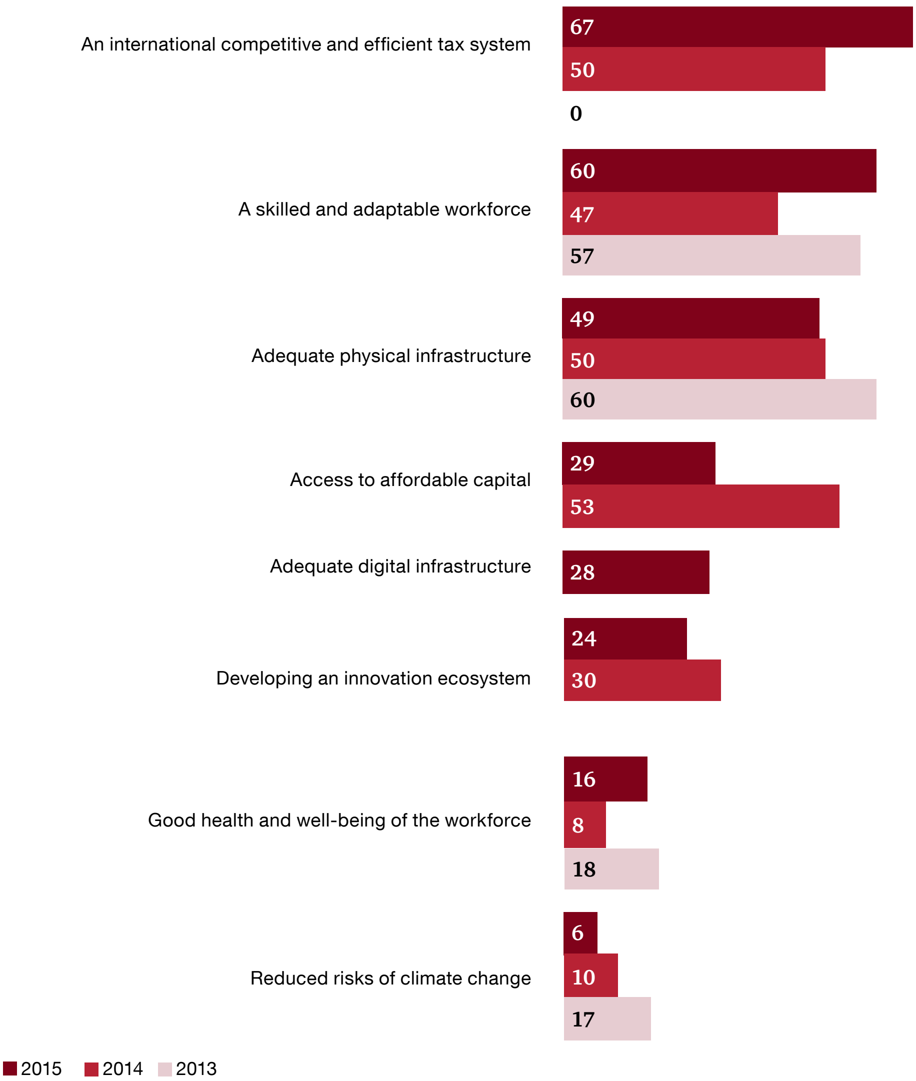
Meanwhile, there has been a dramatic shift in the priority accorded to access to affordable capital: the proportion of CEOs surveyed seeing this as a priority has almost halved to 29% since last year, probably reflecting global economic recovery.

There are some distinctive regional variations. For skills, around three quarters of CEOs surveyed in Middle East (76%) and Africa (71%) see this as a priority, whereas 79% of CEOs in North America see tax as the highest priority (driven by US CEOs at 88% with Canadian CEOs at 57%), as do 77% of CEOs surveyed in companies with revenues of over $1bn.

In addition, about half of the CEOs surveyed continue to see adequate physical infrastructure as a priority, while CEOs surveyed in Africa put adequate physical infrastructure top of their list of priorities (78%), with Middle East (69%) and Latin America (67%) not far behind. Of note, the same priority does not apply across the board for digital infrastructure.

Figure 8 CEO priorities for government

Q: Which three areas should be government priorities, in the country in which you are based?



Base: All respondents (2015=1,322; 2014=1,344; 2013=1,330 – worded as 'which three areas should be the governments priorities today?)
Source: PwC 18th Annual Global CEO Survey

How are governments performing on these priorities for business?

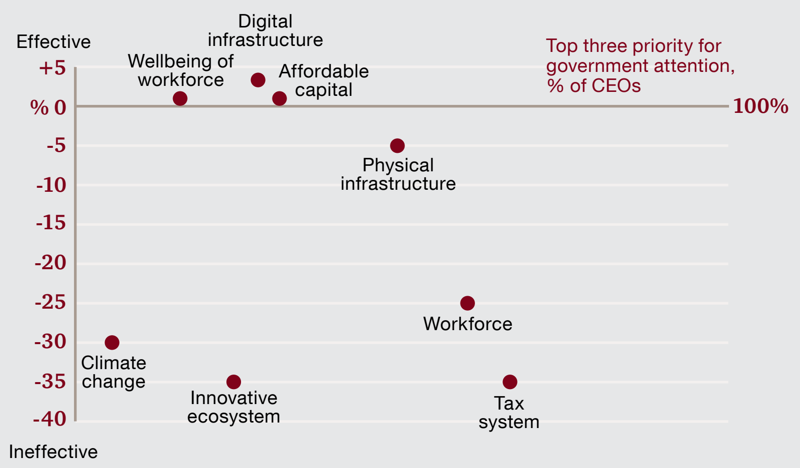
Views continue to vary on the extent to which governments are delivering on these priorities (see Figure 9). On balance, the CEOs surveyed perceive government as not having been effective on their top three priorities: tax, skills and to a lesser extent physical infrastructure. In the case of an internationally competitive and efficient tax system, there were large negative net balances of CEO responses across all regions and firm sizes, and there is a similar story for a skilled and adaptable workforce.

There is also considerable variation across regions and sizes of companies. For instance, a net balance of around four in ten CEOs surveyed believe government has been effective or greatly effective in providing access to affordable capital in North America and Africa. But this net balance turns negative for CEOs in the smallest companies surveyed across our sample (-9%).

It is therefore important to pay careful attention to the priorities and performance of governments at a country level to understand fully the perceived effectiveness of government. In addition, it should be noted that usually between a quarter and a third of CEOs questioned felt government had been neither effective nor ineffective.

Figure 9 **Is government delivering on CEO priorities?**

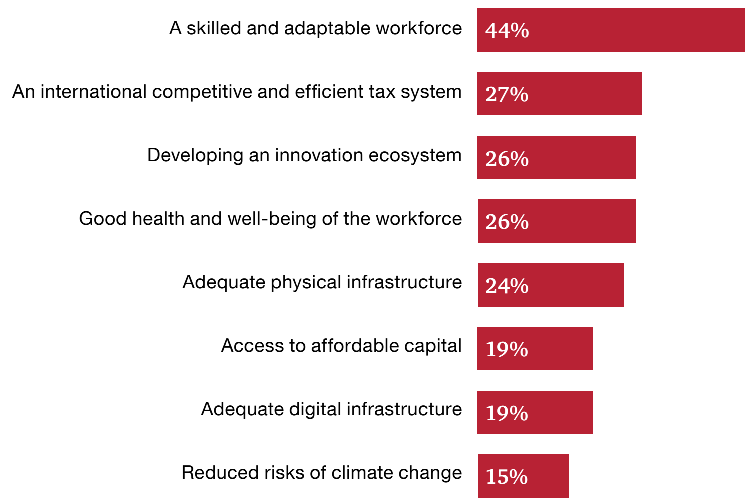
Net balance, Effective (+) or Ineffective (-), %



Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

Figure 10 **Business and government collaboration**

Q: Which, if any, of these outcomes is your organisation focusing on collaborating with government over the next three years?



Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

However, CEOs appear to recognise that there is a need for partnership to deliver on these priorities in one key domain – skills – with approaching half of CEOs surveyed (44%, and 49% of state backed CEOs) suggesting that their organisation will work with their governments to develop a skilled and adaptable workforce over the next three years (see Figure 10), although this is quite well down from the 64% of respondents in 2014. Meanwhile around a third of the state backed CEOs are focusing on collaborating with government on developing an innovation ecosystem (35%) and adequate physical infrastructure (32%).

Implications for government

So, it seems that our CEOs see significant areas for improvements by governments to deliver on their priorities. Clearly, governments have other stakeholders against which to balance the interests of business – for instance, to protect citizens, as consumers and as employees. But where can government do better for business?

The agenda for action is potentially extensive, but in this report we discuss the implications of these findings for:

- dealing with fiscal deficits and making government affordable, through a focus on understanding and sustainably reducing costs;
- improving productivity and outcomes through the use of digital technology;
- investing in growth, particularly working with business to improve skills and physical infrastructure;
- delivering societal outcomes through better collaboration;
- reducing the burdens on business by adopting smarter approaches to regulation and tax; and
- leading public bodies into the future.

Making government affordable: a spotlight on costs

72%

of CEOs surveyed are 'somewhat' or 'extremely' concerned about fiscal deficits

So the challenge that we face is how do we balance our budget and meet the needs and aspirations of growth whilst still maintaining protection for the most vulnerable in our communities.

John van de Laarschot

CEO, Stoke-on-Trent City Council, UK

Fiscal deficits remain in the spotlight, with 72% of CEOs surveyed 'somewhat' or 'extremely' concerned about this threat. The challenge remains for public sector organisations 'do better for less' while focusing on the outcomes society needs and wants.

For many countries, particularly in the Eurozone, the era of budgetary austerity continues. And while not all governments are wrestling with fiscal deficits, there are still many with major fiscal problems.

But how can governments put a stronger spotlight on costs? With the future at risk of being consumed by today's debt, and at a time when the demands for public services grow daily, it is important to get a tighter grip on the public finances.

As we commented last year: "In the face of recurrent budget cuts to reduce fiscal deficits in many countries, affordable government has become the watchword."[6]

This means doing better for less – meeting rising citizen expectations by doing things differently to deliver services more effectively and efficiently and prioritising the public services that matter most to citizens, as well as to business.

Knowing where the money goes

A key foundation for achieving more affordable government is to know where the money is being spent now, in order to know how to change in future. The sovereign debt crisis has highlighted the need for governments to reinforce their fiscal sustainability and demonstrate this through more robust and transparent reporting.

In this context, the European Commission's plans to develop European Public Sector Accounting Standards (EPSAS), with IPSAS (International Public Sector Accounting Standards) serving as a reference point, is an important initiative. The aim is to strengthen budget surveillance and fiscal monitoring in the European Union (see Modernising government accounting).

6 'Government and the Global CEO: Fit for their futures', PwC 2014. www.pwc.com/gx/en/psrc/publications/government-and-the-global-ceo-fit-for-their-futures.jhtml

Modernising government accounting

How far away is the desired increase in accounting discipline and transparency in Europe? In an in depth analysis of the future implementation of EPSAS by EU member states which we carried out for EU Commission we found very divergent accounting practices between member states, and also often within the same country.

While certain European governments have achieved a relatively sophisticated level of accounting maturity, many others still use cash-based accounting practices which fail to capture the long term impact of political decisions and so provide only a very short term view of the public finances.

Building on the experience of those governments that have already implemented an accounting modernisation project, our study highlights that the benefits of EPSAS implementation can be significant. This is especially true if governments go beyond strict compliance with the accounting rules and build up management information systems that enable sound and well-informed decision making. To do this, however, implementing good accrual accounting practices is a necessary precondition.

The EPSAS project provides a unique opportunity for governments to implement harmonised and robust accounting solutions that will result in high-quality, transparent, credible and comparable financial statements. This also has the potential to enhance democratic accountability and decision making, both at the macro level and for individual organisations.

The study also analyses the costs associated with EPSAS implementation as well as the success factors of such a project. Foremost among these is the need for political buy-in and support, a well-thought through change management plan and a training programme which ensures the skills are in place to enable the transition and then make the most of the investment. But the pay-off is there if better public services are to be delivered in an era of uncompromising fiscal austerity.

At a time of immense pressure on public finances, initiatives such as EPSAS can help ensure that financial and other resources are used to deliver value for money in the pursuit of public policy objectives. And it will also help strengthen the sustainability of public finances and create a positive legacy for the next generation.

With a clear baseline of financial information, management information systems can then enable sound and well-informed decision making. Christina Ho, Deputy Assistant Secretary for Accounting Policy and Financial Transparency in the US Department of the Treasury also makes the link to big/open data which "will help improve decision-making at many different levels. For financial management specifically, it will allow CFOs to have better insights on costs, performance, opportunities, and risks. These will then translate into better management of operations, strategic planning, and policymaking."

As such, public bodies need a high performing finance function with a clear role and mandate which can achieve the desired balance between three critical roles of providing insight, driving efficiency and maintaining compliance & control (see The elements of a high performing Finance function). Not all organisations will strive to achieve top performance in all areas. Balancing these demands to deliver optimal value to the wider organisation is a fundamental challenge facing finance teams today.

Transparent management with fiscal responsibility ensures an environment that is favourable for society and for companies to invest, work and grow with security.

Luiz Fernando Pezão

State Governor, Rio de Janeiro, Brazil

The elements of a high performing Finance function

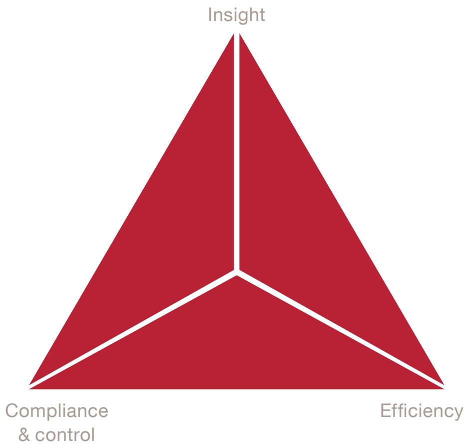
We have identified three elements (Figure 11):

Efficiency in Finance means performing tasks in a timely and cost effective manner. This is typically achieved through simplified and standardised processes that leverage technology and make improvements to the efficient delivery of transactional processing through shared services or outsourcing.

Compliance & control is about the need to optimise financial risk management, compliance and control to establish a sustainable cost effective control environment which meets today's requirements as well as being flexible for future changes.

Insight is increasingly important in effective finance function delivery. It is about Finance adding value to the organisation and supporting the strategic and operational decision making process.

Figure 11 Managing Finance



Sustainable cost reduction

Against the background of a need to reduce fiscal deficits, and where tax rises are either not possible or preferable, the only real option is to target costs.

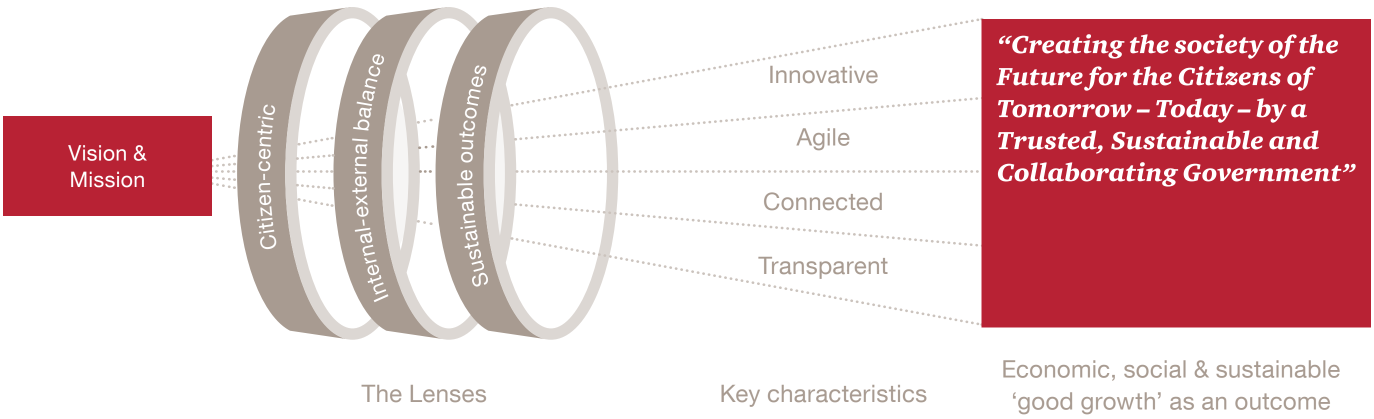
Indeed, in the private sector cost reduction initiatives continue to be widespread. In this year's CEO Survey we have seen a further rise in the proportion of CEOs surveyed who are planning on initiating a cost reduction initiative in the next twelve months: up from 64% in 2014 to 71% in 2015, and for 74% of state backed CEOs.

Our government interviews also reflected this need to reduce cost and increase productivity, as many face the continuing headwinds of fiscal consolidation. But it is important that cost reduction is done in a way that is sustainable in the long term and does not negatively impact on the key characteristics needed by public bodies to survive and thrive in the long term: innovation, agility, connectedness and transparency (see Figure 12).

The defence sector provides a particular example where delivering sustainable cost reduction needs to be done while becoming more agile to meet the changing threats of an increasingly unstable world (see Achieving sustainable cost reduction in defence).

> *We probably have less people now actually, who are better and more highly paid. We went from 650 staff down to 550, and we got 300 out and 200 in, but we were basically going for less people who are more highly paid.*
>
> Peter Chrisp
>
> Chief Executive of New Zealand Trade & Enterprise (NZTE)

Figure 12 Tomorrow's Leading Public Body[7]



7 'Future of Government', PwC, 2013.

Achieving sustainable cost reduction in defence

Traditionally, an increase in the threat environments facing government has been met with bigger defence and security budgets and more people, equipment and infrastructure. To some extent this has been an effective strategy, but it is not one that is necessarily sustainable or well suited to the emerging security environment which most nations, big and small, currently face.

Rather, the increasingly complex and varied threats to national and international peace and security are demanding a more enlightened approach to both defence strategy and organisation. Perhaps no question will be more salient in the next several years than this one: *"Can we reduce costs without sacrificing the mandate for even greater agility?"*

In Agile Defense[8] the approach we espouse is focused on reinforcing the key threads of agility (Visibility, Velocity, Adaptability, Collaboration and Innovation) while achieving complementary improvements in five key cost areas (Human Capital, Infrastructure, Information Technology, Acquisition & Procurement and Supply Chain). Within each cost area, there are proven techniques that provide the most promise for sustainable cost reductions (see Figure 13).

If efforts to reduce costs in these areas are led by inspired leaders, and approached methodically with a keen sense for their impact on the threads of agility, they can in fact accelerate change and lead ultimately to a more agile defence organisation. Such efforts require focus and a relentless pursuit of cost reduction that enhances, rather than degrades, organisational agility.

Figure 13 Key cost areas

Human capital

- Manpower-Mission Alignment
- Capabilities Based Assessment and Workforce Analytics
- Blending Learning and Cross Training

Infrastructure

- Reliability Centered Maintenance
- Asset and IT Inventory Management
- Smart Grid, Facilities and Installations
- Joint Basing

Acquisition & Procurement

- Cost Estimation
- Priority-Based Budgeting
- Industrial Base Analytics
- Strategic Sourcing

Information Technology

- Prototyping and Agile Development
- Cyber and Information Assurance
- Business Intelligence
- Data Strategy and Optimization

Supply Chain and Logistics

- Best Value Maintenance
- Supply Chain Optimization
- Total Ownership Cost Reduction
- Burden Sharing

8 'Agile Defense: Sustainable Cost Reduction on the Path to Greater Agility', PwC, 2014. www.pwc.com/gx/en/psrc/publications/agile-defense.jhtml

Trust in public finances

In strengthening the sustainability of public finances, better information and reporting can help create a positive legacy for the next generation. But too often the public voice is lost in the discussions of policy makers. So what do citizens think about the management of the public finances in one of the parts of the world where the public finances most need repairing?

According to a joint survey of 10,000 Europeans by PwC and ICAEW,[9] there is limited awareness and understanding of public finances, low levels of trust in governments' handling of public finances and strong support for better planning and management of public spending:

- There is a deficit of **transparency and financial literacy**, with fewer than one in five Europeans feeling that their governments provide them with sufficient information about the state of public finances. This translates into strong support for government action to facilitate greater awareness on the state of public finances and how taxpayers' money is spent. This finding is further supported by deliberative research undertaken in the UK, where a series of Citizens' Juries highlighted the need for improved communication from government on the fiscal deficit, and the implications for public spending cuts as well as the future of the tax system.[10]
- Similarly, **trust and confidence** are not high: again, only one in five Europeans express confidence in their government's ability to manage public finances. There is also a clear correlation between the low levels of trust that Europeans have in their governments' financial management and their low levels of confidence in their governments' ability to finance core public services, such as healthcare and education, in the future. The countries with the highest levels of distrust are also the ones where there is a greater demand for information and transparency on the state of public finances and on how public resources are spent.
- Finally, on **public finances today and in future**, a significant majority of Europeans (seven out of ten respondents) want more action from their governments to reduce the debts of their countries. And a clear majority of Europeans want governments to better plan and manage their public finances, with eight in ten Europeans thinking that more can be done to ensure better value for money when it comes to public finances.

Governments need to rebuild citizens' trust in the public finances and help them to regain confidence in the state's ability to meet existing commitments and plan for the future. The financial literacy of Europeans also needs to improve so they can better understand and use the available financial information. But shortcomings in the current state of accounting and reporting may effectively mask the real financial picture for citizens in many countries. This obviously makes it difficult for the wider public to understand the true and complete state of public finances.

There is a clear case for governments to communicate more complete and transparent information about their public finances, based on best international practices, and explain it in simple and clear terms to the public. This is a key feature of democratic accountability, a process which requires strong political commitment backed by greater scrutiny of citizens, media and markets.

Tough questions about making government affordable

What are the organisation's priorities to ensure that public service delivery is targeted on achieving maximum outcome and impact, while maintaining affordability?

What are the trade-offs between delivering services today while ensuring long term sustainability of the service – creating or consuming a legacy?

What innovative ways can deliver services and do better with less in order to affordably and effectively meet the needs of citizens and businesses?

Are we making effective use of collaborative partnerships e.g. with the private and voluntary sectors?

Is the capability in place to commission effectively for outcomes and implement payment by results contracts with payments linked to the successful delivery of results?

To what extent is our organisation getting the balance right between an internal focus on its cost base and an external focus on helping business to grow?

Is our Finance function delivering the robust management information and insight needed to enable decisions?

Are operations being transformed by standardising, streamlining and sharing services to increase efficiency and operational effectiveness?

Will the workforce strategy deliver a smaller but more highly skilled workforce in order to achieve sustainable cost reduction?

9 'Trust in public finances: A survey of citizens in 10 European countries', ICAEW & PwC, 2014. www.pwc.com/gx/en/psrc/global/trust-in-public-finance.jhtml

10 www.pwc.co.uk/government-public-sector/spending-review/the-mood-of-the-nation.jhtml; www.pwc.co.uk/issues/futuretax/index.jhtml

Rising to the digital challenge

There is no one size fits all digital solution because digital simply runs through everything.

Martin Donnelly

Permanent Secretary, Department for Business, Innovation and Skills (BIS), UK

Public services never stand still. In recent years, a squeeze on public spending in many countries has meant that attention has turned towards the opportunities of digital technology to improve public service delivery, deliver higher productivity and better outcomes while at the same time reducing costs. But does the public sector have the capacity and capabilities in place to make the most of digital?

Digital is fast evolving and is having an impact right across the board. There is a new generation of consumers who want ever more accessible, portable, flexible and customised products, services and experiences. They expect to move seamlessly in real time between the physical and virtual worlds.

Public agencies need to respond and embrace digital technology as a tool to drive innovation, transform how they engage with citizens, foster the interaction of citizens with each other and explore how outcomes can be better secured, resulting in innovative and effective public services long into the future.

As Mónica Aspe Bernal, Head of the Coordination of the Information and Knowledge Society, Secretariat of Communications and Transportation (SCT) in Mexico states: “So we need to think big and at the same time to be humble, because the technological change is giving us new challenges every day and we don’t have all the answers for this transformation. So this is an opportunity for a more open government and working closer with industry and with people and citizens using all this information, using all this technology to change the way markets work and to change the way democracy and society works.”

And Taavi Kotka, Deputy Secretary General for Communications and State Information Systems, Ministry of Economic Affairs and Communications in the Republic of Estonia, notes: “Digital countries and their capability to serve people worldwide will be a big trend in the near future.”

Figure 14

How does digital drive value in business

Q: To what extent are digital technologies creating value for your organisation in the following areas?

	Quite high value	Very high value	Total
Operational efficiency	44%	44%	88%
Data and data analytics	40%	45%	84%
Customer experience	37%	40%	77%
Digital trust including cyber security	37%	35%	72%
Innovation capacity	40%	31%	71%

Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

Delivering better for less

The appreciation of the integral role that technology plays across business sectors is evident in our Survey: 58% of the CEOs surveyed are concerned about the speed of technological change (47% last year), with the response rising to 64% for state backed CEOs.

Gleb Nikitin, First Deputy Minister, Ministry of Industry and Trade, Russia comments: "I would say that this question [plans to develop information and digital technology] is our No. 1 priority, and I wouldn't overestimate its significance, because in my opinion digital technology is the foundation and a 'must-have' for making the transition to a new technological mode."

The CEOs in our Survey see digital technology as creating most value in terms of operational efficiencies, data analytics and the customer experience (see Figure 14).

We need to move to using the vast amount of data we collect to lower our costs, increase our response and delivery speeds, and to make managerial decisions in an informed way based not on feelings but on determinable facts available to us in virtual real time.

Mark Reger

Deputy Controller, Office of Federal Financial Management, Office of Management and Budget US

The CEOs surveyed are highly focused on the role of information in shaping what their customers want and how they can deliver it, recognising the role of mobile technologies in particular which has revolutionised customers' ability to access information and transformed the relationships they want to have with companies. There is unprecedented ability for organisations to collect, analyse and circulate information about customers through data mining and analysis.

These drivers are very similar for the public sector too. As Mark Reger, Deputy Controller, Office of Federal Financial Management, Office of Management and Budget in the United States comments: "We need to move to using the vast amount of data we collect to lower our costs, increase our response and delivery speeds, and to make managerial decisions in an informed way based not on feelings but on determinable facts available to us in virtual real time."

In terms of operational efficiency, digital offers the opportunity for greater self-service, customisation of services and automation of transactions such as benefits and pensions, for those with access to the technology. If electronic records e.g. for patients and social security, can be shared across agencies, not only can duplicative costs be saved, but also a better service can be offered. And sharing services means that they can be offered more cheaply on the front line.

The opportunity to increase productivity was noted by Olga Dergunova, Deputy Minister of Economic Development of the Russian Federation, Head of the Federal Agency for State Property Management (Rosimuschestvo) in Russia: "It's also clear that the government is introducing standard tools for improving labour productivity among employees on the job. Only 30 years ago, a computer on a civil servant's desk was seen as something extraordinary. Today, though, everyone works in text editors and spreadsheets, creates presentations, and builds diagrams in Microsoft Project. These are the skills and technologies for boosting personal productivity and performance."

Our interviews with government officials this year also highlighted a number of opportunities for public agencies to transform the user experience through digital, with education prominent in the examples provided.

Connectivity in education

The world of education is providing a real time illustration of the impact of digital, where it is transforming not only the back office but has become central to the student experience too (see The connected classroom), with learning analytics being used to improve the achievement of individual learners.

The connected classroom

Education is the route to developing productive people, stronger economies and also healthier societies. And technological advances, particularly in digital, are revolutionising the delivery of educational services. So how is the digital revolution having an impact on pupils, students and educational institutions?

Barbara Ischinger, OECD Director of Education, has commented: "Digital technologies provide a great opportunity to make students more active participants in classroom learning, to tailor learning better to individual students' needs and to give students access to the world's current research and thinking".[11] In the third Citizen Compass initiative in Canada, we found that digital is transforming people's attitudes to education: about three quarters of those surveyed now have an expectation that digital education will improve students' understanding of technology, access to education and the ability of educational providers to customise learning.

This means educational institutions must adapt and develop new classroom approaches to create a more digital-friendly environment with teachers needing new skills as well as mastering the use of digital as a learning tool. As the costs of the traditional delivery of education rise, digital education also presents an opportunity for educational institutions to develop new delivery models, reduce costs and potentially reach more students beyond the physical classroom walls which in turn creates new revenue streams. The rise of Massive Open Online Courses (MOOC) is one striking example of what can happen, disrupting existing models but also creating new opportunities.

Digital can also improve outcomes, delivering an improved learner experience and skills, by:

- Personalising learning.
- Providing faster access to materials.
- Presenting those learning with more flexibility and better access to education at a time and place convenient to them.
- Improving the understanding of technology itself, so better preparing students for their future working lives.

Educational institutions need to grasp these opportunities to remain relevant and customer-focused in the new digital world, through developing a strategy for the digital age. Service delivery transformation takes time and resources, but with the right strategy in place, it's possible to realise the promise of a truly digital educational experience which will benefit the student, the provider and ultimately employers and the economy too.

11 pwc.blogs.com/psm_globally/2014/10/the-connected-classroom.html#_ftn1

Michal Cohen, Director General of the Ministry of Education in Israel states: “We strongly believe in bringing the industry and technology into schools to make the learning experience more hands-on…In some schools we are conducting a pilot where we experiment with replacing the traditional pencil-and-paper environment with innovative tablets and e-books. The goal is to allow schools to impart essential skills with a focus on being tech savvy.”

And David Bareket, Vice-President and Director General of Ben Gurion University of the Negev, Israel, comments: “The technology used on the academic side has developed over the last few years, and it is changing the way students and professors are interacting. For example, a teacher can now create web-based learning groups and upload study materials, so students are now able to devote more attention to actually listening in class.”

The university of the future is likely to be very different and much more dependent on digital to enhance the learner experience but also the running of the institution (see University 2018).

University 2018[12]

The university of 2018 will embrace new digital technology, used in an effective and focused way, to reap benefits for students, academics and management. It will have corporate support functions and activities which will be automated wherever possible. Academics will have a true partnership based relationship with the centre based on shared goals and shared incentives. Costs to deliver support activities will be reduced by up to 30%, instead focusing support staff on more high value activities such as business planning and allowing academics to focus on pioneering research and teaching.

The majority of data will be stored in the Cloud, making information more powerful and accessible and systems will be simplified and integrated end to end to support the university’s core purpose of teaching, learning and research. All of this change will be driven with one eye on ‘scalability’ to support the development of the university’s global presence.

Students will be actively involved with the university from school age through new digital platforms and mature technologies such as Client Relationship Management. Learning will be remote when it is beneficial (e.g. MOOCS, online competency based education) and courses and programmes will be moulded to meet the needs of students and of future employers.

Research programmes will have a stronger test against return on investment and teaching programmes will have a strong link with the needs of global trends and of society at large. From a business perspective, universities will operate more commercially, where systems, data and processes will support them as they look to strengthen relationships with the private sector and further internationalise their operations

Disruptive digital technologies will transform education forever and will ultimately lead to a much more global reach for education and new sources of income. The winners in this digital environment will be those that find the right blend of traditional teaching with these emerging and burgeoning new educational platforms. Critically, real success will arise in those universities which tackle this opportunity while at the same time making the corresponding changes to their internal operations

12 Drawn from a PwC Public Sector Matters blog by Caitronia McCusker and Richard Baskerville pwc.blogs.com/publicsectormatters/2014/12/the-2018-university-how-ready-is-higher-education-to-embrace-the-future.html

Digital: co-design and co-production

Beyond education, digital technology is opening new opportunities to involve citizens in the design and delivery of a range of public services and co-producing outcomes. Marta Blanco Quesada, General Director of Turespaña, Ministry of Industry, Energy and Tourism, Spain sees this for Spain's tourism: "A 'smart tourist destination' means an innovative tourist destination, consolidated by a modern technological infrastructure which guarantees the sustainable development of the tourist territory, accessible for everyone. It facilitates the interaction and integration of the visitor with the environment and at the same time improves the quality of experience in the destination."

The convergence of digital technologies e.g. diffusion of smart personal devices, data-sharing platforms, ubiquitous and cloud computing, is opening up new possibilities for the delivery of public services while creating economic and innovation opportunities. This can be particularly seen at city level, where innovative ways of engaging business and the public are delivering better outcomes (see Sharing data in the digital city).

Some in our interviews questioned, however, the extent to which data could (or should) be opened up in its 'raw' state, as opposed to 'presenting' it in a more accessible format: obviously the latter might make its use easier across a wider population but it also adds to public costs.

For instance, Katrin Westling Palm, Director General of The Swedish Pensions Agency commented: "The public sector could make available their data in order to create new job opportunities. This is not seen as a task that authorities voluntarily assume. It is also fairly complicated and culturally demanding to run projects in collaboration where the aim is to create value for other entities and target groups who do not belong to the public sector."

Sharing data in the digital city[13]

Cities are increasingly nurturing open data strategies i.e. making local data on services (e.g. water and transport flows, planning, the built environment, parking and waste collection) freely available to wider audiences, such as businesses, researchers, entrepreneurs and citizens at large. Opening this data can contribute to a city's sustainable competitiveness in a number of ways:

- By increasing democratic participation, accountability and transparency. With more (and more transparent) information about local government, public decision making becomes more accountable and citizens have greater ways (and incentives) to be actively involved.
- By spurring innovation and new business opportunities. Access to city data makes it possible to bring together companies, researchers and entrepreneurs who jointly get involved in solving city issues, in an 'open innovation' fashion. Many new technology solutions and urban 'apps' are being developed with open city data, leading to new commercial opportunities, exports and local economic diversification too.
- By improving a city's service provision. Ultimately, open data – and the new solutions developed from it – contribute to delivering services (e.g. public transport) more efficiently.

The open data movement is still in the early stages, but is already delivering results in cities such as Dublin and Helsinki. In other cities, such as Manchester, open data initiatives are increasingly intertwined with new generation 'smart city' and umbrella-like digital strategies.

But implementing open data initiatives in cities is not without its challenges and requires a number of key enablers to mobilise and keep them on track: distributed leadership across organisations; prioritisation; choosing the right metropolitan scale while involving private companies and grassroots movements; and selecting agile brokers within the municipal administration.

Once you 'open source' information, people will come back and say, 'You know what? We could do this more efficiently.' It's a win-win.

Steve Orsini

Secretary of the Cabinet in Ontario, Canada

13 Drawn from 'iUrban: Innovative city strategies for delivering sustainable competitiveness', PwC, Euricur and IHS, 2014. www.pwc.com/gx/en/psrc/global/innovative-city-strategies-for-delivering-sustainable-competitiveness.jhtml

Building digital capacity and capability

Digital technology has the potential to help public agencies to redraw public service provision, reduce operational overheads and create a more user focused experience for those accessing public services.

To harness these opportunities, public agencies must embrace digital not as a standalone activity but place it at the heart of their strategy, services and operations. The first step is to develop a clear vision, strategy and a well thought out plan for digital, as highlighted by the CEOs we have surveyed (see Figure 15), particularly those who are state backed.

Indeed, public agencies do not need digital strategies: they need strategies for the digital age, in combination with the appropriate controls to ensure organisations and departments are responsible, accountable and delivering value for taxpayers' money.

In addition, digital must be sponsored actively by the organisation's leadership, with supporting investments in the capabilities needed to succeed, particularly access to enough of the right digital capabilities to make the most of the new technology (see The Rise of the 'Digital Department').

Figure 15 Getting the most out of digital

Q: How important are the following factors in helping your organisation get the most out of its digital investments?

Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

The Rise of the 'Digital Department'[14]

If we are to see the rise of the Digital Department, then a transformation of digital services and capabilities is needed, extending from customer engagement through to application integration and supplier management (see Figure 16).

The Digital Department requires new capabilities, skills and experience to deliver public services while making operations more effective and efficient. Bringing together the capabilities necessary to manage legacy services, the ICT landscape and suppliers, along with the new skills and experience required to implement digital services, is crucial. Without these capabilities, and the right governance and controls in place, there is a risk that the Digital Department will not make the leap from the virtual to the actual.

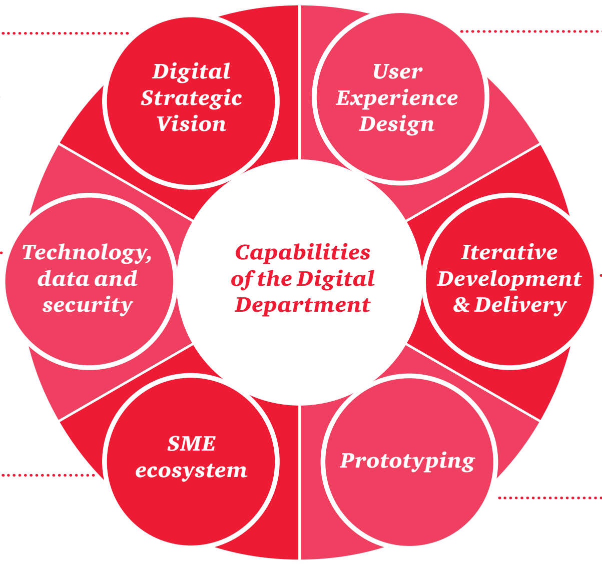
These are difficult times and the issues facing every public department are unique, including how customers may be impacted by the digitisation of services. In particular, attention is needed especially for those who lack access to new technology – the so called digital inclusion agenda.

Figure 16 Capabilities of the Digital Department

Defining the digital future as part of the department strategy in order to deliver a long term solution and achieve the required benefits

Capability and experience of latest and legacy technology, data and security to ensure new services can be integrated as required and provide end-to-end services

The commercial and service management model and structure necessary for contracting and managing an eco-system of SME suppliers who can be engaged to provide services as required



Engaging customers of the services early and on an on-going basis to ensure their requirements are at the core of all digital services. Changing the culture to make this the normal approach

Utilising a combination of iterative and waterfall methodologies for the development and delivery of digital services and programmes. Implementing the behaviours involved to make both successful

Capability to develop a key component or representation of the digital solution that demonstrates feasibility, proof of concept, tests customer needs and user interfaces

14 'Whitehall Matters', PwC, 2014. www.pwc.co.uk/government-public-sector/2015-and-beyond/reform/whitehall-matters-summer-edition.jhtml

Public bodies also need to develop their capacity and capability in terms of data collection, management and analytics in order to produce the quality insight and intelligence required to underpin their strategies and plans.

Modelling the impact of interventions is particularly important as resources become scarcer and effectiveness must be more demonstrable. As Martin Donnelly, Permanent Secretary at the UK's Department for Business, Innovation and Skills, noted in his interview: "We can't afford to have black boxes inside public sector delivery. We don't quite know why all this resource is going in here to produce these outcomes and I think there are some areas where more clarity is going to be needed."

Building capacity around data and analytics is therefore essential, using data and insight to make more informed and evidence based policy and operational decisions (see Data analytics and business intelligence). As Martin Esom, CEO of the London Borough of Waltham Forest in the UK comments: "Our newly formed insight function is a key part of our operating model and what that's about is getting the best intelligence in terms of the services that we either provide, or not provide, and how we provide them. This gives us a really close handle on how we best meet demand and the performance of the services that we deliver, to see whether or not they are having maximum impact, and in the right way."

Data analytics and business intelligence – new skills and capacity to provide insight[15]

In the UK a number of councils are successfully using sophisticated segmentation techniques to develop a deeper, more granular understanding of the behaviours, needs, demands and preferences of different customer groups (Figure 17). Once a clear view of different customer segments is developed, this analysis can be used to start to build a picture of the 'cost to serve' of different customer groups. This analysis in itself can drive innovation in service delivery as typical consumption paths (or customer journeys) are mapped and understood.

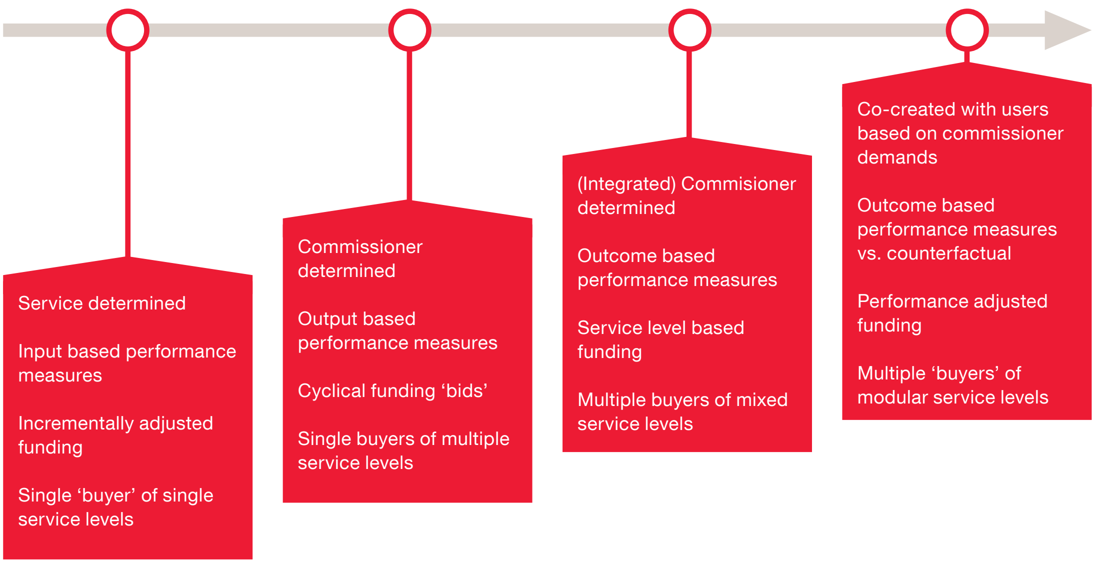
But typically the information councils have today focuses mainly on quantity e.g. how many people experience a service, while sometimes there is information on quality e.g. whether people had high levels of satisfaction. However, this operational data rarely helps decisions on whether investing in libraries improves children's school performance or if access to quality open spaces encourages exercise and reduces demand on health services and ultimately saves public money. And crucially, it doesn't tend to help evaluate what happens if public spending needs to be reduced by ten or twenty percent.

Evidence is required to show the relationship between inputs, outputs and outcomes, with more emphasis on the scientific method – exploring hypotheses and providing counterfactual evidence to show the impact of investment in an activity against a 'base case'. Commissioners need, over time, to build up a picture of what works and what doesn't in different situations and enable them to commission services in a much more effective manner.

Often a lack of truly integrated data in the public sector is a further challenge. The relevant data is often held in different forms in many different places and is not stored in a way that makes it easy, or even legally possible, to integrate. Master data management, standards and policies and clarity on who is gathering what data for what purpose is therefore needed.

Big (and expensive) systems are not needed to achieve these goals. This is about collecting, using and sharing information better. For example, most UK councils do not gather data by unique customer IDs systematically across their places and cannot easily share this data in an integrated way. It also means they are often not able to understand customer preferences or perform rigorous evaluation of the effectiveness of current interventions or options and the return on investment. Citizen data gathering, trend analysis and the use of digital technologies enables the development of these approaches.

Figure 17 **Segmenting public service users**



15 Drawn from 'Redefining local government', PwC 2014. www.pwc.co.uk/government-public-sector/publications/redefining-local-government.jhtml

Tor Saglie, Secretary General, Ministry of Justice and Public Security in Norway comments: "While historical data has traditionally mostly been used, one is now seeking to operationalise the use of data and put more focus on big data. This is relevant for instance in crime prevention and the immigration area and henceforward probably in terms of more well-informed disposal of police resources through information on e.g. where crime takes place."

Professor Jane den Hollander, Vice-Chancellor and President of Deakin University in Australia, is already addressing this issue: "We have invested heavily into data analytics…We have invested in modellers who help us analyse our data, for use in decision making."

But a lack of capacity and capability is not the only barrier to be overcome. Research into the use of open data and data analytics has highlighted that the **volume, veracity and speed of data all need to be improved.**[16] Overall, the quality, accuracy or completeness of the underlying data is the biggest hurdle.

Indeed, in emerging markets it is the lack of data itself that needs to be overcome. As Khaya Ngema, City Manager of Ekurhuleni in South Africa notes: "The true value is not the system, but the information and the knowledge and the data that is in it."

Improving the timeliness of data – making it available when needed – is also needed. As Kenandei Kapara Tjivikua, CEO, Social Security Commission in Namibia notes: "Data must be displayed in a manner that all stakeholders are appropriately informed. Data integrity remains a big challenge".

Our biggest challenge is that we don't have the developers, people who build things for us. Public sector needs them, private sector needs them even more. We have the potential for so much more but we just don't have enough people.

Siim Sikkut

ICT Policy Adviser, Government Office, Republic of Estonia

A very big challenge is building a digitally permeable organisation and managing the digital risks, as we have many thousands of people connected at any one time.

Professor Ian O'Connor

Vice-Chancellor and President of Griffith University in Australia

There are also **limitations on the ability to share data for different purposes**: often data provided by an individual or business to one public agency is done so under terms and conditions which mean that it cannot be automatically shared with another agency without prior consent.

There is an important balance to be found here between the rights of the individual to **privacy and confidentiality** with the benefits to sharing information e.g. reducing the costs of duplication and multiple requests for the same information as well as pooling data to enable predictive analytics to be undertaken. For instance, geospatial data can be used to map demand to meet population needs and improve commissioning for outcomes, in areas such as health and schools.

Clearly, digital offers great opportunities but it is important to put in place the relevant safeguards both for privacy but also to protect against the threats from cyber-attack (see Cybersecurity is now a persistent business risk). Indeed, 61% of CEOs surveyed worry about cybersecurity as a threat to their business (48% last year), with cyber threats in the top three of threats identified by state backed CEOs (68%).

16 'Global Data & Analytics Survey 2014: Big Decisions', PwC 2014. www.pwc.com/gx/en/issues/data-and-analytics/big-decisions-survey/index.jhtml

Professor Ian Young AO, President and Vice-Chancellor, The Australian National University, states: "Universities are porous institutions with daily attacks on systems. The nature of university IT systems means that they must be vulnerable. HR, Finance, ICT, student systems sit behind a higher protection but most research data is much more open as the analysis of source data is more valuable than the raw data itself."

David Zaken, Supervisor of Banks, Bank of Israel, points out: "Our Cyber Defense regulation illustrates the need for banks to form a cross-organizational view of cyber related risks, including the incorporation of views from areas within the organization which are not necessarily technology focused – such as physical security of IT infrastructure, identification of fraud and embezzlement and business continuity amongst others."

Cybersecurity is now a persistent business risk

Security breaches are on the rise. Survey respondents in PwC's 2014 study of the 'Global State of Information Security'[17] reported that the number of detected incidents soared to a total of 42.8 million, a 48% leap over 2013. This increase comes at great cost: total financial losses attributed to security compromises increased 34% over 2013.

Cyber risks will never be completely eliminated. Organisations must remain vigilant and agile in the face of a continually evolving threat landscape. However, awareness and concern about security incidents and threats has become top of mind in the boardroom as well as among consumers. As incidents proliferate, governments are becoming more proactive in helping organisations fight cyber-crime. The US Federal Bureau of Investigation (FBI), for example, notified 3,000 companies – including banks, retailers, and defence contractors – that they had been victims of cybersecurity breaches in 2013.

But there are also concerns about government intervention. Edward J. Snowden's disclosure of government surveillance has increased scepticism of domestic surveillance and concern about potential impact on data privacy and security. Globally about half (59%) of the respondents to the Global State of Information Security survey said that their organisations' executives are worried about government surveillance. Concerns are markedly higher in China (93%), India (83%), and Brazil (77%). And not only are questions being raised about government surveillance, but also regarding the telecommunications and technology companies that may have provided government with access to data.

Effective security, however, requires a certain amount of knowledge about existing and potential adversaries, which will not happen without a budget for threat analysis and monitoring, as well as a commitment of time and resources for collaboration between business, government agencies, peers, law enforcement, and other third parties to gain an understanding of leading cybersecurity practices. In the current environment of proliferating threats, risk-based security practices should be a primary component of an organisation's overall enterprise risk management framework.

17 'Managing cyber risks in an interconnected world: Key findings from The Global State of Information Security® Survey 2015', PwC 2014. www.pwc.com/gx/en/consulting-services/information-security-survey/index.jhtml

Dr Peter Lawrence, CIO at the Department of Defence in Australia states: "Cyber to me is about doing the basics right, if you do the basics right (such as testing), you will be in a reasonable state of affairs. This ensures that the risk exposure is reduced and it will affect all businesses. Those that aren't doing the basics right seem to be the ones in trouble."

Is digital having the same impact across the globe?

Today, governments and citizens across the world co-exist in a digital governance ecosystem facilitated by a wide array of inter-connected technology enablers (see Figure 18).

But it is important to be aware of the differing experiences across developed and emerging economies when it comes to the use of digital (see The evolution of global digital governance).

Figure 18 Digital governance ecosystem

The evolution of global digital governance

Since early 2000s the United Nations has published its e-Governance performance survey, regularly reporting on growing trends of technology-driven governance across 193 UN member states, covering 3 indicators – e-services, e-infrastructure, and human capital. The results bear further analysis:

- While Europe has dominated the top 25 performing countries globally, comprising 17 of the top 25 countries, the top performer since 2010 has been South Korea (primarily due to a fully digitised public administration, service delivery and multi-channel communication and transactions).
- Australia, a large country in terms of geography and moderate in population, has caught up quickly and now stands at second while Singapore ranks third today.
- Almost all countries, at varying pace, are embracing digital channels for citizen service delivery, with citizens' highest uptake for opening online accounts, tax filings and business registrations.
- Mid-ranked countries are focusing on service delivery through mobile devices with the objective of leap-frogging and overcoming the disadvantage of starting late.

It appears that governments which have innovated with their people – capturing their expectations, disseminating information and acting on reported issues – have done best in adopting and implementing new digital technologies.

Until the year 2000, the global uptake of digital technology had largely been supply driven. Since then, innovations such as cloud computing, social media and big data, alongside rapid spread of use of the internet, have propelled the emergence of digital platforms as a preferred channel for service delivery. Heightened user expectations have further blurred the thin divide between technology as a luxury and necessity.

Governments, and their provision of services, followed similar patterns. E-government best practices from the developed countries were, after customisation, replicated across the rest of the world. The result was a rapid evolution into an environment where connected citizens started expecting more from their governments, at a pace similar to their experiences of private sector online services.

Now, governments in many developed countries are using mature service delivery platforms and have evolved their priorities to meet citizen expectations and improve the citizen's online experience. In contrast, developing countries face the challenge of making services more affordable for citizens so that they are actually used and so deliver the outcomes intended.

The roadmap to success in digital government, therefore, is not a linear, incremental strategy of following in the footsteps of predecessors or long established schemes. It requires listening to citizens, processing their expectations and 'going digital', all at the same time.

Tough questions about rising to the digital challenge

Do you have a clear vision of how digital technologies can help deliver your outcomes while also reducing cost?

How can more data be shared to open source problems and crowd source new digital solutions, enabling the public and businesses to co-design services and co-produce outcomes?

Is the leadership team championing the use of digital technologies?

What would a 'Digital First' approach mean to your organisation in policy and delivery?

Is there a well thought-out plan for digital investments, including defining measures of success?

What cultural and behavioural changes need to be put in place to execute make 'going digital' everyone's responsibility?

To what extent will data analytics help in your decision making?

What needs to be done to make better use of big data e.g. to better predict demand and reduce it through early intervention?

How will you develop and acquire the digital capabilities you need?

Do you have specific hiring and training strategies in place to integrate digital technologies throughout the enterprise?

What needs to be done to ensure privacy but also to challenge unfit laws and regulations?

What safeguards are needed to ensure that open data is not widening the gap between the rich and poor in participative processes?

How will your organisation be resilient to the risks and threats e.g. cyber security?

How will the barriers to sharing data across public agencies be overcome?

Investing for growth: skills and infrastructure

If as a country we're ever to attack the debt mountain that we're bequeathing to generations as a result of what happened in 2008/9, we need to create the conditions to deliver extraordinary growth.

Roger Marsh

Chair of the Leeds City Region Enterprise Partnership in the UK

Business and industry are very critical players in the skills development business and have a very important role to play. In my view, without the clear and active involvement of industry, the skills development sector will not achieve its potential.

Mr. J. P. Rai

Director General, National Skills Development Agency (NSDA), India

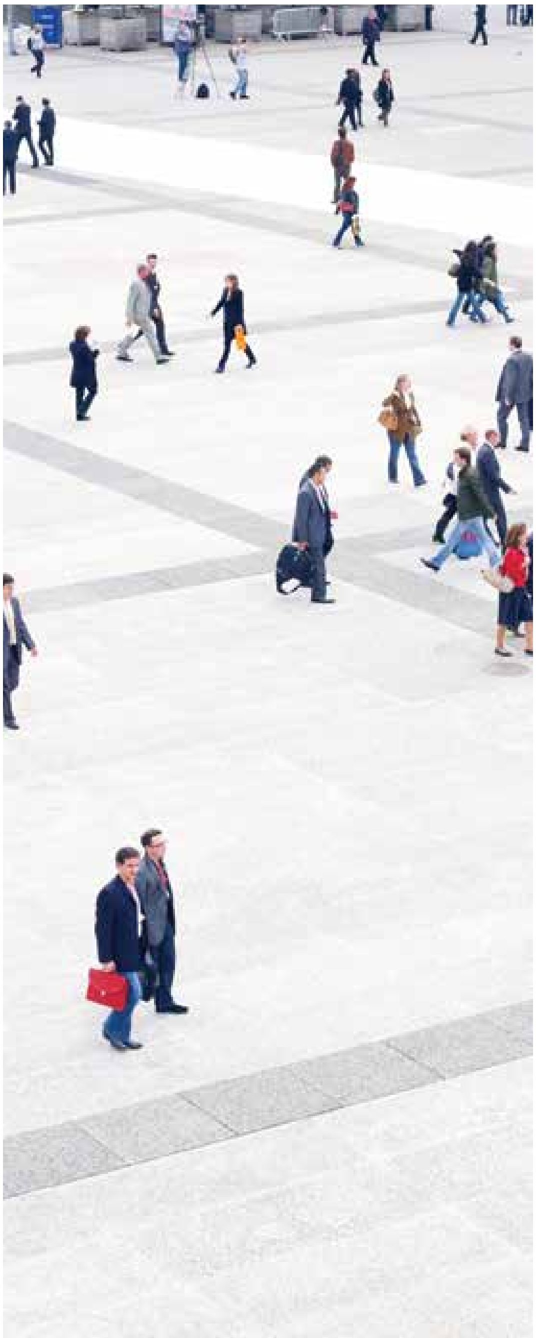
Skills and physical infrastructure remain in the top three priorities of CEOs for government attention (along with an internationally competitive and efficient tax system). However, the CEOs we surveyed still believe that governments have some way to go to deliver on their priorities.

The availability of skills is a major threat for CEOs this year, with 73% 'somewhat' or 'extremely' concerned. This response varies by region, with almost all (90%) of CEOs in Africa concerned, and four out of five (82%) in Asia Pacific.

In addition, for most (60%) of the CEOs surveyed this year having a skilled and adaptable workforce should be a government priority, second only behind having an internationally competitive and efficient tax system. In Middle East and Africa, this figure rises to around three quarters of CEOs surveyed.

At the same time there is scepticism on the ability of governments to deliver. Just under half (47%) of the CEOs surveyed believed that government was either 'ineffective' or 'greatly ineffective' in delivering on this outcome.

However, a key message from this year's Survey is that developing the skills of the workforce is not just a task for government: it's also a task for business as well with 44% of the CEOs we surveyed looking to collaborate with government over the next three years to deliver a skilled and adaptable workforce.



Demand driven skills, adaptable and diverse workforces

It's clearly important for business and government to find effective ways to collaborate on the skills agenda and for business to take greater responsibility for ensuring that the education and skills system delivers what it needs. In this context, the UK has been piloting one way to achieve greater ownership by business of the skills agenda and so make the skills system more demand driven (see Employer Ownership of Skills).

Digital technology also has a potential role to play, enabling a better matching of people to good jobs – ones that are rewarding in all senses. But the CEOs we surveyed think digital investments have created less value for talent strategies relative to many other areas of business. This is despite the obvious benefits in areas like online platforms and social networks to find talent and continuous learning programmes, which are among the top activities that companies are pursuing. And, despite CEOs telling us two years ago that they lack critical information about their talent, data analytics still appears to be under-used to provide insight into how skills are deployed (see A digital profile?).

Employer Ownership of Skills

The Employer Ownership of Skills (EOS) programme in the UK provides an innovative model for funding apprenticeships and training. As part of this programme, PwC is managing a fund on behalf of government to give employers access to funding for training in professional and business services occupations. Funding is available for apprenticeships and business skills courses: 250 employers are being supported, 200 of which are small and medium sized enterprises.

The aim of the government fund is to support organisations in developing skills and talent to grow business and offer new jobs. Funding is being routed directly to employers for the first time, allowing employers to choose where this investment can have maximum impact.

This programme offers streamlined access to funding, taking the administrative burden away from them. Employers are also provided with high quality training options that they can access directly through the programme, keeping it as simple as possible for employers to introduce apprenticeships and new 'good jobs'.

A digital profile?

Matching opportunities to aspirations is made potentially much easier through the use of digital technology. Indeed, at a recent Citizens Jury,[18] our jurors favoured building up a digital profile for employees to help:

- Businesses take employees' personal situations and life stage into account when determining employees' work patterns, job flexibility and training.
- Ensure that managers can allocate opportunities for advancement/variation in roles in ways that reflect employees' interests and aspirations.
- Fit employees to roles in order to increase productivity and job satisfaction.

Digital management of this kind of information raises issues of how this can best be managed, particularly with issues of privacy and security in mind and with the need for a culture of trust between employee and employer.

Nevertheless Jurors were open to the idea of an intranet system containing digital profiles of staff where they could log their breadth of skills and the kinds of opportunities they would be willing to consider. This might also address some of the issues facing 'data-lite' line managers who could access this information not only to review employees' performance but to help structure one-on-one reviews with employees about their current and future aspirations.

18 'Public Matters', PwC, 2014. www.pwc.co.uk/en_UK/uk/government-public-sector/2015-and-beyond/the-citizens-jury-at-the-political-party-conferences.jhtml

77% of CEOs we surveyed now have, or plan to adopt, a talent diversity strategy

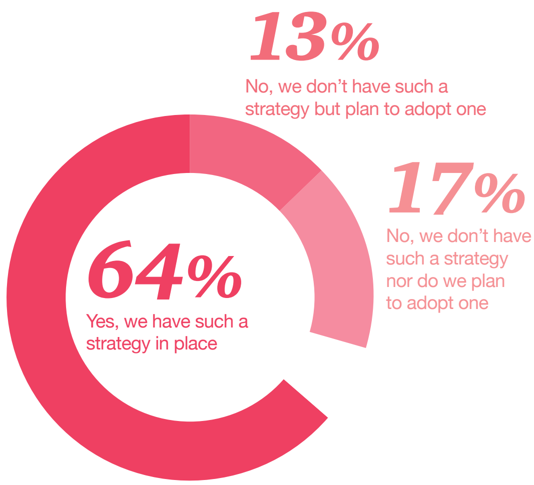
But it's not all about skills and job matching. As Sara N.M. Naanda, CEO of TransNamib Holdings Limited in Namibia comments: "Talent diversity and adaptability is an important aspect of business. A diverse talent pool brings synergistic value to the business, whereby different characters combine to create breakthrough ideas. This is key to improved service delivery and employees' improved morale and decision making."

The modern workforce requires people from different backgrounds who are able to think and work in diverse ways. As Professor Linda Kristjanson, President and Vice-Chancellor, Swinburne University of Technology in Australia states: 'The literature says that more diversity leads to better outcomes. We need to have policy settings that will allow all Australians to participate fully to deliver better value and outcomes.'

About three quarters (77%) of the CEOs we surveyed now have, or plan to adopt, a talent diversity strategy (see Figure 19).

Figure 19 Promoting talent diversity

Q: Does your organisation have a strategy to promote talent diversity and inclusiveness or have plans to adopt one

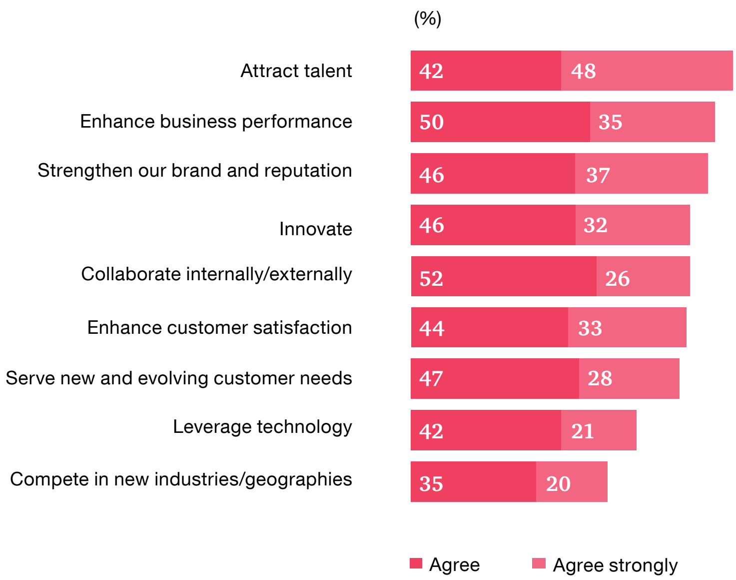


Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

But diversity is a much misunderstood term: indeed, the CEOs we surveyed had a variety of interpretations, ranging across gender, ethnicity, nationality, race, disability and age. Nevertheless, however defined, nearly all CEOs say that they have been able to attract talent through their diversity strategy and many see a clear link between diversity and the bottom line (see Figure 20).

Figure 20 Benefiting from talent diversity

Q: Which of the following benefits, if any, has your organisation obtained from its strategy to promote talent diversity and inclusiveness?



Base: 843 respondents with a strategy
Source: PwC 18th Annual Global CEO Survey

In addition to diversity, adaptability comes out strongly as important for tomorrow's CEOs to cultivate as well as strong leadership and innovation (see What is adaptable talent?).

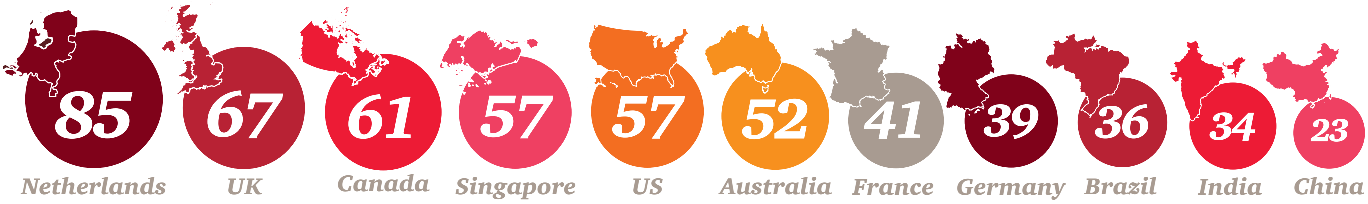
Mike Barclay, CEO of Sentosa Development Corporation (SDC) in Singapore notes: "With SDC's breadth of responsibility, including 500-odd different job types, it is also important that people learn to work collaboratively. When individuals of different backgrounds, expertise and experiences are rotated through different job roles, it benefits both the organisation and the individuals themselves."

What is adaptable talent?

The capacity of a market to match supply and demand efficiently depends on the ability and willingness of employers and employees to adapt to changing circumstances and align skills with available opportunities. If this alignment is less than perfect, a mismatch occurs and optimum productivity can't be reached.

A study using LinkedIn and PwC Saratoga data has assessed the primary indicators of an adaptable market, including the rate at which people switch between roles and sectors, the rate at which they're promoted and the number of jobs left open in a market, resulting in a Talent Adaptability Score[19]. This measures the adaptability of the 11 countries we researched side by side and shows a wide variety in adaptability across geographic markets, with the Netherlands coming out on top and China and India ranking lowest (Figure 21).

Figure 21 Who's most adaptable?



Sources: LinkedIn, PwC Saratoga

19 'Adapt to survive: How better alignment between talent well as job design. and opportunity can drive economic growth', A global study by PwC, commissioned by LinkedIn 2014

There are two essential ingredients to adaptability. First, the ability of employers to look differently at sources of talent. This means investigating new geographies and sectors as sources of new talent, as well as investing in existing employees, equipping them with the necessary skills and motivating them to adapt to meet new challenges.

Secondly, of course, this requires willing individuals who are prepared to embrace change and apply their skills somewhere new. In order to assess adaptability in a particular market there is a need to look at both sides of the equation.

Martin Waser, Chairman of the Hospital Advisory Board, University Hospital, Zurich in Switzerland comments: “Diversity is a key factor for us – it drives our innovativeness. Switzerland is viewed as a seedbed for innovation and new ideas. The fruits can come from locals or those who hail from elsewhere. Other cultures and mindsets bring different attitudes and behaviours. And a variety of life experiences enhance our ability to come up with solutions. So we believe diversity affords a tremendous opportunity.”

Robert Kahimise CEO of Erongo RED (Pty) Ltd in Namibia puts it as follows: “In a fast-moving world of technology, talent adaptability is critical. Companies should therefore be able to react quickly to the ever changing business landscape and become more innovative. This can only be achieved if the company recruits and trains ambitious and talented people with diverse thinking, skills and abilities. It is also equally important to invest in existing employees by equipping them with the necessary skills and motivating them to adapt to meet new challenges.”

Also in Namibia, Inge Zaamwani-Kamwi, CEO of Namdeb Diamond Corporation (Pty) Ltd has similar views: “Diversity and adaptability is the winning recipe for successful organisations. We embrace both and strive to ensure we are competitive within the global talent pool. Our talent attraction and retention strategies are aimed at ensuring that we have a balanced talent pool that is multi-skilled, diverse and can operate anywhere their jobs require them to be located.”

There are two important implications for the public sector:

- As employers, to promote diversity and adaptability in their own workforces.
- As policy makers, to use the levers of legislation and regulation to support diverse workforces, and create an enabling framework to promote good corporate behaviours.

Tough questions about investing in skills

How can talent diversity[20] and adaptability enable new approaches to delivering value and outcomes e.g. leading cross-functional, cross-sector, cross-cultural initiatives or driving innovation?

How agile and adaptable is your workforce?

What is your organisation’s strategy to develop diversity and inclusiveness?

What plans do you have in place to attract and retain a diverse workforce?

What training and development needs to be in place to support an agenda of diversity and adaptability?

20 This includes differences in gender, age, location, skills, experience, points of view and ways of working.

Investing for growth: infrastructure

Delivering effective, efficient and sustainable infrastructure is essential to provide the backbone from which economic success and prosperity can grow. Recently, the International Monetary Fund (IMF) has demonstrated the tangible return for long term growth from infrastructure projects, if they are chosen wisely.[21]

In this year's CEO Survey, adequate physical infrastructure is third on the list of government priorities for CEOs (behind tax and skills), and is at the top of the list of priorities for CEOs based in Africa (78%) and second in the list for the CEOs surveyed in the Middle East (69%) with high responses also from CEOs in Latin America (67%). Indeed, it is the emerging economies that are behind an expected surge in infrastructure spending (see The outlook for infrastructure).

The outlook for infrastructure

It has been some time coming, but infrastructure spending has begun to rebound from the global financial crisis and is expected to grow significantly over the coming decade. That is the conclusion of an in-depth analysis of 49 countries by PwC and Oxford Economics.[22]

Overall, close to $78 trillion is expected to be spent on infrastructure globally between 2014 and 2025, with spending ranging from traditional sectors such as transportation, utilities and social infrastructure but extending to other enabling capital projects in sectors such as resource extraction (e.g.mineral extraction) and manufacturing (e.g. chemical production).

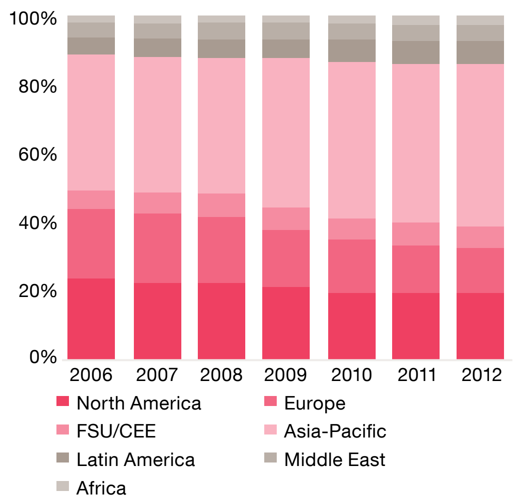
The key to this increase is the growth of the emerging markets which, unburdened by austerity or ailing banks, are likely to see greatly accelerated growth in infrastructure spending (Figure 22). Indeed, emerging markets are expected to account for half of global infrastructure spending in the next decade, driven by China and other parts of Asia.

There are many megatrends which will impact on this increased investment. Rapid urbanisation in emerging markets such as China, Indonesia and Nigeria should boost spending for vital infrastructure in areas like water, power and transportation. In these emerging markets, a key driver is the growth of megacities which are expected to create enormous need for new infrastructure and could leave a lasting, fundamental imprint on infrastructure development for decades to come.

In parallel, increasing prosperity will impel infrastructure financing toward consumer sectors where the supporting infrastructure requires investments, for instance, in transportation as car ownership expands, and manufacturing, as demand increases for processed goods.

Demographic changes will also play a role, affecting both the amount and type of infrastructure spending. Ageing populations in Western Europe and Japan, for instance, will require additional healthcare facilities, while countries in Sub-Saharan Africa, the Middle East and many parts of Asia-Pacific will need more schools for their youth.

Figure 22 Go East, investors!



21 'World Economic Outlook, October 2014 : Legacies, Clouds, Uncertainties', IMF.
22 'Capital project and infrastructure spending: Outlook to 2025' www.pwc.com/gx/en/capital-projects-infrastructure/publications/cpi-outlook/index.jhtml

When building billions of dollars' worth of infrastructure, there is a greater onus on the CEO to clearly demonstrate that there is strong evidence to back the investment decisions and choices that were taken.

Bruce McCuaig

President and CEO of Metrolinx Canada

Dr Enrique Ochoa Reza, CEO of the Comisión Federal de Electricidad (CFE) in Mexico illustrates the size of the opportunity: "In the United States, the State of Texas is only one third the size of Mexico, but it has almost nine times more natural gas pipelines than Mexico. The United States as a country has almost 41 times more natural gas pipelines than Mexico. So what these numbers show you is the size of the opportunity that Mexico has ahead, because in order for Mexico's economy to develop, and in order for the energy reform to show its benefits, all that infrastructure has to be built."

Whereas the CEOs surveyed in the Middle East and Asia Pacific on balance believe that government is effective in delivering adequate physical infrastructure (positive net balances of 16% in each case), the majority of CEOs surveyed in Latin America (63%) and Africa (57%) believe government has been ineffective or greatly ineffective with North America not far behind (48%).

Of course, there is no universal blueprint that can be applied to economic development and infrastructure solutions, particularly with the onset of new and rapidly evolving technology. Each place needs to plot its path, based on robust evidence and an analysis of its own particular strengths and weaknesses.

In all cases, however, infrastructure delivery needs to be evidence-based. Infrastructure investment also needs to be joined up at the critical points as well as intelligently phased and sequenced, and address the underlying governance, legal and financing requirements.

To maximise the benefits of infrastructure spending, particularly in emerging markets, an enabling environment is needed with the proper mix of economic, social and environmental incentives. National and city governments can also do more to create a more conducive business environment for investors in infrastructure by overcoming such obstacles as unpredictable regulations, bureaucratic delays and difficulties in securing land rights (see Developing investor ready infrastructure projects).

Developing investor ready infrastructure projects

A clear, well formulated vision of growth and economic prosperity, underpinned by a set of well-defined strategic objectives (the what) and initiatives (the how), which is owned by key stakeholders – politicians, officials, businesses and residents – provides confidence to investors that the emerging challenges are understood and will be managed.

It is also necessary to demonstrate visibly how infrastructure will deliver value to both users and investors. In a globally connected marketplace, where places compete with each other for scarce investment funds, success will be reflected in the ability to attract internationally mobile capital.

Ultimately places need to create a quality of life proposition which exceeds that of their closest competitors and provide an attractive offering to investors and prospective residents. Competitiveness comes down to how to attract the financial investment and human capital that will sustain a place into the future. And, as our research on urban infrastructure with Siemens and BLP[23] demonstrates, capturing value for the investor requires that value is also created for the user and for which they are prepared to pay e.g. through a tariff or user charge.

Changing times also mean that public authorities can no longer plan for what is known today. They must plan to meet the needs of future generations too and provide, rather than consume, a legacy for successive generations. Additionally, planning needs to be swift and public authorities need to be agile in response to changing business, resident and investor needs.

It is also important to look at capital project and infrastructure management areas such as infrastructure finance options[24] and capital projects oversight and risk management[25] as well as a country's capital projects disputes[26] trends.

23 'Investor Ready Cities', Siemens, PwC & BLP, 2014. www.pwc.com/gx/en/psrc/publications/investor-ready-cities-how-cities-can-create-and-deliver-infrastructure-value.jhtml

Tough questions about investing in infrastructure

Is a clear, well formulated vision of growth and economic prosperity in place, based on a robust evidence base and owned by key stakeholders?

How will the infrastructure planned add to competitiveness and the national and/or local quality of life?

Are there underpinning strategic objectives (the what) and initiatives (the how)?

Have the right mix of economic, social and environmental incentives been designed?

Will the proposed infrastructure investments deliver value to both users and investors?

Will users be prepared to pay e.g. through a tariff or user charge?

What are the infrastructure finance options?

Are the emerging challenges and risks understood with contingency plans in place?

Are there effective governance and controls in place to ensure oversight of capital projects and risk management?

How swift and agile is the planning regime in response to changing business, resident and investor needs?

24 www.pwc.com/gx/en/capital-projects-infrastructure/publications/capital-markets-the-rise-of-non-bank-infrastructure-project-finance.jhtml

25 www.pwc.com/gx/en/capital-projects-infrastructure/managing-risk.jhtml

26 www.pwc.com/gx/en/capital-projects-infrastructure/publications/resolving-capital-project-disputes.jhtml

Collaborating to deliver outcomes

We cannot look at the Government for every solution. If it rains we look at the Government, if it does not rain we look at the Government. We expect everything to come from the Government. It is because we do not always connect the other sectors of society to play a role as well.

Trevor Fowler

City Manager, City of Johannesburg, South Africa

An enduring theme for our CEO Surveys is the need for collaboration between business and the state to achieve society's goals. However, this year's Survey shows that CEOs have government as low down on their list of collaborators.

Through our work around the world,[27] we have seen the benefits of bringing together the key stakeholders needed to collaborate and provide a common platform for good growth[28] – universities, the not-for-profit sector, the private sector with the local, regional or national government, as well as citizens (see Figure 23).

As Helen Paterson, CEO of Wrexham County Borough Council in the UK comments: "The thing to recognise is that actually good growth and good jobs are the foundation of all communities, all families; they are the foundation of the economy."

And in relation to business and government collaboration to improve competitiveness, Dr R.K. Tyagi, Chairman, Hindustan Aeronautics Limited (HAL) in India comments: "This is an important point in today's context where even the Governments and public sector entities are supposed to look outwards for ensuring long term sustainability. It is clear that good jobs will not happen unless we focus on good growth and are willing to invest in the present with a vision for the future."

Figure 23

Collaborating for good growth

Peter Chrisp, Chief Executive of NZTE in New Zealand illustrates one approach: "We have this thing called the Primary Sector boot camp where we have taken, for three years in a row now, a group of Chief Executives away…we bundled them off to Stanford to start to co-create an agenda for the Primary sector, which was completely led by these CEOs…So we are in the background partnering and facilitating but it is led by industry leaders. So to answer your question, where you can make the relationship between government and business work, it is absolute magic. But it needs to be constructed in the right way."

As well as the role of business, Ing. Martin Tlapa, Deputy Minister of Foreign Affairs for Non-European Countries and Economic Diplomacy in the Czech Republic comments on the role of not-for-profit organisations: "When we look at Austria or Germany and their activities in Africa, we see how the non-profit organisations participate in private investments. They take care of capacity building (training or education of people involved in the investment chain, so called "supply chain"). Therefore, our effort is similar. We would like to link non-profit organisations to business through development projects."

With respect to further and higher education, Roger Marsh, Chair of the Leeds City Region Enterprise Partnership in the UK comments: "We have an incredible cohort of universities and FE colleges, all of which can power a knowledge economy, but we need to get them more closely aligned, working together cooperatively and collaboratively on the areas where they can continue to make a virtue of difference."

Globally, governments are facing difficult challenges to deliver critical services such as healthcare, transport and energy, to name just three examples. Megatrends such as ageing populations and increasing urban density affect almost every country, including Singapore. This is why we are using technology to craft new ways to serve citizens of all ages. This ambitious program of bringing together our startups, universities, R&D and Government to work collaboratively is part of our vision to be a Smart Nation.

Steve Leonard

Executive Deputy Chairman, Infocomm Development Authority of Singapore

On the other side of the world, Professor John Dewar, Vice-Chancellor and President of La Trobe University in Australia has similar comments: "Government could stimulate the role of universities to help drive growth. There is a poor uptake of ideas coming out of universities to implement and commercialise – this needs more work from both universities and government and business."

Better collaboration across public and private sectors is needed to deliver **a shared vision** for a place and a **delivery plan** to make things happen.

To be effective, the stakeholders in a place – at national, state/regional or local levels – need to work together and be clear on their roles and how they are jointly and collectively responsible for good growth, including creating the business cases for others to invest in their places. The effectiveness of this collaboration requires **clear accountabilities** as part of effective partnerships across a place.

Martin Inkumbi, CEO of the Development Bank of Namibia (DBN) comments: "The challenge remains to align the interest of both parties and sharing objectives. These should be not too difficult to achieve, because there is mutual interest in a cordial relationship between the two parties. Private business expects government to provide public goods and public infrastructure, and a conducive legal and regulatory framework in which they will be able to conduct business with ease. Government on the other side expects private business to be the growth engine of the economy, producing goods and services, creating employment opportunities, generating revenue and paying taxes."

It also requires, among other things, an honest and shared understanding and articulation of the joint assets across stakeholders, their access to sources of funding and finance and their 'offer' to potential investors and businesses, based upon a shared view of the future. This can also involve formal organisational arrangements such as combining public authorities, creating partnerships/alliances and pooling management and resources.

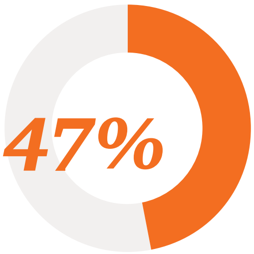
27 Examples include 'Stepping stones to growth', PwC 2013; 'Future of Government', PwC 2013.

28 'Good Growth: a Demos and PwC report on economic wellbeing', Demos, 2011. www.pwc.co.uk/governmentpublic – sector/publications/good-growth-index-how-govcan-kick-start.jhtml; 'Good Growth for Cities: A report on urban economic wellbeing from PwC and Demos', November 2012-14 www.pwc.co.uk/government-public-sector/good-growth/index.jhtml

This also often requires a **strategic brokering role**, facilitating the development and execution of the partnership plans that are needed to deliver change across public authorities, higher/further education and business where this is either not happening, or not happening effectively.

So is business up for more collaboration?

It appears, however, that collaboration with government is not top of mind for the CEOs surveyed this year (see Figure 24).



of the CEOs surveyed suggest that access to new customers and to new/emerging technologies is their main reason for collaborating with others.

The CEOs surveyed this year are most likely to partner with suppliers and customers, and somewhat less so with trade associations, academia and firms in other sectors. In contrast, they are less likely to want to work with government (37%), although this response is much higher in Africa (53%), the Middle East (49%), as well as for large companies (over $10bn revenues, 51%) and state backed CEOs (52%).

Nearly half (47%) of the CEOs surveyed suggest that access to new customers and to new/emerging technologies is their main reason for collaborating with others. In this context, there are low levels of interest from the CEOs we surveyed on government as a customer. Government and public services is almost bottom of the list of industries which have been entered or considered in the past three years.

Figure 24 Government makes an unlikely partner

Q: Are you currently engaged with or considering engaging with any of the following types of partners through joint ventures, strategic alliances or informal collaborations?

Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

It seems that CEOs are applying their organisation's core capabilities in new ways and are seeking to collaborate with, and learn from, consumers, who are becoming not only co-creators of value, but competitors, buying and selling among themselves in the sharing economy (see The sharing economy).

The sharing economy[29]

The sharing economy involves people sharing access to property, resources, time and skills.

The potential opportunity of the sharing economy is huge: it already generates revenues of c. $15 billion and could generate global revenues of $335 billion by 2025. CEOs in many industries are taking note of the disruptions – and opportunities – that could affect their business as a result and increasing rethinking exactly what business it is that they're in.

Professor Fred Hilmer, President and Vice-Chancellor, University of New South Wales in Australia has an interesting perspective on this: "An outcomes-based, sharing economy would make us think harder about what we are trying to do; we might get smarter about trade-offs and use resources more wisely."

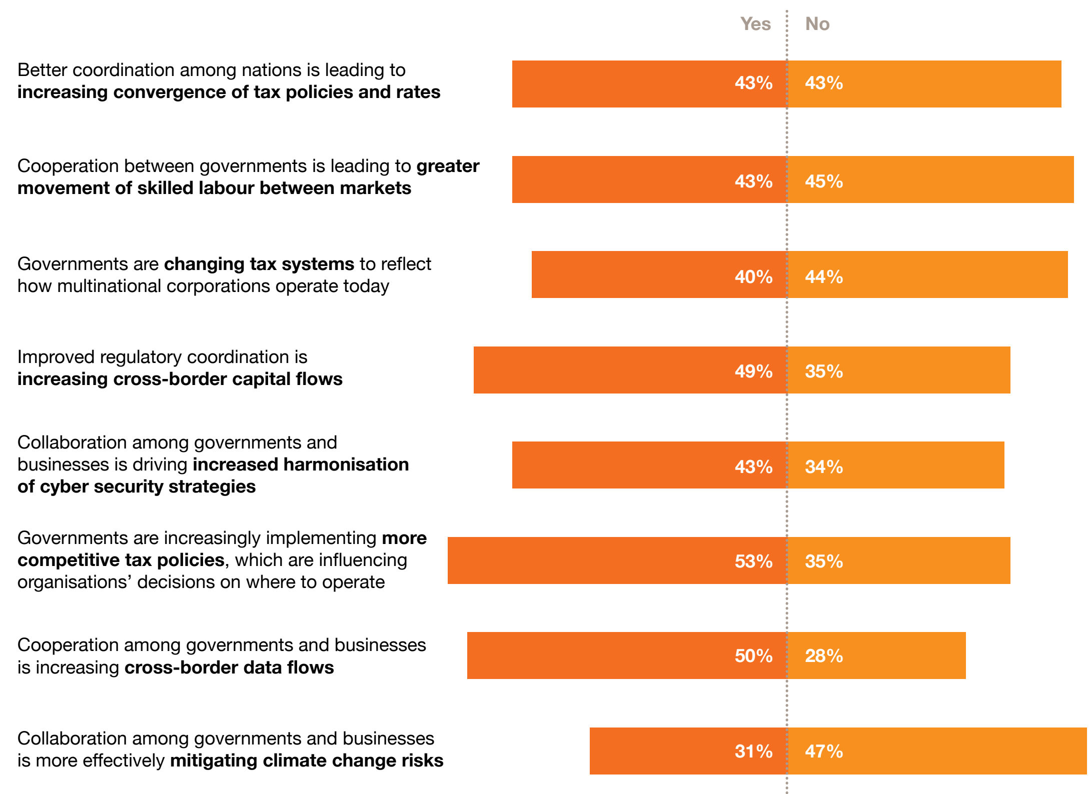
G2G collaboration

As well as business to government, another aspect of collaboration is government to government (G2G), in this context to deliver on business priorities.

The CEOs surveyed appear divided as to whether international cooperation is leading to outcomes conducive to increased competitiveness and the acquisition/sharing of capabilities (see Figure 25).

Figure 25 Collaboration across governments on business issues

Q: Are you seeing changes in international policies and regulations in the following areas?



Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

29 www.pwc.co.uk/issues/megatrends/collisions/sharingeconomy/the-sharing-economy-sizing-the-revenue-opportunity.jhtml

However, it appears that a net positive balance of CEOs surveyed (and the majority of state backed CEOs) perceive that cooperation between government and businesses is increasing cross-border data flows (+22%), as well as increased harmonisation of cyber security strategies (+9%).

In contrast, a small net negative balance of CEOs believes that cooperation between governments is leading to greater movement of skilled labour between markets (-3%).

It appears, therefore, that there is still some way to go for government collaboration to achieve the changes in international policies and regulations desired by CEOs.

Tough questions about collaborating to deliver outcomes

How can your organisation improve collaboration across the public, private, not-for-profit and university sectors as well as State Owned Enterprises to create a platform for good growth?

How can business contribute solutions to wider societal issues and so co-create value for society, combining public and private sector capabilities?

How aligned are the stakeholders in your place on the vision and priorities for growth?

What could a shift to an ‘outcomes-based’ (and sharing) economy mean for both business and government?

Based on the evidence, which are the priority interventions which will support the delivery of place-based targets, citizen outcomes and Value for Money (VfM)?

Are your plans designed and in place to implement agreed priority interventions?

What are the key challenges for, and opportunities arising from, stronger partnerships and trust between business and government?

Do you have a partnership plan to underwrite a commitment to deliver the resources needed for achievement of your agreed vision and priorities?

Do you have a business and operating model which has the talent, systems and procedures to deliver your plans?

Are the governance arrangements in place to hold stakeholders to account for the delivery of outcomes?

Is there a baseline against which progress and VfM can be monitored, evaluated and clearly demonstrated to stakeholders?

Reducing the burdens on business: tax and regulation

No one has a monopoly on good ideas. Whether its ideas related to open-source data or finding new solutions to complex problems, you're always looking to harness the ingenuity of people to find new and better ways to regulate.

Steve Orsini

Secretary of the Cabinet in Ontario, Canada

Over-regulation remained at the top of the perceived threats to business: over three quarters (78%) of the CEOs surveyed were 'somewhat' or 'extremely' concerned, with an increasing tax burden not far behind (70%). The challenge for government is to reduce the burdens on business while safeguarding the rights of citizens as employees and customers.

Where regulation is needed, it should be fit for purpose and create the stability that business needs to invest for the long term. However, this does not seem to be the situation currently for the CEOs we surveyed.

Indeed, in response to a question on disruptive trends over the next five years, changes in industry regulation tops the list for two thirds (66%) of CEOs surveyed (see Figure 26), rising to 82% in the Middle East.

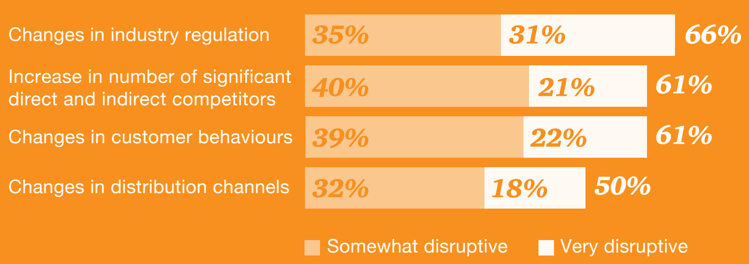
CEOs are looking to create their own opportunities by rethinking what value means to their stakeholders, with some challenging the idea of standard growth categories and focusing on delivering outcomes. For instance, pharmaceutical companies, under pressure to deliver better value for payers and end-users, are moving away from a focus on delivering product toward a broader definition of value that's defined by how healthy patients are including providing digital self-monitoring tools that change patient behaviours.

The new breed of competitors may be driven by quite different motivations, but all share one thing in common: a willingness to rethink what value means and think about the goals or outcomes their stakeholders ultimately hope to achieve by doing business with them.

Figure 26

Regulation as a disruptive force

Q: How disruptive do you think the following trends will be for your industry over the next five years?



Base: All respondents (1,322)
Source: PwC 18th Annual Global CEO Survey

Smarter regulation

These new ways of competing are now straining against a regulatory and tax environment designed for a different world. In our discussions around the Survey results, we have found that business leaders accept the need for regulation – but want it to be smarter.

This resonates with our views. A balance needs to be struck between protecting consumers and employees while not overburdening employers with regulation, particularly in terms of compliance. The solutions remain largely behavioural, requiring improved collaboration to address the 'how' of regulation as much as the 'what'.

Steve Orsini, Secretary of the Cabinet in Ontario, Canada, comments: "No one has a monopoly on good ideas. Whether its ideas related to open-source data or finding new solutions to complex problems, you're always looking to harness the ingenuity of people to find new and better ways to regulate."

And Dr Enrique Ochoa Reza, CEO of the Comisión Federal de Electricidad (CFE) in Mexico notes: "One of the big elements of the energy reform is the strengthening of regulators. If you're looking for competition, you have to establish a level playing field."

A predictable, independent regulator that complies with deadlines, that does its job and we have now a regulator that I believe is doing all of this and creating a pattern of predictability that reduces risk for investors.

Mónica Aspe Bernal

Head of the Coordination of the Information and Knowledge Society at SCT, Mexico

Over many years we have argued the case for smarter regulation as a way to address both business and public concerns. For regulation to be smarter it needs to be proportionate, accountable, consistent, transparent and targeted. In particular, a smarter approach to regulation needs a focus on:

- Outcomes and impacts, not purely process and box-ticking.
- Clarity and stability, with the rules for regulation that are clear and not subject to constant tinkering.
- Even-handed implementation, with not only a transparent set of rules, but implementation that is done in a fair way.

Tough questions about reducing the regulatory burden

Are the benefits of our approach to regulation proportionate to the costs and risks involved?

How consistent, transparent and targeted are our regulations?

Does the regulatory environment focus on outcomes and impacts?

Are rules and regulations clear?

Is the regulatory environment for business stable, fostering greater certainty for business when making key decisions on investment?

Is implementation of the regulations done in a fair way?

Reforming tax

With the tax burden remaining one of the top threats to business, it is important take a look at how taxes could be reformed to reduce the burden on business while still delivering the revenues needed to pay for vital public services.

The latest results from PwC's Paying Taxes study[30] are instructive in this respect and show that many economies are continuing to make progress in tax reform (see Paying Taxes 2015).

Paying Taxes 2015

Paying Taxes records the taxes and mandatory contributions that a medium-size company must pay in a given year as well as measuring the administrative burden of paying taxes and contributions.

Taxes and contributions measured include corporate income and other profit taxes, social contributions and labour taxes paid by the employer, property taxes, property transfer taxes, dividend tax, capital gains tax, financial transactions tax, waste collection taxes, vehicle and road taxes, and any other small taxes or fees.

The study found that the pace of reform accelerated during the financial crisis, and although slowing in more recent years, the improvement continues. The Paying Taxes 2015 study found that there have been 379 reforms making it easier and less costly to pay taxes recorded since 2004, 105 of which relate to electronic filing and payment.

Reforms continue to be made in Africa, while progress is less evident in South America, which now has the highest average time to comply and Total Tax Rate. Central Asia and Eastern Europe is still the fastest reforming region with a major focus on improving administrative systems.

At the same time, there is still much scope for new or further actions to streamline and simplify tax systems, to reduce economic distortions and reduce the burden imposed on business. Tax reform is therefore set to remain an important topic for governments around the world for many years to come.

Tax reform covers a broad agenda of issues. The Paying Taxes study focuses on the administrative efficiency of the tax system (measured by two indicators – hours to comply and the number of payments) and on the overall burden imposed on business (measured by the Total Tax Rate). But there is a broader economic dimension to tax reform too.

The principles which should underpin taxation have been debated as far back as Adam Smith's Wealth of Nations which set out four "canons of taxation": equity; certainty; convenience; and efficiency. Our recent work on Future of Tax in the UK has tested these with the public, and with business, and found further support for change (see The future of tax).

30 'Paying Taxes 2015', World Bank and PwC, 2015. www.pwc.com/gx/en/paying-taxes/index.jhtml

The future of tax

We convened a Citizens' Jury in the UK to debate the issues and shape of the future tax system. Over two days, we brought together 22 members of the public – our Citizens' Jury – to talk about the future of the UK tax system and how it could be shaped to better serve the needs of tomorrow. The Jury debated the purpose of tax, who should pay it and how it should be levied, before presenting their recommendations for reforming the UK tax system.

The Jurors' agreed principles by which to judge the tax system. The system should be:

- Transparent in how revenue is raised and spent.
- Simple to understand and navigate.
- Proportionate to citizens' ability to pay.
- Fair, with every person and organisation paying their correct sum.
- Certain, so everyone should know what they owe, in a system that rarely changes.
- Supportive, with consistent advice and help for citizens.
- The system should not punish people who do the right thing, it should not discourage work, saving or planning for your family's future.

We followed this up with a Business Jury of 14 senior business figures which set out recommendations on how the UK tax system should be reformed. From tiny start-ups to huge multinationals, the Jury was a diverse group from different spheres of industry that might rarely come together in this way.

The main messages were that:

- Businesses are more likely to support tax policies when they understand the specific objectives and where there is a clear road map.
- Certainty and stability are crucial for businesses to plan and grow. This needs to be reflected in tax policy, which needs to be more focused.
- An internationally competitive system is a good thing, but with a need to ensure that it will deliver sustainable tax revenues.
- Education of the public on how the tax system works is key.

There are four big challenges in any process of tax reform and successfully navigating these potential difficulties is the key to successful implementation of policies.[31]

Winners vs losers

Changes to the structure of any tax system creates winners and losers. Individuals or companies which benefit from lower tax rates may not be the same as those adversely affected by restricting tax exemptions and allowances. This problem can be addressed by finding ways of compensating the losers but that in turn may mean there is a net fiscal cost to tax reform.

In the short term at least, governments can find they are getting less revenue after the reform than previously, particularly if the reform involves cutting tax rates. The longer term benefits that tax reform can bring to growth and public finances take longer to feed through. This can be problematic when – as in the case of the UK and Japan and many other governments at present – the size of the government deficit and the rising burden of public debt is also a key issue for national economic policy.

Doing nothing is easy

It is also easy to put off tax reform. There is no ideal time to restructure the tax system and short term political pressures can get in the way. The best environment is where there is a strong government with a mandate for reform.

For instance, the shift to taxing consumer spending more heavily now underway in Japan has been on the agenda since the 1990s. But it is only under the Abe administration that it is being implemented, and even now there are concerns that the Japanese economy may not be able to withstand the impact of rising taxes in the short term.

Whole system impact

From the perspective of economic growth and competitiveness, it is the impact of the tax system as a whole which is important – not individual taxes. Tax reforms should be designed and implemented with a focus on their broader economic impact, not just on a specific area of the tax system.

For instance, the UK government points to having reduced corporate profit taxes, but other tax changes have had less positive impacts on the overall climate for growth and employment. Employment taxes on business (National Insurance) have risen and the increasing burden of other business taxes has been an issue of concern including business property taxes and taxes on business inputs such as fuel.[32]

Vested interests

Finally, fighting political and economic pressures to increase the complexity of the tax system is an ongoing battle. Specific tax reliefs and allowances are much easier to introduce than they are to abolish.

Special interest and lobby groups are always arguing for tax changes which they see as helpful, and a government may see advantage in granting some of these requests. But there are many fewer voices in the public debate for a fundamental overhaul of the tax system which generates long term economic benefits. Over time, the result is a more complex and less coherent tax system which can only be improved by visionary and principled tax reforms.

The need for radical tax reform has become more pressing since the financial crisis, as debts have mounted and deficits proved harder to close than expected. But the success of governments in carrying tax reform through will depend on their ability to: support losers as well as reward winners; avoid the temptation to put off change; look at the tax system as a whole; and fight the temptation to make the tax system more complex and complicated for very understandable economic and political reasons.

31 This section draws heavily on an article by Andrew Sentence in Paying Taxes 2015, reproduced as a blog on Public Sector Matters Globally – pwc.blogs.com/psm_globally/2014/11/the-challenges-of-tax-reform-.html

32 See www.pwc.co.uk/total-tax-contribution-100-group/index.jhtml

Tough questions about reforming the tax system

How transparent is the current system in raising tax and showing how the money raised is spent?

Is the system simple to understand and navigate?

Is tax proportionate to citizens' ability to pay?

To what extent is the tax system fair, with every person and organisation paying their correct sum?

How certain are the rules?

Does every individual and business know what they owe?

Do the tax authorities provide consistent advice and help for citizens and businesses?

Does the system incentivise people and businesses to do the right thing: encouraging work, saving and planning for the future?

What do public leaders value?

Delivering on business priorities, alongside societal outcomes, requires real leadership and trust between citizens and the state to do the right things. This year, we asked our government interviewees "what, as a leader in your organisation, do you most value and why?"

And it's summed up in one word by most of our interviewees – trust. As Dagur B. Eggertsson, Mayor of Reykjavík in Iceland comments: "Lack of trust infiltrates every part of society. It is not just a question of the public losing trust in the financial system. It is more fundamental. It affects how individuals trust each other. In my opinion this is one of the most important subjects we face today. I often think about words I heard some time ago: '… trust that is lost because of deeds will not be restored with words, only with action'. Therefore I think we won't gain our trust back by talking. We will have to rebuild trust by earning it with our actions. That is the project we face and that is where my focus lies."

Running through our interviews, there's a call for mutual respect through dialogue and a better understanding of the motives of both private and public sectors. There's also a recognition that this requires greater openness on all sides, more transparency and more explicit recognition of what each stakeholder wants and needs from the other. Importantly, there's a recognition that understanding comes from listening.

In addition, our interviewees set out what they value in themselves and from the people with whom they work. Some consistent themes emerged beyond trust. Key traits highlighted included authenticity, character, integrity and loyalty. The importance of good people was a core issue for our interviewees and the importance of a cohesive leadership team. Other attributes were commercial awareness, innovation and creativity as well as a customer centric outlook.

The challenges for public leaders

Today's leaders in government (and business) are being called on both to lead, and also to serve, increasingly empowered citizens who are choosing to trust more in their peers and 'the regular person' than ever before, assisted by the power of new technology and social media.

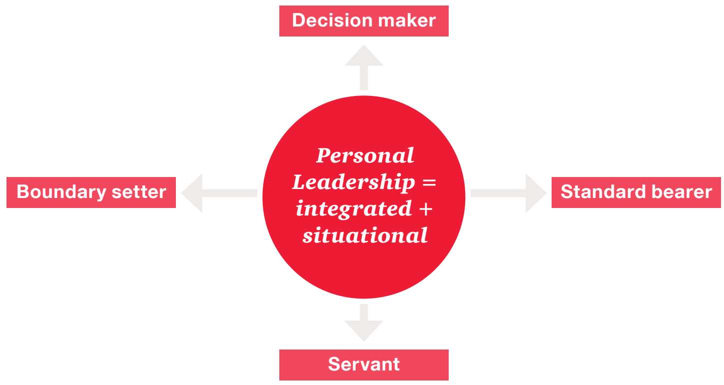
But there is a particular crisis facing the role of leadership today in the public sector. Social changes, as well as an unprecedented pressure on public finances, are creating new and complex challenges. Firstly, public leaders have to be able to influence both internally and externally. Internally it is about influencing the leadership team and the people in their organisation. Externally it is about influencing the surrounding environment – the citizen as customer/employee or employer and their expectations.

As such, leaders need to work from the inside out, as well as the outside in, taking into consideration what is needed in any given situation. This involves being constantly aware of situations and alert to changes in the external environment, while evaluating new opportunities and threats through the organisational lenses of vision, values, passion and mission.

Secondly, leaders need to be agile, taking on different roles when the situation calls for it – at any one time making decisions, serving other stakeholders or acting as a standard bearer and a setter of boundaries e.g. of acceptable behaviours (Figure 27). Agility in this context also means moving across levels and boundaries within (and outside) the organisation in a timely way.

An important factor influencing the effectiveness of leadership within an organisation is that of culture. So a third challenge for leadership is to do with managing relationships, especially when there are conflicting views (expressed or otherwise).

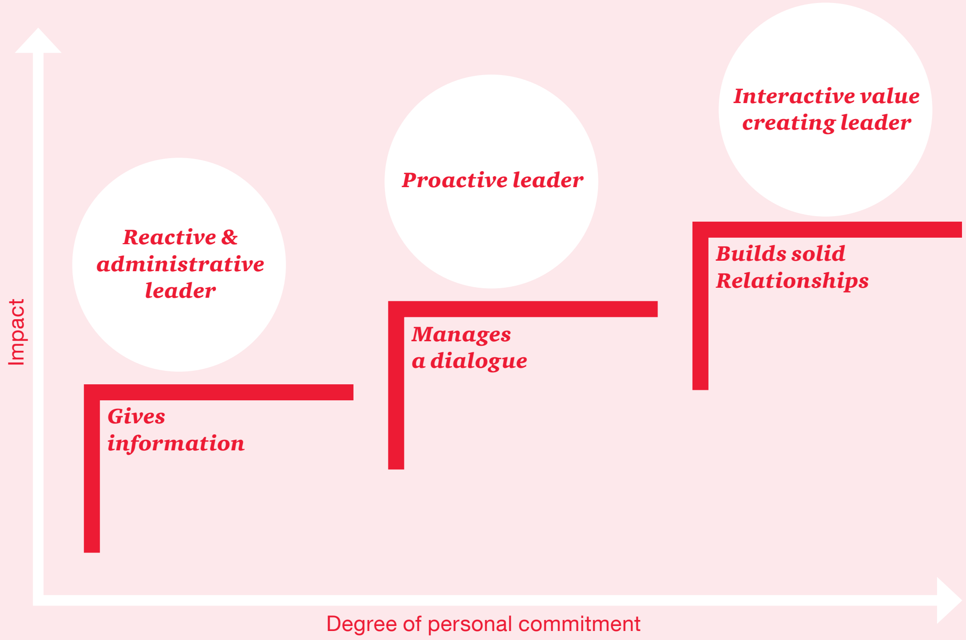
Figure 27 Leadership roles



It is the leader's task to energise the organisation and its employees, through a positive culture, and create an open dialogue and healthy relationships. A good leader therefore not only 'infects' the organisation with energy, but creates meaning with context, and moves people to action and jointly achieving the shared vision, mission and goals (see figure 28).

Figure 28

Levels of personal leadership



Finally, a public leader will also set out to create a legacy for the long term, ensuring that future generations of employees, and leaders, can draw on a reservoir of knowledge and assets and build on a sound foundation of organisational integrity, accountability and commitment.

Leaders play an important role in developing a culture and mindset of agility among employees. Leadership is also about promoting the performance measurement and incentive structures which reward a 'whole of enterprise', 'whole of government' and 'whole of society' view, focused on outcomes and impact as opposed to structures, processes and outputs.

Tough questions for public leaders. Am I…

Creating and developing an organisational culture created through diversity, not through standardisation or 'group think'?

Managing from the standpoint of relationship, instead of position, and developing management methods based on dialogue?

Developing the ability to give and take authority with the purpose of creating high legitimacy both outwards, towards the surrounding environment, and inwards, towards the organisation?

Being an example and role model of leadership?

Being clear concerning the vision, goals and direction of the organisation which I am leading?

Developing my employees and their competencies?

Creating a climate of openness and trust for dialogue even in difficult and complicated matters?

Being courageous enough to take responsibility for my own and my employees' successes and failures?

Working from the basis of a strong personal commitment and being prepared to make decisions and be able to reconsider them?

Being aware of, and alert to, the surrounding environment and inclined to innovation?

Agenda for action

Government and public sector leaders across the world are facing the challenge of balancing between an internal focus on efficiency and effectiveness and an external focus on helping business to create the wealth and jobs that societies need to prosper.

We believe public sector leaders can do more to help business by:

- Collaborating better across national boundaries to reduce the **geopolitical uncertainty** that hinders the confidence to invest, drive good growth and create good jobs.
- Committing to a renewed focus on achieving fiscal balance, with a spotlight on **sustainable cost reduction**, delivering affordable government.
- Increasing productivity and transforming operations, taking advantage of **digital technology** to create tomorrow's leading public body.
- Making bold moves to address business priorities – public sector organisations at all levels have an important role to play in creating a **platform for growth** with a focus on the key levers of skills and physical infrastructure
- Collaborating with business to deliver **societal outcomes** while tackling the burdens of over-regulation and tax.

As the world tries to cope with rising tensions, we remain optimistic that together business and government can deliver what citizens really want by putting good growth and good jobs at the heart of the purpose and mission of our public bodies.

Meet our interviewees
Annex: Government interviewees

Australia

Professor Ian Chubb AC

Chief Scientist of Australia

Denise Cosgrove

Chief Executive
Victorian WorkCover Authority

Professor John Dewar

Vice-Chancellor and President
La Trobe University

Janet Dore

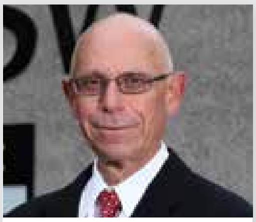
CEO
Victoria Transport Accident Commission

Mark Gray

Under Treasurer
Queensland Treasury and Trade

Professor Margaret Gardner AO

President and Vice-Chancellor
Monash University



Professor Fred Hilmer AO

President and Vice-Chancellor
University of New South Wales

Professor Jane den Hollander

Vice-Chancellor and President
Deakin University

Professor Linda Kristjanson

President and Vice-Chancellor
Swinburne University of Technology

Dr Peter Lawrence

CIO
Department of Defence

Professor Ian O’Connor

Vice-Chancellor and President
Griffith University

Dr Jim Watterston

Director-General
Queensland Department of Education, Training and Employment

Professor Ian Young AO

Vice-Chancellor and President
The Australian National University

Brazil

Luiz Fernando Pezão

State Governor
Rio de Janeiro

Canada

Bruce McCuaig

President and CEO
Metrolinx

Steve Orsini

Secretary of the Cabinet
Ontario

Czech Republic

Ing. Martin Tlapa

Deputy Minister of
Foreign Affairs for
Non-European Countries
and Economic Diplomacy

Republic of Estonia

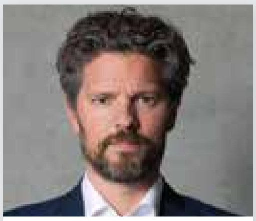
Taavi Kotka

Deputy Secretary General
for Communications and
State Information Systems
Ministry of Economic
Affairs and
Communications

Siim Sikkut

ICT Policy Adviser
Government Office

Iceland



Dagur B. Eggertsson

Mayor of Reykjavík

India

Dr R.K. Tyagi

Chairman
Hindustan Aeronautics
Limited (HAL)

Mr. J. P. Rai

Director General
National Skills
Development Agency
(NSDA)

Israel

David Bareket

Vice-President and
Director General
Ben Gurion University of
the Negev

Michal Cohen

Director General
Ministry of Education

David Zaken

Supervisor of Banks
Bank of Israel

Mexico

Mónica Aspe Bernal

Head of the Coordination
of the Information and
Knowledge Society
Secretariat of
Communications and
Transportation (SCT)

Dr Enrique Ochoa Reza

CEO
Comisión Federal de
Electricidad (CFE)

Meet our interviewees
Annex: Government interviewees

Namibia

Martin Inkumbi
CEO
Development Bank of Namibia

Robert Kahimise
CEO
Erongo RED (Pty) Ltd

Sara N.M. Naanda
CEO
TransNamib Holdings Limited

Kenandei Kapara Tjivikua
CEO
Social Security Commission

Inge Zaamwani-Kamwi
CEO
Namdeb Diamond Corporation (Pty) Ltd

New Zealand

Peter Chrisp
Chief Executive
New Zealand Trade & Enterprise (NZTE)

Norway

Tor Saglie
Secretary General
Ministry of Justice and Public Security

Russia

Olga Dergunova
Deputy Minister of Economic Development of the Russian Federation
Head of the Federal Agency for State Property Management (Rosimuschestvo)

Gleb Nikitin
First Deputy Minister
Ministry of Industry and Trade

Singapore

Mike Barclay
CEO
Sentosa Development Corporation

Steve Leonard
Executive Deputy Chairman
Infocomm Development Authority (IDA)

South Africa

Trevor Fowler
City Manager
City of Johannesburg

Khaya Ngema
City Manager
Ekurhuleni

Spain

Marta Blanco Quesada

General Director
Turespaña
Ministry of Industry, Energy and Tourism

Sweden

Katrin Westling Palm

Director General
The Swedish Pensions Agency

Switzerland

Martin Waser

Chairman of the Hospital Advisory Board
University Hospital Zurich

UK

Martin Donnelly

Permanent Secretary
Department for Business, Innovation and Skills (BIS)

Martin Esom

CEO
London Borough of Waltham Forest

Roger Marsh

Chair of the Leeds City Region Enterprise Partnership

John van de Laarschot

John van de Laarschot
CEO
Stoke-on-Trent City Council

Helen Paterson

CEO
Wrexham County Borough Council

US

Christina Ho

Deputy Assistant Secretary for Accounting Policy and Financial Transparency
Department of the Treasury

Mark Reger

Deputy Controller
Office of Federal Financial Management
Office of Management and Budget
Executive Office of the President of the United States

Contacts
PwC Government and Public Services territories

Benson Okundi
Africa Central
benson.okundi@ke.pwc.com
+254 20 2855000

Norberto Montero
Argentina
norberto.montero@ar.pwc.com
+54 11 4850 4605

Tony Peake
Australia
tony.peake@au.pwc.com
+61 (3) 8603 6248

Miklós Revay
Austria
miklos.revay@at.pwc.com
+43 1 501 88 2920

Oliver Jordan
Barbados
oliver.jordan@bb.pwc.com
+1 246 626 6704

Serge Loumaye
Belgium
serge.loumaye@be.pwc.com
+32 2 7109791

Ricardo Ribas
Brazil
richard.ribas@br.pwc.com
+5521 3232 6279

Daniel Moncada
Bolivia
daniel.moncada@bo.pwc.com
+591 2 7506 37

Albena Markova
Bulgaria
albena.markova@bg.pwc.com
+359 2 93 55 294

John Moore
Canada
john.moore@ca.pwc.com
+1 (613) 794-1808

Todd Bradshaw
Central and Eastern Europe / Slovakia
todd.bradshaw@sk.pwc.com
+421 2 5935 0600

Jiri Moser
Czech Republic
jiri.moser@cz.pwc.com
+420251152048

Frank Lyn
China
frank.lyn@cn.pwc.com
+86 (10) 6533 2388

Rodrigo Bucarey
Chile
rodrigo.bucarey@cl.pwc.com

Dorian Echeverry
Colombia
dorian.echeverry@co.pwc.com
+574 2662933 (Ext.)134

Tassos Procopiou
Cyprus
tassos.procopiou@cy.pwc.com
+357 22 555 750

Christian Klibo
Denmark
christian.klibo@dk.pwc.com
+45 89 32 55 14

Tarek Mansour
Egypt
tarek.mansour@eg.pwc.com

Carlos Loaiza
Ecuador
carlos.loaiza@ec.pwc.com
+593 4 2281-555 715

Teet Tender
Estonia
teet.tender@ee.pwc.com
+372 6141 892

Mirel Leino
Finland
mirel.leino@fi.pwc.com
+358 (0) 9 2280 1868

Jean-Louis Rouvet
France
jean-louis.rouvet@fr.pwc.com
+33 1 56 57 8578

Alfred Höehn
Germany
alfred.hoehn@de.pwc.com
+49 30 2636 1270

Felix Addo
Ghana
felix.addo@gh.pwc.com

Kyriakos Andreou
Greece
kyriakos.andreou@gr.pwc.com
+30 210 6874680

Marcello De Guisa
Hong Kong
marcello.de.guisa@hk.pwc.com
+852 2289 1922

Laszlo Deak
Hungary
laszlo.deak@hu.pwc.com
+36 1 461-9590

Ragnar Ingibergsson
Iceland
ragnar.ingibergsson@is.pwc.com
+354 5505236

Neel Ratan
India
neel.ratan@in.pwc.com
+ 91 124 4620540

Michael McDaid
Ireland
michael.j.mcdaid@ie.pwc.com
+353 (0) 1 7927950

Edouard Messou
Ivory Coast, Francophone Africa
edouard.messou@ci.pwc.com
+33 1 5657 6870

Noam Hadar
Israel
noam.hadar@il.pwc.com
+972 (0) 3 795 4 725

Giovanni Mariani
Italy
giovanni.mariani@it.pwc.com
+39 (06) 570833120

Adrian Tait
Jamaica
adrian.tait@jm.pwc.com
+1 876 932 8429

Yasuo Okada
Japan
yasuo.o.okada@jp.pwc.com
+81 3 3546 9195

Alper Akdeniz
Kazakhstan/Eurasia
alper.akdeniz@kz.pwc.com
+7 (727) 330-3200

Kweon-Hoon Lee
Korea
kweon-hoon.lee@kr.pwc.com
+82 (0) – 2-709-0620

Philippe Pierre
Luxembourg
philippe.pierre@lu.pwc.com
+352 (0) 494848 4313

Mohd Anwar Yahya
Malaysia/SEAPEN
mohd.anwar.yahya@my.pwc.com
+603 2173 1188

Michel Ganado
Malta
michel.ganado@mt.pwc.com
+356 2124 7000

Rajeev Basgeet
Mauritius
rajeev.basgeet@mu.pwc.com
+230 404 5148

Germán Ganado
Mexico
german.ganado@mx.pwc.com
+52 (0) 55 5263-6000 Ext. 5888

Nangula Uaandja
Namibia
nangula.uaandja@na.pwc.com
+264 61 284 1065

Robbert-Jan Poerstamper
The Netherlands
robbert-jan.poerstamper@nl.pwc.com
+31 (0) 887926314

Phil Royal
New Zealand
phil.j.royal@nz.pwc.com
+64 4 462 7081

Ken Igbokwe
Nigeria, Central Africa
ken.igbokwe@ng.pwc.com

Roger Mortensen
Norway
roger.mortensen@no.pwc.com
+47 95 26 06 99

Ruben Taboada
Paraguay
ruben.taboada@py.pwc.com
+595 21 445 003

Gene Alfred Morales
Philippines
gene.alfred.morales@ph.pwc.com
+63 (2) 8452728

Irena Pichola
Poland
irena.pichola@pl.pwc.com
+48 22 523 4587

Jaime Esteves
Portugal
jaime.esteves@pt.pwc.com
+(351) 225 433 212

Ekaterina Shapochka
Russia
ekaterina.shapochka@ru.pwc.com
+7 495 2325750

Yee Chen Fah
Singapore
chen.fah.yee@sg.pwc.com
+65 6236 3008

Stanley Subramoney
South Africa
stanley.subramoney@za.pwc.com
+27 11 797 4380

Cayetano Soler Morella
Spain
cayetano.soler.morella@es.pwc.com
+34 915 684 133

Jan Sturesson
Sweden
jan.sturesson@se.pwc.com
+46 10 212 99 39

Moritz Oberli
Switzerland
moritz.oberli@ch.pwc.com
+41 (0)58 792 7527

Zoe Chou
Taiwan
zoe.chou@tw.pwc.com
+886 2 27 296666 26683

Graciela Ricci
Uruguay
graciela.ricci@uy.pwc.com

Rami Nazer
UAE, Middle East
rami.nazer@ae.pwc.com
+971 (0) 2 694 6800 (2805)

Tina Hallett
United Kingdom
tina.hallett@uk.pwc.com
+44 (0)20 7804 1704

Bryan Disher
Ukraine
bryan.disher@ua.pwc.com
+38 044 490 6779

Daniel Garcia
Uruguay
garcia.daniel@uy.pwc.com

Scott McIntyre
United States
scott.mcintyre@us.pwc.com
+1 703 918 1352

Global Relationship Partners

Kameswara Rao
Asian Development Bank
kameswara.rao@in.pwc.com
+914066246688

Philippe Pierre
European Union Institutions
philippe.pierre@lu.pwc.com
+352 621 33 4313

Mike Karp
EBRD
mike.karp@uk.pwc.com
+44 (0) 20 780 46748

Thomas Modly
NATO
thomas.modly@us.pwc.com
+1 703 918 1620

Joseph Rizzo
United Nations System
joseph.rizzo@us.pwc.com
+1 516 317 5552

Dennis Chesley
World Bank
dennis.l.chesley@us.pwc.com
+1 (703) 918 6154

Gill Sivyer
Development Agencies
gill.c.sivyer@ch.pwc.com
+41 (0) 58 792 9674

Acknowledgements

The following individuals and groups in PwC and elsewhere contributed to the production of this report.

Core editorial team

Jan Sturesson
Partner, Global Government & Public Services Leader

Scott McIntyre
Partner, Global Government & Public Services Co-Leader

Nick C Jones
Director, PwC's Public Sector Research Centre

Thomas Lenné
Interview Project Manager, Germany

Laura Felfeli-Stumpe
Interview Project Support, Germany

Other contributors

Richard Abadie
Global leader, Capital Projects and Infrastructure

Lee Ann Ritzman
Capital Projects and Infrastructure

Egon de Haas, Linus Owman and Matt Liberty
Global Government

Suzanne Snowden, Angela Lang and Poh-Khim Cheah
Global CEO Survey Team

Nicola Farr
Research to Insight (r2i)

Join the debate. www.psrc.pwc.com

The Public Sector Research Centre is PwC's online community for insight and research into the most pressing issues and challenges facing government and public sector organisations, today and in the future.

The PSRC enables the collaborative exchange of ideas between policy makers, opinion formers, market experts, academics and practitioners internationally.

To access this free resource, and register for publications, please visit **www.psrc.pwc.com**

Design Services 28956 (01/15).