



THEMATIC PAPER

CREATING DIGITAL STRATEGIES



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¹ DECISION No 573/2014/EU

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1. INTRODUCTION

*'Digital implies more than just technology or content. It is about people.'*²

Digital technologies have been used by public employment services (PES) for about half a century now. In the 1960s the first mainframe computers arrived to first support processing and computational work. Ever since, the developments in the digital domain have gone quickly; after mainframe computing came the personal computer (in the 1980s), allowing case-workers to process and administer cases much faster and more effectively. In the 1990s came networks and the Internet, followed by the era of mobile computing. The importance of technology has increased drastically during these 50 years and one could say that technology is now ubiquitous within most organisations and PES are no exception.

The introduction of most technologies has led to great benefits for PES and their clients and many hail its future potential. For example, one analysis (Dilmegani, Korkmaz & Lundqvist, 2014) suggests that 'capturing the full potential of government digitization could free up to \$1 trillion annually in economic value worldwide, through improved cost and operational performance.' The European Commission estimates that at the EU level, a 'digital by default' strategy could save between €6.5 and €10 billion annually (Directorate-General for Parliamentary Research Services, 2015).

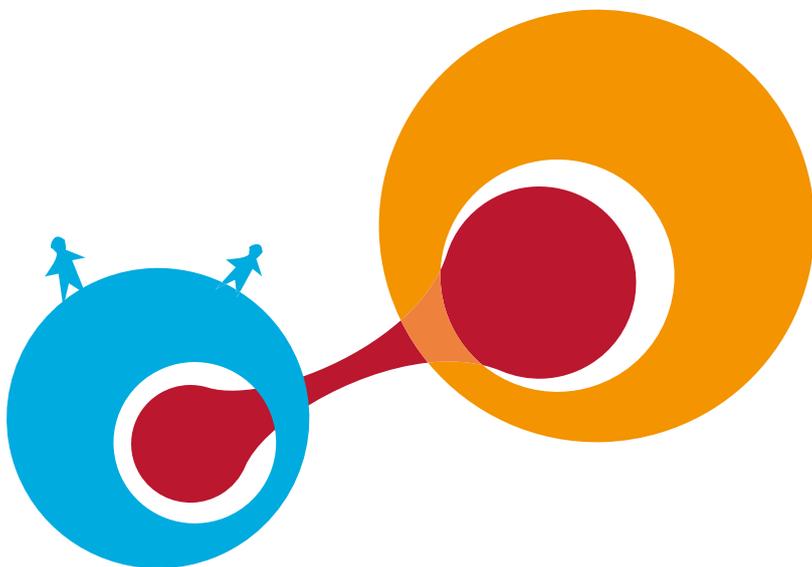
But every (round of) innovation has also faced its obstacles and challenges. Large IT projects have often been plagued by cost and time overruns, resistance and lack of skills from employees and clients have led to rejection of certain technologies and while many new technologies have been adopted by majorities in the various populations, old ways of working die hard and many 'traditional' methods (e.g. paper forms, in person meetings, manual processing of certain cases) persist.

Furthermore, the accumulation of several generations of technologies has created a complicated web of infrastructures and systems that are becoming increasingly complicated to manage and maintain. As such these 'legacies' could hinder future progress and even pose risks for the organisation.

It does, however, not end here. It is expected that **the role of technology will increase** even more in the future. The Internet of Things (IoT) and ongoing miniaturisation will enable computers to be put in a magnitude of devices, potentially altering processes and services. Robotisation could lead to new types of services channels. New technologies allow for further automation of processes that could lead to caseworker obsolescence and radically change the environment in which PES operate and severely impact labour markets.

Some argue that the speed of technological innovation is accelerating, meaning that the pressure on PES to digitalise even more in the future will only increase. Furthermore, the increasing speed of change will impact societies and is likely to influence the PES organisation as a whole. Developments like working 'agile' and using (big) data to inform decision making are part of this and are slowly forcing government, PES no exception, to rethink not only what their role in society is, but also how they **organise and operate in future** time.

Addressing these issues lies at the core of PES digital strategies. Digital becomes increasingly important in society as a whole. Current organisational models (silos) and legacy hamper PES' abilities to successfully adopt a 'digital' mindset and lastly, developments force PES to rethink how they keep up in the future. Thus, having a digital strategy becomes increasingly important. More so, given the degree to which 'digital' is woven into the organisation, the digital strategy is becoming an increasingly important strategy and part of the organisational strategy as a whole. While this is relevant for all PES within the EU, it seems especially relevant for those PES who are in the early stages of their digital development.



A Thematic Review Workshop (TRW) on 'Being digitally strategic', took place in Tallinn on 12 and 13 April 2018. The TRW was hosted by the Estonian PES under the Work Programme of the European Network of Public Employment Services. This thematic paper builds on the discussions of the TRW, and in this paper we discuss the role of a digital strategy for PES. We focus on a number of interrelated questions:

1) What are digital strategies?

- a) Why are they important and how do they fit into current and future technological developments?
- b) How do they tie into the mission, vision and other strategies of PES?

2) How to create and implement digital strategies?

- a) What are the main challenges and obstacles?

3) How to measure success?

- a) How to create Key Performance Indicators (KPI) and measure against the progress of goals?

These questions guide the structure of this thematic paper. In the second chapter we focus on the broader topic of digitalisation, and discuss definitions of digital strategies and connect these to the mission, vision and strategies of PES. In the third chapter we focus in more detail on the creation and implementation of digital strategies. In the fourth chapter we discuss the role of data and measurement. Subsequently, in chapter five, we draw our main conclusions and give recommendations to PES.

This thematic paper builds upon several other publications created as part of the PES Network programme in recent years. The following are relevant and can serve as background and/or additional reading.

2016

Analytical Paper | Establishing and Operating Performance Management in PES

Analytical Paper | Modernising PES through supportive Data and IT strategies

Practitioner's toolkit | To assist PES with the development of customer satisfaction measurement systems

Practitioner's toolkit | Being Smart with Data, using Innovative Solutions

Practitioner's toolkit | Performance Management in PES

2017

Analytical Paper | Performance, Accountability, and links with benchlearning

Analytical Paper | Multi-Channel Management in PES: From Blending to Omni-Channeling

2. DIGITALISATION AND DIGITAL STRATEGIES

In this second chapter we focus on the concepts of digitalisation and digital strategies. In section 2.1 we discuss the main historical and important current technological developments. Next (section 2.2), we discuss government and PES approaches towards these developments and models describing maturity of digital governments. In section 2.3 we tie these models into the broader missions, visions and strategies of governments and PES. In the last section (2.4) we then specifically discuss digital strategies and give examples from PES.

2.1 Technological developments

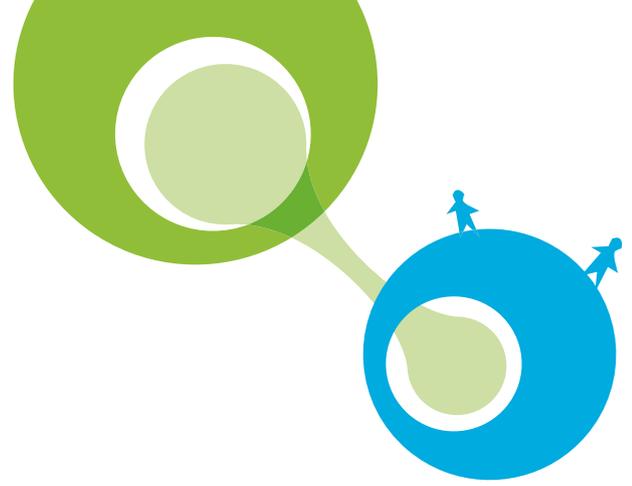
The perfection of the steam engine in 1781 is seen by many as the start of the modern industrial and technological era. Beforehand technological innovation was slow and diffusion of these innovations was even slower. The steam engine not only allowed to mechanise processes that were previously labour driven, the application of the steam engine in transportation allowed the spread of this and subsequent innovations to gain speed. Schwab (2016) labels this period the first industrial revolution and he argues three more industrial revolutions followed:

- The second industrial revolution in the late 19th century was driven by the invention of electricity, the combustion engine, and the assembly line.
- The third industrial revolution began in the 1960s and followed the advent of semiconductors, mainframes, PCs and the Internet.
- The fourth industrial revolution is currently in motion and is based on a much more ubiquitous internet, mobile technologies, miniaturisation of computers, (big) data and artificial intelligence.

Since the third industrial revolution, many innovations have a *digital* nature. To separate this from previous phases of technological innovation, characterised by mechanical transformation, Brynjolfs-son and McAfee (2016) argue that we are in a 'second machine age' and they argue that the world is awaiting a period of unprecedented change in which digital technologies will manifest themselves in full force through, among others robotisation and automation. For example, self-driving vehicles have the potential to disrupt not just the automotive industry, but also how people commute, city and

infrastructure planning, the taxi branch, transportation sectors and so on. Something similar could happen in service sectors due to automation. While (mechanical) robots and machines have replaced blue collar work since the first industrial revolution, white collar work has remained relatively unaffected. This however, could change. Machines are becoming more intelligent and are increasingly suited to make decisions based on existing data that are more accurate than decisions made by humans. Put in the context of PES, parts of (common) **PES processes are changing rapidly** and could become automated in the future. Activities such as unemployment registration, profiling and matching are increasingly automated without need for any caseworker intervention. As a result, not only might fewer caseworkers be needed, but their workload shifts from being oriented on data-processing towards counselling. The shift towards client self-service and process automation implies that the **PES of the future will look very different** from the PES of today (and the past).

Besides the impact that technologies had and are having, it is important to realise that technological developments are going faster and faster. This is illustrated by two points; the actual (exponential) speed of technological development and the speed with which our globalised and interconnected worlds are adopting technological innovations.



TECHNOLOGICAL PROGRESS: ILLUSTRATIONS

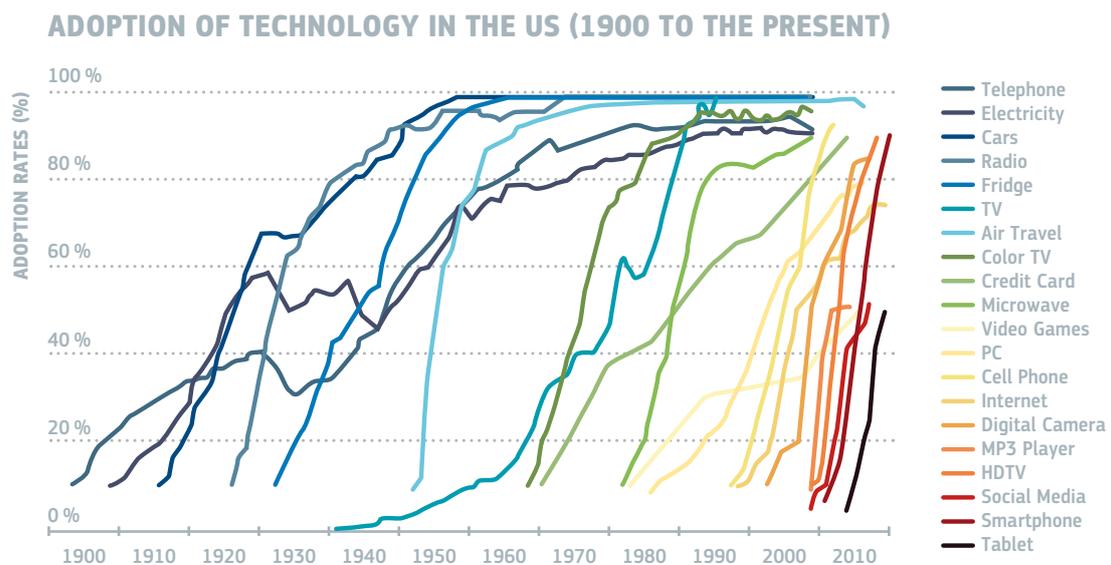
Moore's Law

Moore's law, named after Gordon Moore, co-founder of Intel, observes and predicts that the number of transistors on a chip doubles (roughly) every 18-24 months. This implies that:

1. Computers become twice as powerful roughly every two years.
2. Chips with the same capacity halve in price roughly every two years.

The doubling creates an exponential effect; a chip from 2018 will have 64 times the computational power of a chip from just 10 years ago. Some label this rapid growth the phenomenon of 'exponential technologies'. Some argue that the rate of innovation is going so quickly that it is increasingly hard for organisations to keep up with all changes.

Adoption of innovations³



Source: BlackRock

The figure above shows the time it took for fractions of US households to adopt certain technologies. While it took the telephone (landline) about a century to reach saturation levels, smartphones did this in about 5 years.

The same applies to applications; while it took YouTube 4 years to reach 50 million users, Pokémon Go achieved the same feat in just 19 days.

³ Based on <https://www.weforum.org/agenda/2018/02/the-rising-speed-of-technological-adoption>

So what's different? According to Schwab (2016), the 'fourth industrial revolution' is characterised by:

- **Velocity.** As opposed to previous changes, this one is evolving at exponential, rather than linear speed.
- **Breadth and Depth.** This revolution builds upon previous revolutions and is characterised by the combination of technologies that will lead to drastic shifts in the economy, business, society, and individually.
- **Systems Impact.** It entails the transformation of entire societies (instead of segments), across and within countries, systems, companies, industries, etc.

The technological developments manifest themselves in two ways for PES: The first is a changing environment in which PES operate. For example; large scale robotisation could lead to massive unemployment and thus increasing PES' workloads. The second is how PES use technologies themselves to digitalise their processes and service delivery. For example; robots could also be used by PES in their service delivery processes.

Building on the analytical paper published in 2016 on 'Modernising PES through supportive data and IT strategies', we see the following as key technological developments that could change PES operations:

(Big) Data

The big data trend has been around for several years now, but that does not imply that it is less important now. While big data may no longer be a trending topic for many, thinking about the role and potential of data for monitoring, innovation and optimisation of processes and services. These are topics that are still fairly new to many PES, although there are wide gaps between more advanced PES and the laggards in the space. In order to gain benefits from data, the data has to be stored (centrally) and organised in such a way that it is analysable. These are topics extensively covered in the 2016 analytical paper (Pieterse, 2016).

Advanced analytics

Advanced analytics is an umbrella term we use to refer to all kinds of (relatively) novel ways to analyse data in order to monitor, learn, and predict. Advanced analytics rely on a) advances in computational power that allow to analyse large datasets quickly (often

in real time) and b) advances in analytics and algorithms that provide valuable outcomes. Advanced analytics, for example, can be used by PES to predict unemployment time (as done by BE-VDAB), but also to feed into robots. Several PES are planning to implement or experiment with social robots (see Pieterse, 2017) based on advanced analytics such as machine learning and/or artificial intelligence.

Automation and robotisation

Advances in hardware and software allow for automation of work. While industrial robots have been in use since the second half of the 20th century, the application of advanced analytics allows for a shift of merely replacing 'blue collar' work with automated systems to 'white collar' work as well. According to many studies, automation could severely disrupt labour markets, with the more extreme studies suggesting that up to 47% of all US jobs could be replaced by automated systems or robots in the coming decades (Osborne & Frey, 2013). While we don't expect the replacement of humans to be that extreme in short notice, most publications agree that automation will have a strong impact on labour markets, potentially leading to more work for PES and at the same time potentially allowing PES to benefit from automation.

Blockchain

Not discussed in the previous Analytical Papers (AP) is the role of Blockchain, which seems to be a trending technology in recent times and underpins many cryptocurrencies. The blockchain is best described as a decentralised ledger of transactions. Transactions are seen as a 'block' that are stored in a long 'chain' of transactions, thus acting as a ledger. The 'crowd' processes and verifies each transaction and each 'member' has their own copy of the ledger. This creates a number of unique characteristics:

- Because of the decentralised nature of block-chain technologies, there is no central authority responsible or in charge, thus minimising risk of power abuse.
- Because of this same nature, committing fraud becomes increasingly (and virtually) impossible.
- Everybody can access the blockchain to verify transactions, thus providing an extra layer of security.
- Despite this ability to check transactions, the blockchain is anonymous, thus providing good safeguards for the protection of privacy.

Several governments are exploring the possibilities of blockchain. For example, the Estonian government is exploring the option to use blockchain technologies to store data. More closely related to PES: the UK's Department of Work & Pensions (DWP) is looking into ways in which blockchain technologies could be used to register benefits transactions.

Technologies as platforms

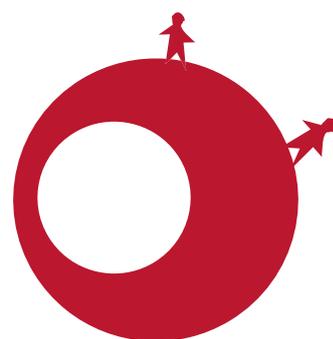
The last development we mention here, that also did not feature prominently in the previous paper is that of technologies as platforms. More and more technologies are created as platforms that allow users to complete transactions. Examples of well known technologies as platforms are ride-sharing services (such as Uber) or house-sharing services (such as AirBnB). Such platforms also exist for work. Well known examples are Mechanical Turk (by Amazon) and E-lancing services (such as UpWork). The difference between such platforms and traditional labour mediation services (such as LinkedIn, Indeed, Monster) is that they mediate directly between (end) customers and workers, instead of mediating between employers and employees. This could impact PES, as PES are predominantly mediating between employers and job-seekers instead of job-seekers vs. 'other' entities providing work.

An important illustration of the speed of the technological developments is the discussion that took place during the TRW about mobile applications and whether PES should jump on the mobile App bandwagon. Some countries are developing or preparing to develop Apps (see Pieterse, 2017) and others, as became clear during the TRW, especially Denmark have already abandoned their App activities, most importantly because of the need to maintain Apps for all platforms (Android, iOS, and Windows Mobile). While productive, and relevant, the discussion may become obsolete because of the progress in technological developments. The advent of Progressive Web Apps (PWAs) could make native Apps obsolete in the near future. PWAs are web applications that, in essence, are regular web pages, but can appear to the user just like native Apps. PWAs combine features offered by most modern browsers with the benefits of a mobile experience. The clear benefit of PWAs is that it negates the need to develop and maintain Apps for specific platforms, while offering more integrated benefits beyond common web pages.

PES who were present at the TRW acknowledge that it is hard for them to keep up with the technological developments. The survey sent out to PES before the TRW showed that lack of knowledge about current technology is a (moderately) important obstacle for 58% of all PES and this percentage increases to 72% of all PES for their knowledge about newer technologies.

However, it might be needed for PES to start developing this knowledge. In a Forrester publication, Gill and VanBoskirk (2016) argue that 'Digital Disruption is Driving Transformation', i.e. the disruptive nature of (new) digital technologies will push organisations, including governments to change. **A digital strategy can help mitigate the disruptive nature.** Although some argue that newer technologies will lead to disruption, we should also not forget that the adoption of existing digital tools is still ongoing. For example: the Directorate-General for Parliamentary Research Services (2015) stressed the need to keep investing in the improvement of existing online services. This recommendation is based on a survey of users in selected developed and developing countries in 2013-14. Results show that in 2013-2014 one tenth of citizens did transactions with governments which were performed online; they predict that by 2020 one third of transactions will be done online.

To conclude this section, it is apparent that technological developments are going fast and according to many those developments are going faster and faster. Many PES currently lack sufficient knowledge about current technologies and even more so about future technologies. To correctly assess the characteristics and capabilities of new technologies, PES need to develop the capacity to learn about technologies ahead of time. Furthermore, they need to be able to successfully adopt these technologies. At the same time, while it is relevant to look at new and upcoming technologies, it is equally important to discuss the progress PES are making with the successful deployment of existing technologies. This is the focus of the next section.



2.2 Digitalisation and maturity

Since the 1960s PES have been working on the incorporation of information and communication technologies in their processes and services. This has been a gradual process, for various reasons. The first is the constantly changing technology landscape. For example, technologies like the fax came and went (largely) in the past 50 years. The second is the maturity of the technologies. Websites, for example, used to be static pages with solely text and slightly later images and have now evolved to rich applications that allow for interactions and integrated deeply with the underlying technologies. For a comparison see the websites of the Belgian-Flemish PES from 1996 and 2018.

The third is the progress in adoption and use of technologies. Certain technologies, while allowing technological advantages, are not being adopted by users and therefore do not find widespread use. For example, in the 1980s several types of video cassette formats were available and in the end only the VHS format proved the most popular, despite being technically inferior to other available formats⁴. Furthermore, as users start adopting technologies, their skills and abilities evolve and they start using more advanced features.

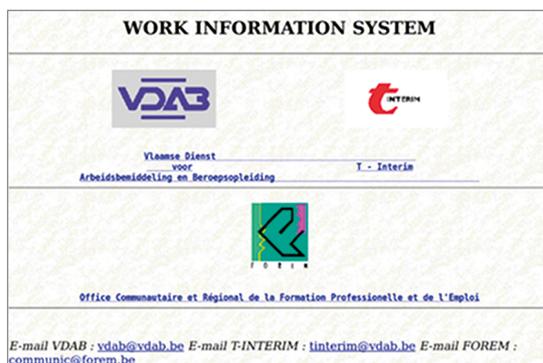
The fourth are perspectives on technology and viewpoints by governments and managers on the role of technology. While most websites initially were seen as a 'hobby' and were often initiated by IT departments without formal role in the organisation, this viewpoint changed later as websites proved popular vehicles to transfer information (and later services).

These reasons (and others) highlight the complexities surrounding technologies, should we use them? How? Will our clients adopt them? Will they result in organisational benefits? To guide these developments and aid organisations to **manage the evolving role of technology**, several 'maturity' models exist that suggest stages in the evolution of technology.

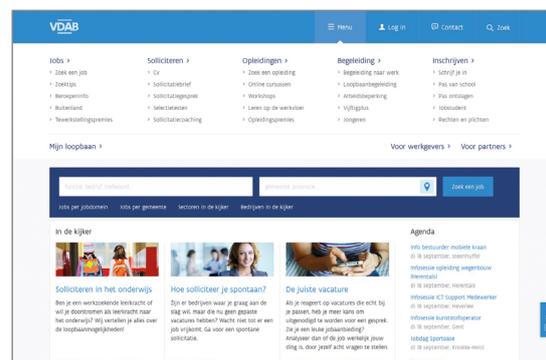
Below are two models showing the different stages of evolution of electronic government (eGovernment). The first is one of the most well-known academic models (Layne & Lee, 2001), illustrating how digitalisation requires integration on different levels. Furthermore, it showcases how more advanced electronic government is increasingly complex. While more recent, the Cap Gemini (right, Singh et al, 2007) illustrates the same points. It focuses on different types of service interactions, while also showing the increase in complexity.

Landing pages of the Belgian-Flemish PES website (vdab.be)

1996



2018



4 See https://en.wikipedia.org/wiki/Videotape_format_war for an interesting read about the so-called videotape wars.

eGovernment Evolution models

Figure 1. Evolution eGovernment (Layne & Lee, 2001).

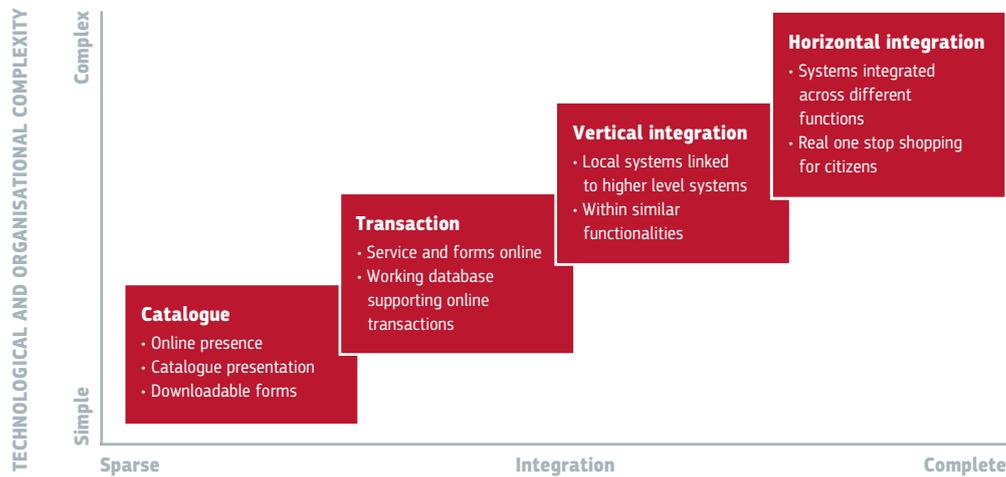
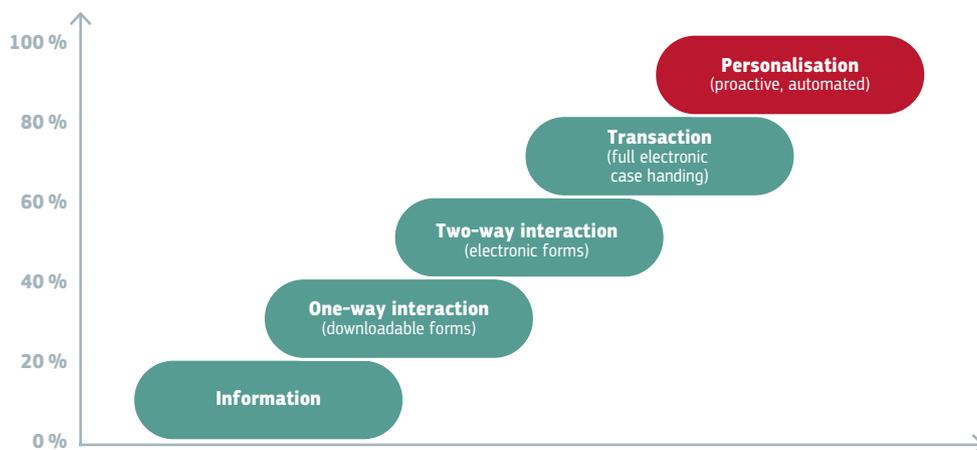


Figure 2. eGovernment Maturity (Singh et al, 2007).



These complexities not only refer to the technological complexities, but even more so to the capabilities of the people, cultural and organizational aspects. Models developed by governments themselves also exist. Very recently, the Croatian government (Ministry of Public Administration, 2017) developed a maturity model as part of the 'e-Croatia 2020 strategy'. The model classifies every e-service on a scale from 1 to 5, with the following meaning:

1. Information: only information about a service is available online (e.g. description of a procedure).
2. One-way interaction: availability of forms in electronic form for download to a computer, empty forms can be printed out.
3. Two-way communication: filling out interactive forms and application which includes authentication, a service is launched by filling out a form.
4. Transaction: the entire service is available online – filling out forms, authentication, payment and delivery of certificates, placement of orders or other forms of full online service.

5. Targeted service (proactivity/automatisation): service provision is proactive/automatised in such a manner that merely a confirmation or agreement is requested from the user.

The Directorate-General for Parliamentary Research Services (2015) compared several existing maturity models. Their analysis suggest that some models have four different phases or types of interaction, some have five, but there is a large degree of agreement at least on the initial three phases:

1. informational (in which information is delivered to citizens, such as through downloading reports and brochures from websites);
2. interactional (where citizens have the ability to ask questions, make complaints or search for information sources); and
3. transactional (where users can complete online all the different steps of a complex interaction).

After these three phases, models start diverging with one or two subsequent phases often being included, such as:

- participatory (where citizens provide input to the formulation of policies);
- transformational or integrated (where government's internal organisation is modified as a result of the need to deliver services in an integrated, client-centric way); or
- connected (combining features of both).

The 'transformation' stage is a common final step of most maturity models. It's rationale is that, at a certain point, the organisation has to start redesigning itself completely in order to reap the full benefits from digitalisation. This point is stressed in a 2016 study (Waller and Weerakkody, 2016) that focused on 20 years of digitalisation efforts in governments and concluded that:

'Many good things have happened, but two or three phases of trying to 'make government digital' over the last 20 years — mostly reinventing the previous programmes with new labels — have not really taken us beyond information provision and a few online transactions. The logic has been that government equals services equals web sites — but none of that is true.'

The key point is that many digitalisation projects fail simply because governments try to digitalise existing projects instead of **redesigning the organisation around the possibilities of technologies** and the changing demands of their clients. Indeed, it does appear that some of the more successful (and digitally advanced) PES exhibit characteristics similar to successful digital firms. For example, VDAB in Belgium started focusing heavily on innovation several years ago and has been successful in this respect through a combination of clear vision, strong leadership and a rethinking of processes (e.g. a very data-driven approach towards digitalisation). This does, however, not imply that having a 'broad all encompassing' strategy means that the organisation has to go through quick and large scale revolution. The success of organisations such as VDAB suggest that a more **gradual approach** in which small steps are taken is preferable. This, implies that the strategy is broken down in smaller objectives which are realised in succession, however, the goal is to completely involve and transform the underlying organisation.

While we do not aim to provide a complete overview of all maturity models or design one specifically for PES, we do aim to provide some general observations and lessons for PES, based on this (limited) overview:

Increased complexity

What all models have in common is the notion that, as the use of technology in the organisation is increasing, implementation and management become more complicated. For example, it is a lot more complex to create a vertically integrated organisation in which systems are seamlessly connected than it is to create a simple online catalogue.

Staged approach

The first is that while every model is different, they have in common that they divide the process of increased digitalisation in various stages to allow the organisation to take a more gradual approach towards a fully digitised organisation. Such a staged approach makes the process manageable and increases the likelihood of success.

Digitalisation requires transformation

Digitalisation at first is (simply) about creating digital applications that initially stand alone from other parts of the organisation. As the digitalisa-

tion matures organisations need to start rethinking how processes are designed, what the underlying (organisational) structure is, what the (new) role of employees is and how the organisation is connected to and interacts with other (governmental) organisations.

Most importantly, in our view, is that as a consequence of the increased complexity, technology starts interacting with every single part of the organisation. **It becomes less about the technology itself and more about the organisation as a whole.** As a result, managing the increasing role of technology in an organisation requires a shift in importance of the topic in the organisation. In other words: as digitalisation becomes more important, it becomes a more strategic issue that has to be managed at the highest levels of the organisation. For this reason, digital strategy is often linked to digital transformations.

This is reflected in the scholarly literature on the management of government and the public sector. In the late 1990s and early 2000s many governmental agencies were following management principles based on the so-called New Public Management; a management style that advocated a business-like approach to government in which the *citizen* was seen as a *customer* and government should strive to deliver services and organise processes as efficient as possible. Currently, Margetts and Dunleavy (2006, 2013) argue that a new paradigm 'Digital Era Governance' (DEG) is overtaking NPM in prominence and focuses on the central role of digital technologies.

The three key points of DEG are:

Reintegration, which overturns the fragmentation advocated by NPM by trying to de-silo public sector processes and organisations. It puts emphasis on:

- true collaborative working (instead of creating silos);
- 're-governmentalizing' issues that must be dealt with by governments (as with homeland security);
- creation of centralised processes that do things once instead of multiple times;
- reducing process costs and using shared services eliminate NPM's duplicate organizational hierarchies;
- radical simplification of services, organizations and policies.

Needs-based holism, which seeks to create client-oriented structures for departments and agencies. It seeks to implement an end-to-end redesign of services from the perspective of the client; to create one-stop processes; and finally to create a more agile and resilient government.

Digitalisation, urges the public sector to completely embrace and embed electronic service delivery processes, wherever possible. This, however, will partly imply that (able) citizens have to do more. This would develop some kind of isocratic administration — or a type of 'do-it-yourself' government.

It's proponents argue that DEG can lead to a 'potential transformation to a more genuinely integrated, agile and holistic government, whose organizational operations are visible in detail both to the personnel operating in the fewer, broader public agencies and to citizens' (Dunleavy et al. 2006). With the increase in attention for digital strategies and digital transformation within governments, it does appear that governmental agencies are moving away from NPM and indeed towards governments that are built largely on top of digital technologies. However, this does not imply that governments, PES no exceptions, are fully mature yet. The Croatian e-Strategy, mentioned above, assessed the maturity of services across the country in 2017. According to the e-Croatia strategy, the current situation in Croatia is such that a vast majority of e-services is still at the maturity level 2, i.e. the level of one-way interaction.

Deloitte (Eggers & Bellman, 2015) conducted a survey among government agencies in 2015 to assess their digital maturity. The findings show that none of the participating 1200 government agencies could be classified as digitally mature. Most governments are at the early stages of the journey to digital transformation and no governments reached the end states yet. Out of the participants, 13% are 'maturing', 60% are 'developing', and 26% are in the 'early' stages of their digital transformation. These results were more or less the same across different regions. What the study does confirm, is that **having a strategy is one of the most important differentiators** between those organisations that are in the early stages and those that are mature. Having a strategy thus is important, but what is a strategy and how does it tie to the broader goals of the organisation?

2.3 Mission, vision & strategy

A (digital) strategy, if created properly, is part of a broader set of guiding principles in the organisation that are all connected. The most important of these are the mission & the vision of the organisation.

The **mission** of the organisation describes the ultimate goal of the organisation. Why is the organisation here? More specifically, according to Moore (2000), the mission of a non-profit or governmental organization defines the value that the organization intends to produce for its stakeholders and for society at large. (p. 190)". Two primary functions of mission statements are external and internal communication and motivation (Verma, 2009).

The **vision** of the organisation describes how the organisation sees itself and the world change in light of the mission. In governmental organisations, the vision is usually described in terms of the mission of the organisation and the particular activities it undertakes in the pursuit of the mission (Moore, 2000). Having a vision is important in establishing the purpose of the enterprise; coordinate people actions and efforts; inspire and invite commitment; and create future of the company (Wall, 1992).

The **strategy** of the organisation describes the plans of the organisation to bring it closer to achieving its mission in the context of the organisation's vision. Put simply: 'Strategy is setting a direction, sequencing resources and making commitments' (McDonald, 2015).

The figure below shows the relationship between the three concepts. Certain factors are relevant when discussing and creating missions, visions and strategies.

Timeline

The mission of the organisation is typically a very long term goal without any timeline attached to it. It is the ultimate goal and one could say that there is no need for the organisation to exist once this goal is attained. The vision is typically described in the context of the (far) future, e.g. 5-10 years ahead. This window allows the organisation to make (informed and educated) estimates about what the future will look like and use that to guide the information. Strategies are typically defined for the nearer future, for example 2-5 years in the future.

Example | Mission

Croatian national digital strategy (Ministry of Public Administration, 2017)

The preparation of the legal, organisational and technical environment as the foundation for the development of innovative e-services of a modern public administration, which encompass the provision of complete services, informatisation of business/administrative processes and uncovering of the information of public administration through different channels available anytime, anywhere and on any device, with the aim to improve the life of its citizens, and thus raise the competitiveness of economy by supporting the development of digital economy with the aim of inclusion in the unique digital EU market.

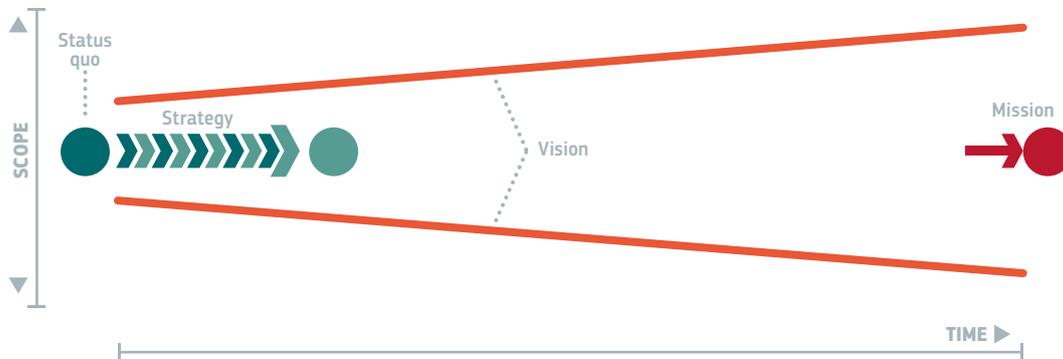
Example | Vision

Department of Public Expenditure and Reform (2017) (Ireland)

By 2020, public administrations and public institutions in the European Union should be open, efficient and inclusive, providing borderless, personalised, user-friendly, end-to-end digital public services to all citizens and businesses in the EU. Innovative approaches are used to design and deliver better services in line with the needs and demands of citizens and businesses. Public administrations use the opportunities offered by the new digital environment to facilitate their interactions with stakeholders and with each other.



Figure 3. Relationship between Mission, Vision & Strategy



Level of abstraction

The second factor is the level of abstraction. Mission statements often are more vaguely worded terms that are inspirational or aspirational (for example Google's 'Organize the world's information and make it universally accessible and useful.⁵'). They focus on the 'what' the organisation wants to do and less on 'how' the organisation expects to realise this goal. The vision tends to become more concrete and describes in broad strokes the changes in the environment and how the organisation wants to change. The strategy, lastly, tends to be defined in concrete terms. Often there is a (or more) strategic goal(s) and various plans to achieve this goal.

Missions, visions and strategies tend to differ between the private and public sector. Private sector organisations often have financial goals. The mission of a non-profit or governmental organisation typically defines the value that the organization intends to produce for its stakeholders and for society at large Moore (2000, 190). This is important regarding the development of a general organisational strategy or a more specific digital strategy. For the strategy to be successful, it is important that it **fits the broader goal of the organisation**. It will likely have negative (political) consequences if the organisation decides to choose a strategy that does not fit the overall objectives of the organisation. The following table compares more aspects of the mission (tied to concrete) goals in the private vs. public sector (Moore, 2000):

	PRIVATE SECTOR	PUBLIC SECTOR
Normative goal	Enhance shareholder wealth	Achievable social mission
Principle source of revenue	Revenues earned by sale of products and services	Charitable contributions or tax appropriations
Measure of performance	Financial bottom line or increased equity value	Efficiency and effectiveness in achieving mission
Key calculation	Find and exploit distinctive competence of firm by positioning it in product/ service markets	Find better ways to achieve mission

Moore (2000) argues that an organization can be said to have a strategy when the leaders and the organization as a whole have committed themselves to a particular vision of how the organization will operate to create value and sustain itself in the immediate future. Within the public sector, the strategy

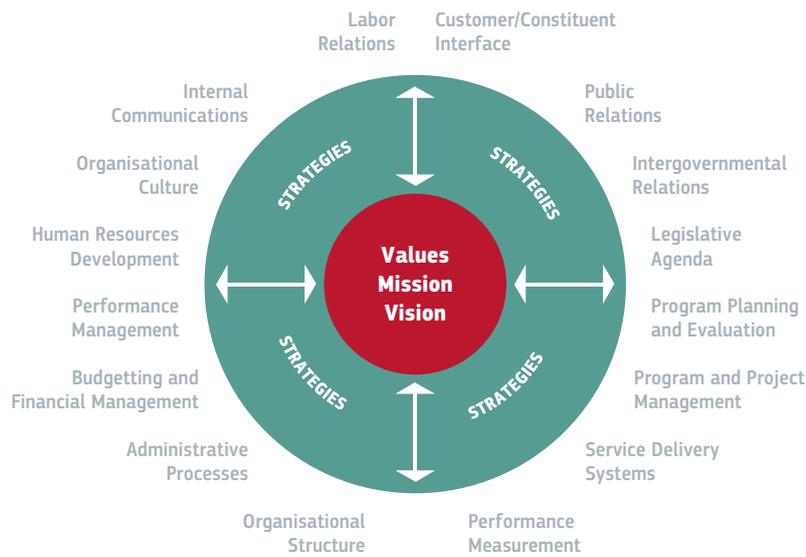
of the organisation needs to balance a) the value the organisation wants to deliver (as described in the mission), b) legitimacy and support of both the political organisations and citizens and c) the operational capacity. Thus, the strategy of the organisation, if formulated well, help the various organisa-

5 See <https://www.google.com/about/our-company>

tional parts to contribute to the realisation of the mission of the organisation, within the context of the current vision. Naturally, the organisation can have multiple strategies (of which the digital strategy can be one). These strategies connect the mission

and vision (and values of the organisation) to the operational side of the organisation. The figure below, from the work of Poister and Streib (1999) give a meaningful idea of the relationship between these concepts.

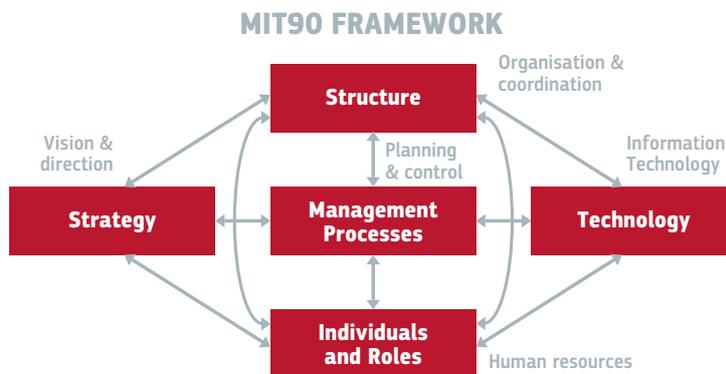
Figure 4. Connecting strategy to the organisation (Poister & Streib, 1999)



During the 1990s, as information technologies gained prominence, technology became a more central component of strategy development and execution. For example, the MIT90 framework

(Scott Morton, 1991) was one of the first strategic management models to include the link between strategy and technology.

Figure 5. Technology as strategic factor in the MIT90 framework (Scott Morton, 1991)



Models such as these see (digital) technologies no longer as simply a tool or resource that can be used in the organisation, but as a key part of the organisation. Initial investments in technologies concentrated on applying technologies to existing

products, services and processes. In that sense, the strategy followed was very much an IT strategy: 'a process of selecting which technologies you will invest in and where those investments would go' (McDonald, 2015). With the increased importance of

technology and the increasing maturity of technology within (governmental) organisations has come a shift in the approach towards strategy. Technology is now so important to warrant its own strategy. In business, according to McDonald (2015), a digital strategy is the answer to the following question: ‘how can a business win using information and technology to raise human performance?’ Furthermore, with the prominence of technology in modern organisations, it is important to note that **digital strategies will likely impact other strategies as well**. Therefore, when developing strategies it is wise to analyse existing strategic plans and documents and align initiatives.

Transposed to the governmental sector, and based on the analysis above, we can thus create the following definition of a *governmental digital strategy*:

A digital strategy is the application of information and technology in a governmental organisation to provide value for its stakeholders and for society at large as defined in its mission and within the context of the organisational vision.

For PES this could be further specified as:

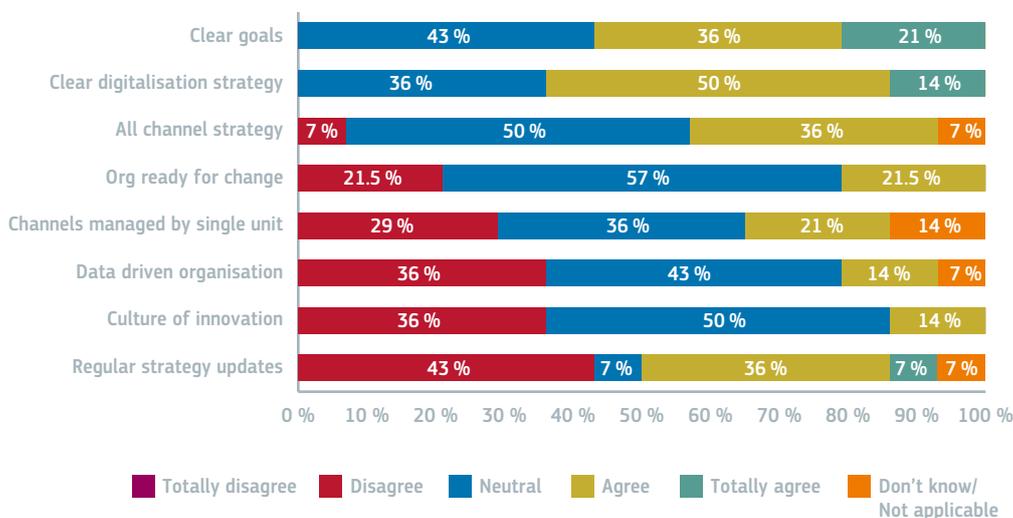
A PES' digital strategy is the application of information and technology to provide value for job-seekers, employers, and other stakeholders as defined in the PES mission and within the context of its vision.

2.4 Digital strategies & transformation

Now that we have defined the concept of digital strategy, we move on and discuss the concept in more detail and do this from the context of (digital) transformation (see section 2.2). What are elements of digital strategies and how do they contribute to a digital transformation?

Prior to the TRW, we asked participants to indicate the extent to which they agree with several statements regarding strategy. The statements were phrased along the lines of ‘to what extent do you feel the organisation has X’. None of the respondents completely disagreed with any of the statements. Respondents were most positive about their PES having clear goals (57% agree/totally agree, see Figure 6), followed by there be a clear digitalisation strategy (64% agree/totally agree). Despite there being clear strategic goals for a majority of PES, the more execution related elements are evaluated less positively. For example, the majority is neutral or negative towards there being a culture of innovation and the strategy being updated regularly. So while organisations do have a strategy, there seems to be less flexibility than perhaps needed and there could be more attention for the role of data and change management.

Figure 6. Strategic considerations within PES



It also appears that the strategies that are in place focus much more on (overall) goals than on execution (such as change management and regular updates). However, it seems advisable to broaden the scope. Deloitte (Eggers & Bellman, 2015) recently conducted more than 140 interviews with public sector leaders involved in digital transformation. From the interviews emerged five factors shaping digital transformation:

- strategy,
- leadership,
- workforce skills,
- digital culture, and
- user focus

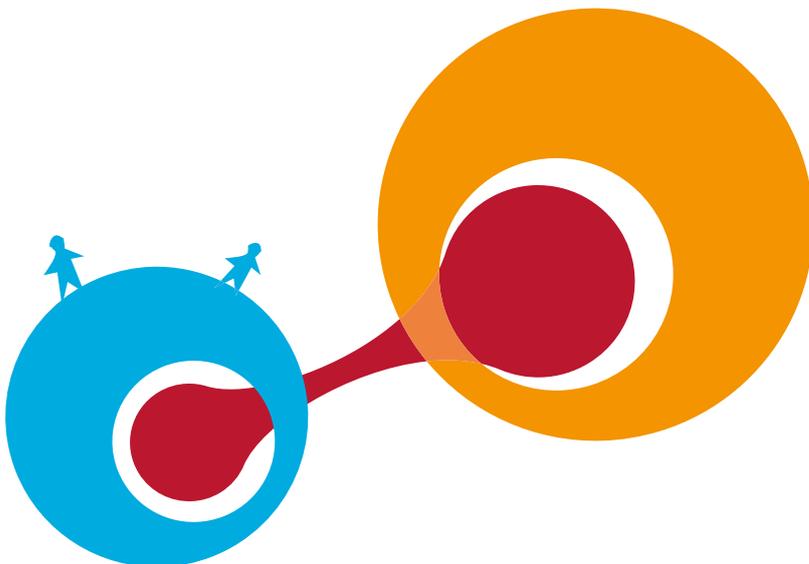
Having a strategy to begin with is, (naturally) a key factor for success, but in the more successful organisations, these strategies have a broad focus

and include factors such as leadership, skills, culture and users. Furthermore, the strategic goals are different. The table below (based on Eggers and Bellman (2015)) shows the strategic focus, role of leadership, etc.

As we saw in section 2.2, transformation is in most digitalisation models a later or final stage in a process consisting of many steps. The table above suggests that more mature organisations **focus on transformation from the start**. At this point in time, this probably makes sense. Successful organisations have gone through full processes of digitalisation and many of the pitfalls are known and for that reason it seems advisable for PES who are in the early stages of their process to aim for a fundamental transformation from the start. Such an approach is being taken at present by Le Forem, the PES in Wallonia (BE)

Table 1. Characteristics of digitally maturing organisations, based on Eggers and Bellman (2015)

	EARLY STAGES	DEVELOPING	MATURING
Strategic goal	Aimed at cost reduction	Aimed at improving customer experience and decision making	Aimed at fundamental transformation of processes
Type of leadership	Lacks awareness and skills	Digitally aware	Digitally sophisticated
Workforce development	Insufficient investment	Moderate investment	Adequate investment
User focus	Absent	Gaining traction	'Central' to digital transformation
Culture	Risk averse; disintegrated	Risk tolerant, accomodates	Risk receptive; fosters innovation and collaboration





CASE STUDY: DIGITALISATION AT PES BELGIUM-WALLONIA (LE FOREM)

Le Forem, the PES in Wallonia/Belgium just released their digital strategy (Le Forem, 2017). The strategy is based on the following mission 'we are phygital'⁶, this is a portmanteau for 'physical' and 'digital', meant to signify how the organisation seeks to combine digital ways of working with human or personal contact. The organisation does strive towards a 'digital switchover' and the ambition is to offer more services to more users, to ensure better accessibility and quality. To this end, the objectives of this digital transformation revolve around three poles:

1. Users: the ambition is to provide more customised services according to users' needs offering users more autonomy and which are available 24 hours a day, 7 days a week,
2. The organisation: thanks to a system of automation and self-service, resulting in time savings, Le Forem intends to expand its service offering and succeed in taking charge of more users.
3. Employees: as key players in the digital transformation, employees will need to focus on high value-added tasks and adopt a 'coaching' mentality towards users, to support them in their efforts.

Le Forem's challenge is to provide users and employers with a clear and standardised service offering which is adapted to their needs, regardless of the type of contact (face-to-face or remotely), through:

- ▶ Suitable and fluid customer pathways;
- ▶ A digital and flexible service offering;
- ▶ Employment and training specialists;
- ▶ Professional, secure and open data and information management;
- ▶ Open and shared information tools and systems.

In more operational sense, the strategy is organised around five strands:

1. Professionalise data management
2. Construct Application Programme Interfaces (API) and a flexible IT architecture
3. Roll out online self service
4. Develop staff skills and support them
5. Develop user autonomy

The need to take a **broad approach towards digitalisation** is recognised in other publications. A 2015 study on 'digital success' of companies⁷ found that companies that have a broad all-encompassing digital strategy tend to be more successful. These digital strategies typically encompass the following:

- Integration of technology as part of an entire transformation of business processes (digital re-imagination)

- A focus on talent and employees with the right (and evolving) skills, also resulting in these organisations being attractive as employers.
- Risk taking becomes a cultural norm and drives innovation.
- The digital agenda is driven by the top. Leadership turns out to be a key enabler for success.

6 Phygital as a concept was first used by Pôle Emploi, the French PES. See <https://www.pole-emploi.fr/region/auvergne-rhone-alpes/informations/du-phygital-a-pole-emploi-des-services-digitaux-et-physiques-@/region/auvergne-rhone-alpes/article.jspz?id=472576>

7 <https://sloanreview.mit.edu/projects/strategy-drives-digital-transformation/>

In a similar vein, McKinsey (2018), very recently published a study in which they present the 5Cs of successful governmental digital transformations:

- Committed leadership
- Clear purpose and priorities
- Cadence and coordination in delivery
- Compelling communication
- Capability for change

Gill & VanBoskirk (2016) take a slightly different approach and focus on four dimensions that determine the level of digital maturity of an organisation:

Cultural

The approach to digitally driven innovation and how the organisation empowers employees with technologies.

Organisational

The alignment of the organisation with regards to the support of the digital strategy, governance and execution.

Technical

The organisation's use and adoption of new and emerging technologies.

Insights

How well an organisation uses customer and business data to measure success and inform the strategy.

Based on an assessment of these four factors, Forrester divided in a study among 227 global decision makers, these organisations in four groups, based on their maturity. In general, public sector agencies, according to this study, fall in the least mature bracket of 'skeptics'. These are 'technology-sluggish firms' — skewed toward extremely large financial services, telecom, and public sector firms — that have limited experience innovating or applying an outside-in approach to strategic planning. The report stresses the **importance of data and insights to measure success** and this is an area where organisations in the 'skeptics' bracket can improve. The role of data is also stressed in the digital strategy from the Department of Public Expenditure and Reform (2017) in Ireland. Their Public

Service ICT Strategy, which was published in 2015, sets out an ambitious ICT-driven agenda under five 'pillars', i.e. Build to Share; Digital First; Data as an Enabler; Improve Governance; and Increase Capability. Novel ways in which PES are using data are in labs (e.g. the innovation lab at the Flemish PES, VDAB and Le LAB in France (Pôle emploi). These labs not only serve as ways to collect data and experiment with data in a controlled environment, but also as means to create customer insights and involve customers in processes of co-creation.

Another important factor, stressed by Kane et al (2015) is the **role of talent**. They found that 'the ability to digitally reimagine the business is determined in large part by a clear digital strategy supported by leaders who foster a culture able to change and invent the new. While these insights are consistent with prior technology evolutions, what is unique to digital transformation is that risk taking is becoming a cultural norm as more digitally advanced companies seek new levels of competitive advantage. Equally important, employees across all age groups want to work for businesses that are deeply committed to digital progress'. While aimed at businesses, the insight about talent certainly applies to governments as well. Governments do struggle with talent gaps (McKinsey, 2018), so it seems important to pay attention to recruitment and talent when designing a digital strategy.

Even though the studies argue that in the end digital strategies should aim at transformation and should be broad, a key question remains what the organisation concretely wants to achieve in the not too distant future. One type of digital strategy is 'digital by default'. Services that are 'digital by default' are designed from the beginning to be so compelling that everyone who can use them will choose to do so. Another type, as described in the case study above is a 'phygital' approach in which on- and of-line approaches are blended. Such an approach is also followed by the UK. The UK's 'Digital Strategy' not only focuses on the impact of digitalisation for the private sector and citizens, but also what digitalisation means for the functioning of government and governmental service delivery. In their vision, the digital transformation should⁸:

- recognise that government delivers services through a variety of channels (including online, telephone and face-to-face)

8 <https://www.gov.uk/government/publications/uk-digital-strategy/6-digital-government-maintaining-the-uk-government-as-a-world-leader-in-serving-its-citizens-online>

- broaden the definition of users, for example to reflect that some users will interact with government through third-party services that use government APIs (application programming interfaces)
- cover the internal workings of departments as well as the services they offer to users

This has led to the following areas of priority for the current government:

- design and deliver joined-up, end-to-end services
- deliver the major transformation programmes
- establish a whole-government approach to transformation, laying the ground for broader transformation across the public sector

While striving towards transformation, the strategy does not ignore or neglect the non-digital aspects of services and processes. However, for the majority of all organisations ‘digital first’ seems to be the guiding principle.

Based on the analysis in this chapter, we can draw a number of conclusions. The first points to the importance of strategy. In the end, a strategy is an important tool for the organisation to realise its mission and PES are no exception. As technology becomes more important and the role of digital tools becomes more prevalent, management of such tools becomes more complex and digitalisation becomes a more strategic topic. In order for digitalisation to be successful, simply digitising existing services or processes is unlikely to succeed, PES are better off aiming for a transformation to begin with and this transformation should be at the heart of the digital strategy. The success of such strategy depends heavily on such aspects as a) leadership, b) the clarity and communication of the strategy and underlying vision, c) changes in culture and structure of the organisation, d) skills and capabilities and staff and future talent, e) customer insights and f) data to measure success and iterate the strategy.

3. DEVELOPING & IMPLEMENTING DIGITAL STRATEGIES

In the previous chapter we learned that having a digital strategy is important. In the long run, PES should aim to transform their organisations to benefit from digitalisation and realise its potential. In this chapter we focus more practically on the development of a digital strategy, the obstacles that PES might face and some factors for success.

Few guides or ‘how-tos’ regarding the development of a digital strategy exist. In very general terms it is important to ensure that the adopted strategy is feasible, value creating, and sustainable (Moore, 1995). Fortunately, some relevant information is available that we can draw upon. In an overview, the OECD (2016) present one of the more comprehensive checklists that governmental decision makers can use to create a digital strategy. The checklist consists of the following activities.

- Project approach
 - » Clarify the governance framework (i.e., who is involved)
 - » Have a clear long-term vision
 - » Lead implementation with the right team
 - » Experiment through pilots or ‘beta-tests’
 - » Develop a solid Business Case
- Involvement of users, public servants and sector professionals
 - » Identify and engage with key testimonials from users’ groups
 - » Involve public services right from the start
 - » Actively engage sector professionals from the field
 - » Engage all levels of government
- Communication
 - » Establish communication networks
 - » Share experience and knowledge
- Review and evaluation
 - » Use available data to identify evidence in support of better policies
 - » Document project implementation
 - » Adopt a clear evaluation framework including impact indicators.

In another report, the same OECD presents a different checklist, this is shown in Appendix 2.





CASE STUDY: DIGITAL STRATEGY IN SLOVENIA

The Slovenian PES is in the process of developing and executing their digital strategy (ESS2020). The strategy works towards five key objectives:

- ▶ Strengthening digital business with job seekers and employers;
- ▶ Improving applications and tools, used by ESS employees when working with job seekers and employers;
- ▶ Providing job seekers and employers with quality and user-friendly web tools for managing supply and demand on the labour market and for implementing Active Labour Market Policy measures;
- ▶ Establishing effective communication channels between job seekers, employers, and ESS employees by establishing the necessary links between web-based and back-office applications;
- ▶ Establishing the necessary links with the EURES platform and other labour market stakeholders in Slovenia.

In order to realise these goals, each objective has been operationalised in a series of concrete

projects (e.g. 'Implementing the Search & Matching Tool'), as well as additional activities that do not directly have a technical nature, but are essential for achieving success (e.g. 'Developing and upgrading systems for analyses and business reporting'). This comes from the realisation that the organisation needs to rethink the entire business in order to become a digital organisation. To that end, it has adopted the mantra that 'Digital has to become the basic business model' and this resulted in the following approach towards digitalisation:

1. Reconstruction of processes before digitalisation and automatization
2. Integration of new IT solutions in the core and supporting processes
3. New online and self-service services development
4. Multi/omni channelling to deliver services

This approach highlights the importance of digital transformation as part of the digital strategy. PES need to start *thinking digital* in order to reap the benefits from technology.

Eggers and Bellman (2015) in their publication 'The journey to government's digital transformation' also mention activities that need to be executed as part of their digital strategy. In their view, successful strategies focus on:

- **Offer a vision for the future.** Devising a clear and coherent digital strategy is the first step toward successful digital transformation.
- **Provide a detailed plan for addressing the key elements of digital transformation.** Build a roadmap for digital transformation that covers elements such as culture, leadership, workforce, and procurement.
- **Build organizational capabilities.** Prepare for digital transformation by addressing digital skills gaps and investing in resources and technologies to help build a culture and capabilities supporting the digital transition.
- **Attack barriers.** Identify the processes, legislation, and cultural elements that could

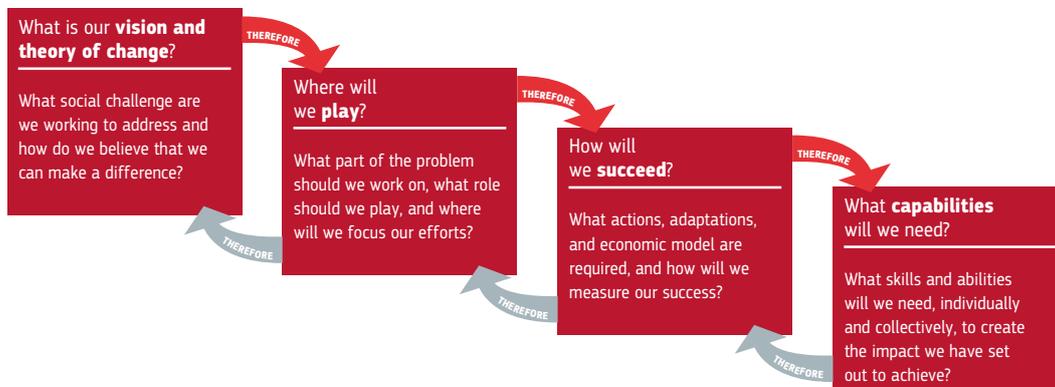
hinder digital transformation, and devise strategies to move past each of these barriers.

Furthermore, they argue that the strategy must be accompanied by a mechanism to track and measure progress against the digital goals.

O'Donovan & Flower (2013) offer a cascading model of strategic choices that need to be made while creating a strategy. These questions can be used by PES to start thinking and developing their strategies.

Furthermore, they argue for the concept of 'Adaptive strategy': 'We think that what is necessary today is a strategy that breaks free of static plans to be adaptive and directive, that emphasizes learning and control, and that reclaims the value of strategic thinking for the world that now surrounds us.' In our view, this is in line with the arguments presented in the second chapter. O'Donovan, Kasper & Dubbs (2018) build on this model of 'adaptive strategy' and provide us with a number of lessons:

Figure 7. Cascading model of strategic choices (O'Donovan & Flower, 2013)



1. 'widening your aperture' is critical to having an effective strategy. If you go into a strategy process with all the same inputs you always have, you'll almost certainly get the same outcomes you always have.
 2. The second lesson we've learned from the innovation space is about the importance of designing and managing experiments—explicitly testing strategic elements in the field and adjusting them as necessary.'
 3. 'many organizations create strategic plans without a firm grounding in their current operational reality'
 4. 'data-driven decision-making has made it clear that data really only matters to the degree that people use it'
 5. 'most strategy processes still happen primarily at the leadership level of the organization, the majority of the execution does not. When people across all levels drive the process, it is more likely that changes will be implemented well and sustained over time.'
2. Are **data-driven**, i.e. Continuously collect data to track progress towards meeting goals
 3. Have scheduled **evaluations** in which the collected data is being used to stay on course or adjust plans.

This implies that time horizons for strategy shorten (e.g. not 5 years in the future, but more towards 2 years) and capacity is reserved to monitor and adjust the strategy at frequent intervals. However, more lessons exist. In the previous chapter, we discussed how a Forrester study (Gill & VanBoskirk, 2016) found that public sector agencies tend to be laggards (in the 'skeptics' bracket) when it comes to digital maturity. The publication does suggest that, change agents⁹ at skeptic organisations should:

- Initiate a few pathfinding projects to warm execs to its potential.
- Centralize digital resources.
- De-emphasize industry experience to recruit digital talent.

Digital teams must focus on three key functional activities:

1. Developing Digital Strategy
2. Governing Digital Activities across their firms
3. Driving operational excellence into their digital execution

An example of such a 'digital team', consisting of the change agents driving and executing the change can be found in Australia. The Australian government created the 'Digital Transformation Office (DTO)' in 2015. Its purposes is to 'lead the transfor-

In our view, these lessons make sense and PES could benefit from them. Especially the concept of 'adaptive strategy' makes sense. The world is changing so rapidly that there is very little point in developing very rigid strategies that take a long time to execute. It makes sense to develop strategies that:

1. Are **flexible**, i.e. There is room to make adjustments over time

9 People in charge of executing the digital strategy

mation of government services to deliver a better experience for Australians' (Open Government Partnership Australia, 2015). Such a team could utilise six key levers (Dilmegani, Korkmaz and Lundqvist, 2014) to get the work done:

1. Win government-wide and agency-deep commitment to specific digital targets.
2. Establish government-wide coordination of IT investments.
3. Redesign processes with the end user in mind.
4. Hire and nurture the right talent.
5. Use big data and analytics to improve decision making.
6. Protect critical infrastructure and confidential data.

In this context, the role of PES employees should not be underestimated. While several of the models described above already stress the importance of talent, internal stakeholders and change agents, there are more reasons to involve staff heavily when creating digital strategies. The TRW made clear that **involvement of staff is a critical factor for success** of PES digital strategies. It helps in three different ways:

- Involving staff, and their ideas, are a good way to ensure their buy-in. Making them part of the process will likely reduce resistance. One example of how PES are applying this, is the utilisation of 'Intrapreneurs' within the French PES¹⁰. Intrapreneurs are employees with good ideas to make improvements in the organisation and are given the resources to execute their ideas. Tied into this is the importance of staff training and participants see the potential of novel tools to aid in this, such as e-learning platforms, skype, recording of training and social media (e.g. Facebook).
- Staff, as important users of tools and applications will likely have good ideas on how to improve these. Case-workers and other people in the process can thus be a valuable source in getting input before and during the digitalisation process.

CASE STUDY: DIGITAL ACADEMY AT DWP

In order to improve the digital skill levels of employees, the UK Department for Work and Pensions (DWP), create a digital academy where employees can follow training and take courses to better understand and use technologies.

The success of the digital academy was such that the DWP Digital Academy became part of the (more general) Governmental Digital Service (GDS) in 2017 and now offers courses to the entire government. The academy currently offers such courses as:

- ▶ Digital and agile awareness (general and for policy makers)
- ▶ Digital and agile foundation course
- ▶ Agile for teams
- ▶ Research and design in government
- ▶ User-centred design training

So while certain courses are focused on using technology, many of the courses touch upon topics that are not directly technology focused, but are part of the skills needed to transform government into a digital government.

For all courses, see here: <https://gdsacademy.campaign.gov.uk/>

- Staff can act as proxy to collect customer feedback (a practice used in Estonia). As case-workers and other front-line staff are in regular contact with customers, they will receive feedback from these clients. While this can never replace direct input from customers, it provides a good and additional resource.

The TRW in Estonia made clear that the implementation of digital strategies presents a real bottleneck. It seems relatively easy to create a digital strategy consisting of several (more or less) coherent projects or activities, but the real challenge is to tackle the underlying organisation and implement the desired actions. As such, it seems that PES are well suited to execute digitalisation projects, but have more difficulties to transform their entire organisation. Some of the insights above could aid in realising that challenge. In the next section we will discuss some common barriers and obstacles in more detail.

10 <http://www.pole-emploi.org/accueil/actualites/les-intrapreneurs-pole-emploi.html?type=article>

3.1 Barriers & challenges

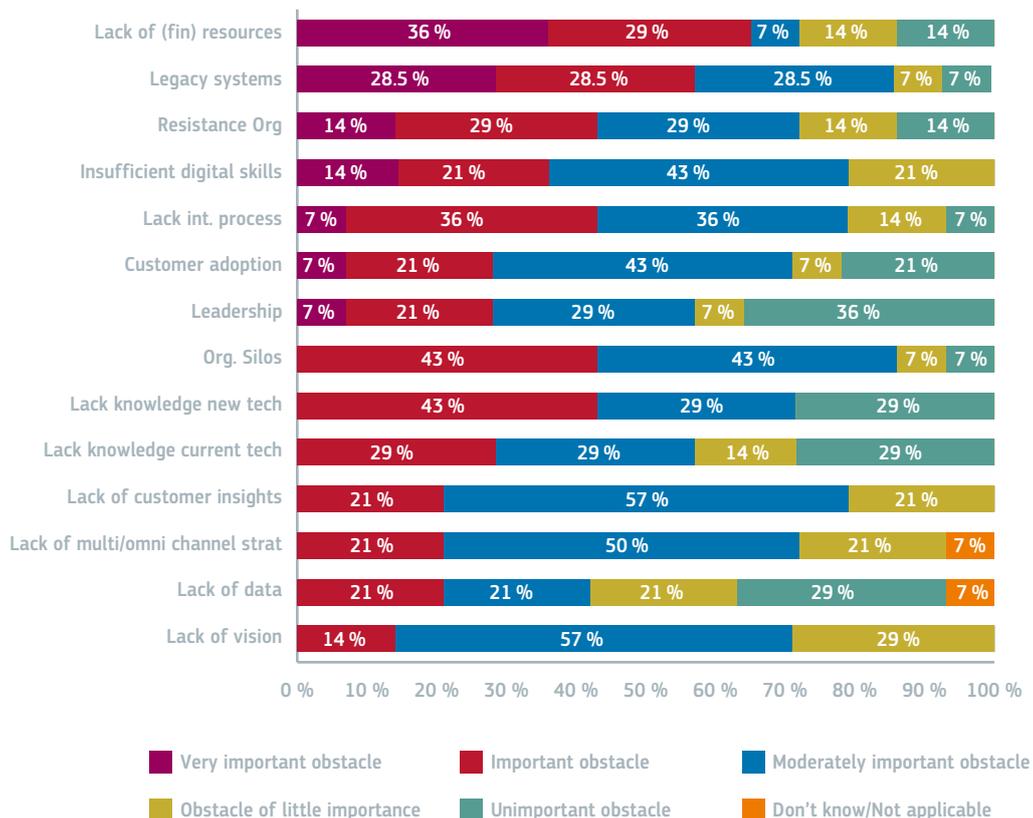
In the survey leading up to the TRW, we asked PES about the challenges and obstacles they see on their path to digitalisation. The figure below (Figure 8) gives an overview of the main challenges perceived by PES.

In general, the most important obstacles are the lack of (financial) resources and the existence of legacy systems. Lack of resources, of course, creates an important obstacle. It suggests PES need to be **smart with their existing resources** and take gradual approaches (as outlined above) rather than developing strategies that consume too many resources to begin with. During the TRW it became clear that a key solution to this problem appears to be 'smart' in how the work is organised. For example, the success of the Estonian PES is the result of good decisions, management, mindset, but not about resources. By taking small steps, focused on cost reduction, the PES can free up resources that can be used to invest in further improvements. This is echoed in other studies (see e.g. McKinsey, 2018) that suggest that it is wise to keep targets few, specific, and outcome based.

Beyond the resources and legacy obstacles, it is surprising that many of the most important obstacles are 'soft' obstacles of a non-technical nature, such as resistance in the organisation, lack of digital skills and consumer adoption. This suggests that there should be ample room within the digital strategy to focus on the 'people' aspects.

These barriers align somewhat with the obstacles found in the literature. Eggers and Bellman (2015) found that the main barrier for early stage organisations is the lack of an overall strategy. Making things worse, these early stage organisations often lack the understanding of the technological trends that can impact their organisation. The overall barriers (across all organisations) are the following: a) Too many competing priorities, b) insufficient funding and c) security concerns. While PES indicate that they do have an overall strategy, the other obstacles do apply. The lack of resources thereby seems an important issues, especially given that a recent study found that public-sector IT projects requiring business change were six times more likely to experience cost overruns and 20 percent more likely to run over schedule than such projects in the private sector (Dilmegani, Korkmaz and Lundqvist, 2014).

Figure 8. Challenges and obstacles within PES



The same study (Dilmegani, Korkmaz and Lundqvist, 2014) found that digital transformation in the public sector is often more complicated than similar transformations in the private sector:

‘The public sector must cope with additional management issues, including multiple agencies, a range of organizational mandates and constituencies, longer appropriations timelines, and the challenge of maintaining strategic continuity even as political administrations change.’

What can help in mitigating these obstacles is creating clear objectives and accountability mechanisms (Thornton & Campbell, 2017). This entails:

- clear accountability, avoiding confusion as to who is responsible for what and to whom
- sufficient control, meaning that the person being held to account can control the factors for which they are held to account
- sufficient information, so that those holding the person to account can do so based on relevant performance information
- clarity of consequences, with a consistent and widely understood link between performance and the rewards and sanctions that flow from it.

Other publications mention some different challenges. The Directorate-General for Parliamentary Research Services (2015), in more general terms mentions that eGovernment presents a number of real or potential problems:

Digital divide

The lack of access or skills to use digital technologies. This applies to both clients and employees and is something that applies to PES as well. With PES slowly digitalising their services, it is important to include uptake and the role of digital skills of client groups in plans for the role out of digital tools and services.¹¹

Citizens’ privacy (and data protection)

Especially with the new GDPR¹², protecting clients’ privacy becomes an even more important issue. This could pose challenges in terms of a) person-

alising services, b) sharing data within the PES and between governments, c) safeguarding the data (e.g. Data security).

Risks related to introducing major changes in complex and politically sensitive areas.

PES operate in, often, politically sensitive waters and introducing big changes will lead to scrutiny by the media, the public and politics. For example, the introduction of the ‘Universal Credit’ in the UK leads to the Department of Work and Pensions being continuously scrutinised in the UK. Similarly, the Dutch strategy of going completely (with few exceptions) digital only a few years back was met with both backlash in the media and parliament.

Lastly, Andrews et al. (2016) in an analysis of the state of digitalisation within the UK government identified five challenges that will most likely apply to other governments as well:

1. Moving from small changes to transformation
2. Bringing policy and implementation together
3. Tackling IT legacies
4. Adapting traditional governance to digital projects
5. Building a digitally capable workforce, and keeping it

PES already acknowledge, given the survey results, that the road towards digitalisation is bumpy and full of obstacles. Many of the obstacles are present in other governmental agencies as well and few seem to have concrete solutions to tackle these challenges. Moreover, we see the following: a) the number of potential challenges is (very) large and b) the way they manifest could differ from organisation to organisation and depends on the specific context, c) the PES context might make some of these challenges more complicated than in the private sector. For these reasons, while creating the digital strategy, the PES needs to be very aware of their own situation and carefully investigate all obstacles facing the PES. Only then has a digital strategy a chance at success.

¹¹ Also see the analytical paper on Multi-Channel Management in PES: From Blending to Omni-Channeling for a longer discussion of this important obstacle.

¹² See General Data Protection Regulation (GDPR) – Regulation (Eu) 2016/679 Of The European Parliament And Of The Council.



4. MEASURING SUCCESS

In this chapter we focus on the role of data and measurement. While creating and executing a digital strategy are both important, of equal importance is the PES ability to translate abstract goals into targets that can be measured, collect the relevant data, interpret the results and adjust course when needed. Especially when choosing more flexible or adaptive strategies this becomes more important.

The role of data and measurement have featured (in slightly different contexts) in other PES network publications, most notably:

- *Performance management (Bjerre, Sidelman & Puchwein-Roberts, 2016)*
- *Role of IT & Data (Pieterse, 2016)*

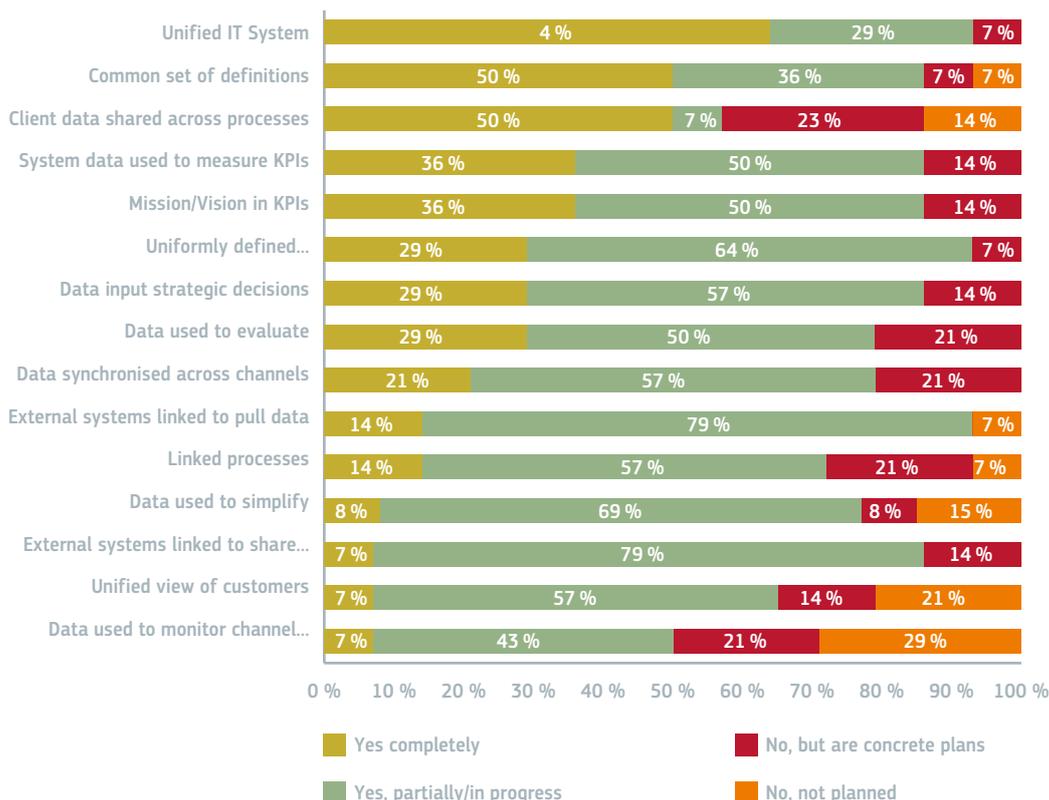
4.1 Goals & use of data

Setting goals to measure operational performance is by no means new to PES. By now, most PES have institutionalised – or committed to – Management-by-Objectives (MbO) systems in order to deliver their services in the most efficient and effective way (see Weishaupt, 2016; Scharle, Adamecz & Nunn, 2017). However, at the same time, the TRW from 2016 on the use of data and IT for PES mod-

ernisation showed that PES do not utilise the full potential of data they collect to measure the effectiveness and efficiency of their processes and services.

For the 2018 TRW, we asked PES several questions regarding the role of data (and some related questions regarding the underlying IT systems that provide one of the data sources). The answers to these questions are shown below (figure 9).

Figure 9. Current role of data within PES



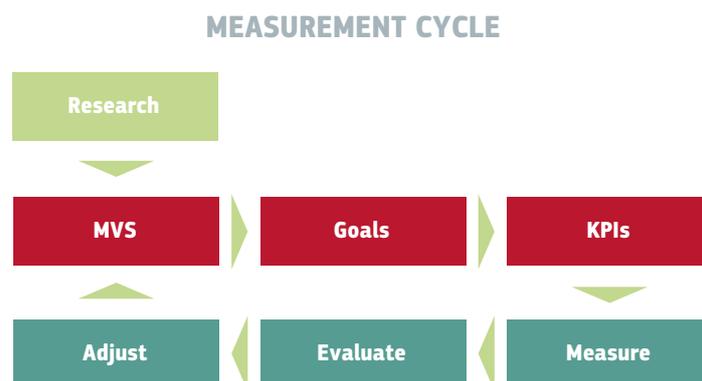
While most PES have unified IT systems (which would facilitate data extraction) and about half the PES have a common set of definitions of key concepts and at least some uniformity in data across processes, the use of actual data to measure goals is much lower. Using data is clearly a 'work in progress' for PES and during the TRW it became clear that even the more digitally advanced PES are struggling with this topic. If PES do not fully translate their organisational mission/vision into measurable goals, it is safe to assume that the same applies to visions and strategies around digital transformation.

This in reality seems common, since also in the private sector often no metrics are being used to describe and measure the success of a digital transformation¹³. Nevertheless, it is important to

measure the success of any digital strategy. This applies especially to government where unsuccessful initiatives are often scrutinised by the public and the media and public money is being spent for the greater good.

If implemented correctly, PES translate their Mission, Vision & Strategy (MVS) into concrete goals or objectives. From these goals a set of Key Performance Indicators is derived and these are subsequently measured, used to evaluate progress and, if needed, used to adjust any of the MVS. This creates what we label a 'Measurement Cycle' (see Figure 10 below) that can be used to execute strategies, especially more adaptive strategies (since these benefit from regular feedback and updates to the strategy). Below we will discuss the key parts of the cycle.

Figure 10. Role of data in creating and sustaining mission, vision, strategy



Research into mission, vision and strategy

While the mission, vision and (digital) strategy have been discussed extensively in previous chapters, it remains important to reiterate the importance of creating a proper MVS and making sure the goals that will be derived from them are realistic. This is where the role of research comes in. Research can serve the creation of an appropriate (digital) MVS in several ways:

- Understanding current and anticipated technological developments and how they could benefit the organisation.
- Gaining insights in how new and future technologies can fit the organisation in terms of a) current technology and processes, b)

culture and structure of the organisation, d) skills and capabilities and staff and future talent, and e) customer insights (their behaviours, needs and wants).

As part of the developments of the e-Croatia 2020 strategy, Ministry of Public Administration (2017) conducted a large survey under ~3300 people in Croatia to accompany the development of the strategy. The survey showed the relative importance of various policy areas to the citizens and thus helped shape the strategy. Regarding employment, the results showed the following:

- Access to vacancies in the public sector and Croatian Employment Service was an important topic (out of 17 topics) with regards

¹³ See for example <https://www.cio.com/article/3236446/digital-transformation/digital-kpis-your-keys-to-measuring-digital-transformation-success.html>

to 'importance of access to public services'. Around 80% rate it '(pretty) Important'.

- Labour ranked the 5th important topic regarding public e-Services (7.7%) and public sector information (8.1%)

Such efforts help the organisation think critically about what it wants to achieve and thus create more realistic MVS.

Goals & objectives

The next step is to translate the strategy into concrete goals that can be achieved. While financial goals are often the most important ones in the private sector. Some argue that such goals may not be the best for governments. Oster (1995), for example argues that 'the principal value delivered by the government sector is the achievement of the politically mandated mission of the organization and the fulfilment of the citizen aspirations that were more or less reliably reflected in that mandate. Importantly, the value of neither non-profit enterprises nor government bureaucracies is particularly well measured by their financial performance.'

This does not mean, however that financial goals can never be set, but often they are tied to other goals (e.g. Retaining performance while reducing budget). It is more common to define goals in terms of usage and/or update. For example, the aforementioned e-Croatia 2020 strategy formulates a higher level strategic goal that is subsequently translated into concrete objectives:

'The strategic goal of the Strategy is to develop e-services required by citizens and businesses, and thus to increase the number of citizens who use aggregate e-services of the public administration from 31.9% in 2014 to 65% in 2020, and the number of businesses which use public administration e-services from 92.7% in 2013 to 97% in 2020.'

Previous publications from the PES network can help us gain further insights into the role and importance of goals and objectives. The analytical paper on Performance Management defines the following as objectives:

'requirements on the national level either determined by the legal mandate of a PES and/or the governing authority. Examples of commonly used objectives may include 'preventing and reducing un-

employment', 'matching labour supply and demand', 'securing subsistence by calculating and disbursing benefits', 'fostering equal opportunity on the labour market', 'improving services for the unemployed'.'

In order to ensure objectives can be measured (properly), it is possible to use guidelines that can help **translate more ambiguous goals into measurable objectives**. One of the most well-known one is the S.M.A.R.T. Criteria (Doran, 1981). This acronym specifies that each objective should be:

- **Specific** – be aimed at a specific area for improvement.
- **Measurable** – should be quantifiable.
- **Assignable** – specify who will do it (also see the section on accountability above).
- **Realistic** – there should be a realistic specification of the types of output.
- **Time-related** – give an indication when results can be achieved/expected.

While this model has been criticised in the past and other have changed or added criteria, it is still in widespread use and can be a useful tool in the very least to think about how strategic goals can be made concrete.

KPIs

The next step is to translate and filter the objectives into key performance indicators or KPIs.

Key performance indicators (KPI) are defined (Weishaupt, 2016) as performance indicators which are perceived as critical success factors and which are of a quantitative nature (i.e., not just a general statement).

While a digital strategy can consist of many goals (and sub-goals), only a limited set are crucial for success and capture the most important part of progress. For example, within the setting of a PES, customer satisfaction¹⁴ with digital tools can be measured across many different tools and for very different subgroups. While the satisfaction of a subgroup with a specific tool is important to improve that tool, the success of the entire digital transformation is better reflected by the satisfaction of all jobseekers across all digital tools.

The difficult part about formulating a set of KPIs is narrowing the long list of possible *performance*

¹⁴ Also see the 2016 toolkit on this topic.

indicators down to the key ones. McKinsey (2018) found that successful transformations have a **limited number of clear priorities** translated into a handful of critical, measurable outcomes. That could sound straightforward, but most government change efforts fail to achieve this goal; they instead focus on input variables or drown themselves in long lists of conflicting goals and KPIs. Thus, PES should critically think about the most important

measures for digital success and used those instead of attempting to measure and use every bit of information.

As became clear during the TRW, the Estonian PES is a front-runner in the development of KPIs. While their journey is far from concluded, their lessons can be an important source of inspiration for other PES. See the case study below.



CASE STUDY: KPIS IN ESTONIA

The Estonian PES is continuously developing its performance measurement system and is currently in the process of developing a new set of key performance indicators. The development of a data warehouse (ready in 2018) will allow the PES to automate performance measurement and impact evaluation.

The new set of indicators was developed with help from the University of Tartu and a pilot was executed using a regression-adjusted multi-criteria evaluation system to measure the performance of PES. One key metric (utility) is used that consists of four main performance indicators; 1) reduction of unemployment, 2) support of the employed, 3) activation of the inactive and 4) cost-effectiveness of the PES. Under these main indicators lie 14 sub-indicators measuring various aspects of the performance.



The model uses standardised coefficients and regression adjustment to make periods and regions comparable, thus leading to a model where the performance of the PES can be measured accurately and different periods and regions can be compared.

While being a work in progress, it shows promising progress and could be an inspiration for PES also wishing to start measuring their performance.

Measuring, evaluating and adjusting

Once the PES has defined their KPIs, it is time to collect the relevant data to measure against the KPIs. The Analytical Paper on Modernising PES through supportive data and IT strategies (Pieterson, 2016), sheds some light on relevant types and methods of data collection. It discriminates between discrete (initial or incidental) methods of data collection and continuous forms of data collection. The former is often used to inform a strategy

(as part of creating an MVS) or measure progress at set intervals. Examples of such methods are:

- **Pilots.** These are (smaller scale) tests of a new process and/or application. These can help can input into the relevance of a digital tool for the PES and/or test its effectiveness.
- **Experiments.** These are studies where different versions of a process and/or application are compared. For example, if a PES develops a new profiling application, they can

build two versions of the same application and test which one performs better.

- **Evaluations.** These are projects aimed at assessing the effectiveness of a tool, application or process.

Commonly, methods such as (customer satisfaction) surveys are used to gain broader and more quantitative insights from large groups of stakeholders.

The latter form (of continuous collection) refers to the ongoing extraction from data from IT systems. In these types of data collection, very often the collection and analysis of the data are part of the IT system. This means that analytics work in the background and are embedded in the systems and pro-

cedures of the PES. The big benefit of this approach is that it allows to more continuously track progress towards goals and make adjustments more often. Such an approach could work well in more adaptive strategies. Methods of continuous data collection also allow to show this data to relevant audiences. More and more organisations make use of Dashboards or other management information systems to show realtime information about processes that can be used to inform decision making.

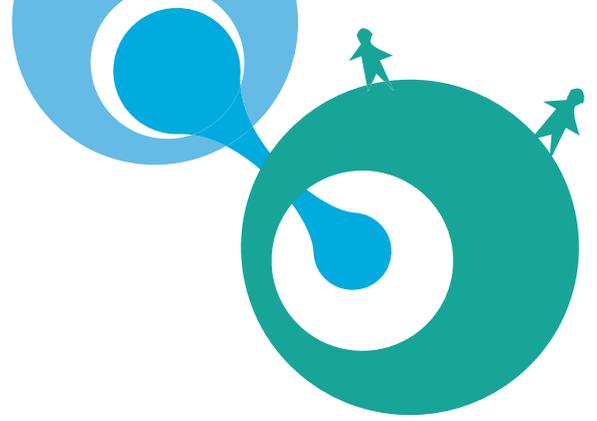
A dashboard work in progress was shown by Estonia as part of their KPI project, which gathered interest as an easy way to navigate the data collected. This was enhanced further by the Danish presentation in which dashboards used in Denmark for Citizens, Case-workers and Employers were shown.



The main purpose of **measurement is to create the ability to evaluate** progress towards KPIs. As discussed in the Analytical Paper on Modernising PES, the purpose of evaluation is to learn about something and to improve upon experiences. According to Rosset and Sheldon (2001), evaluation is 'the process of examining a program or process to determine what's working, what's not, and why. It determines the value of learning and training programs and acts as blueprints for judgement and improvement'. While, ideally, in continuous processes, the evaluation is a standard part of the cycle, for the sake of accountability and reporting, evaluations are often conducted as stand-alone activities. For example, a digital team in a PES could decide to have monthly evaluations, whereas at the senior management progress is being evaluated quarterly.

The last step, after evaluation is to **make adjustments**. These can be small, for example in the User Interface (UI)/User Experience (UX) of an application based on the outcome of a pilot, but could also lead to bigger revisions in the strategy or underlying vision. For example, when newer technologies come up (such as social media in the mid 2000s) and PES learn through research that clients show an interest in said technology, the organisation should have the ability to change course and refocus attention. This reiterates points made previously in this thematic paper (and is somewhat of a catch 22): PES need to develop (digital) visions and strategies that guide the organisation in a certain direction and have concrete goals, while at the same being ambiguous and wide enough in order to not stifle the strategy and allow the organisation enough flexibility to **be agile and adapt** to the increasingly volatile environment in which they operate.





5. CONCLUSIONS

The world of PES is changing quickly and (technical) innovations are arriving in rapid succession. These innovations are likely to impact the labour market in the coming decades. For example, automation could lead to job loss and job creation and will likely change the majority of jobs. This will probably have strong impacts on the role and workload of PES. Furthermore, these **innovations create challenges and opportunities for PES**. Automation has the possibility to create more effective and efficient PES workflows, but at the same time are PES being held back by a lack of resources and resistance to change in the organisation.

As a result, PES need to change, become more digital, change more frequently, while being nimble with resources. PES need to be 'digitally strategic', they need to invest in visions for the future that help guide the organisation and develop clear goal based strategies that are modular and can be executed in small steps and using agile approaches. Execution should be guided by research and experimentation and involve employees, customer and (strong) leadership.

No small challenge and we hope the following conclusions/recommendations derived from this main conclusion can be of help:

Importance of vision

The first step of a successful digital transformation is having an idea of where the organisation is headed in the foreseeable future. This consists of the mission of the organisation, relevant technological and societal developments, customer and employee skills, behaviours, and needs and the vision of the organisation's leadership. This vision drives the organisation and the various strategies within the organisation. As key strategy, the digital strategy needs to build on this vision and be coherent with other strategies as to not create conflict. A well-defined vision can motivate the organisation and lead to realistic strategies that can be executed.

Strategy is about people, not technology

While digital strategy suggests a heavy focus on technology, digitalisation in the end is not about technical revolution, but much more about organi-

sational evolution driven and executed by humans. Failures stem most often from human factors, such as poor leadership, lack of employee or customer adoption, lack of digital skills, or poor collaboration in the organisation resulting in silos. The digital strategy, therefore, should focus on the humans working with technology and technology serving people. This turns the 'digital' part of the strategy into a means, not an end in itself. Therefore, it is wise to describe the desired results of the strategy in terms of human or organisational aspects (e.g. more successful job matching) instead of purely technical terms (e.g. implement automated vacancy matching) and subsequently determine how technology can play a role in reaching these goals.

Good strategies are adaptive, agile and focused

Both the analysis in the paper, as well as the discussions during the TRW teach us important lessons about the need for strategies to be flexible, adaptive or agile. The first is that comprehensive strategies are much more difficult to execute in terms of a) finding the required resources and b) executing upon the strategy for example in terms of prioritisation, managing the dependencies between the different elements and breaking the strategy down in meaningful and practical projects. The second is that as strategies become bigger and more encompassing, the risk of failure of the entire strategy increases. The solution seems to be in creating a modular strategy that is easily broken down in elements that can be executed as independently as possible. This includes a clear prioritisation to tackle first what will have most impact e.g. registration, statistical profiling. This requires an agile approach of development. Agility and small teams work better than large scale transformations.

Use research to guide development

Not only should the PES adopt data driven approaches to measure success of the strategy (see next point), but research can play a vital role in creating the vision and strategy and guide their execution. Research can help understand the playing field (for example in understanding the aforementioned technological and societal developments, customer needs and the abilities of customers and employees

to adopt and utilise tools), but also while executing the strategy. The TRW and this paper highlighted the need to experiment, learn from pilots and share experiences. Such experiments allow the PES to discover early on and quickly what works and what does not and lead to adjustments in the strategy. Therefore, we see experimentation and research as a fundamental ingredient of a good adaptive digital strategy.

Create clear goals and KPIs and create learning cycles

Being able to measure progress and success is a key factor in successful execution of the strategy. However, in order to do so, PES need to translate the digital strategy into a 1) series of objectives and KPIs and 2) create learning cycles in which data is collected against these KPIs, outcomes are evaluated and used to continue and/or make relevant discussions. The more concretely the vision of the organisation is articulated, the easier it will be to create strategies whose success can be measured (and thus achieved). Therefore, while creating the strategy, it is wise to think about objectives and measurement from the start.

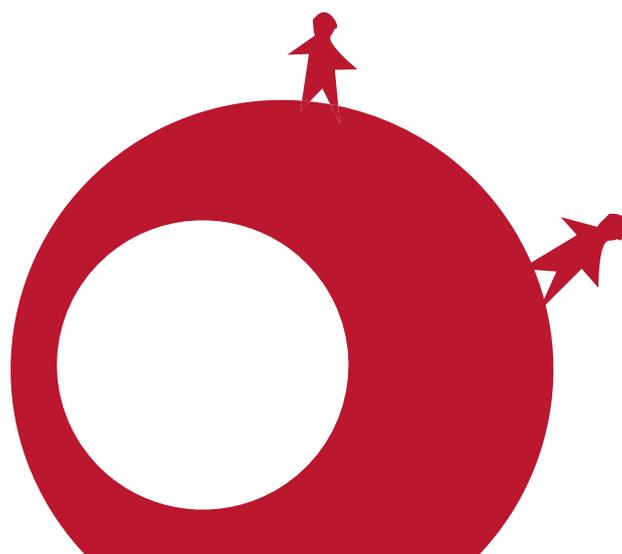
Continuous data collection and the use of smart dashboards to present outcomes can be good ways to make insights available to large parts of the organisation and get results quickly. We see this as another key ingredient to creating and implementing adaptive, agile strategies.

Involve, and build for, employees

When creating digital strategies, we should not overlook the development of tools for case-workers and other PES employees. Much can be gained, in digitalisation, from improving the work of PES front-line staff, whether it is developing administrative tools or decision support systems can help in freeing up valuable time to deal with clients. Furthermore, caseworkers often can provide important insights from their interactions with clients that can help shape the strategy. Lastly, staff can act as change-agents that help execute the strategy and the more involved they are in the creation of the strategy, the more likely they are to support it and advocate for it.

Leadership

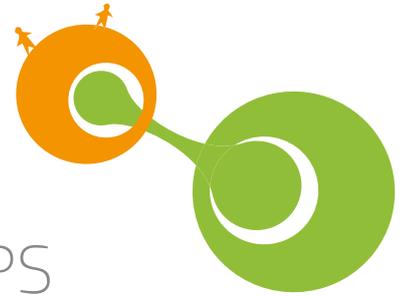
The last conclusion we draw pertains to the role of leadership. A vision and strategy are nothing without proper leadership. And while we want to emphasize the importance of involving all staff, it is the organisations leadership that will most likely be accountable for the vision and strategy and are instrumental in their success. The need for leadership was also mentioned as key factor for success during the TRW. Therefore, PES leadership needs to be aware of digital trends and developments, develop their digital skills and actively guide their organisation through digital transformations.



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APPENDIX 1: OECD (2014) STEPS

OECD (2014) creates a 12 step guide and:

RECOMMENDS that governments develop and implement digital government strategies which:

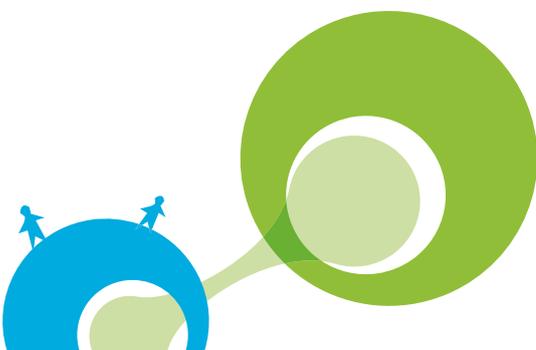
1. Ensure greater transparency, openness and inclusiveness of government processes and operations.
2. Encourage engagement and participation of public, private and civil society stakeholders in policy making and public service design and delivery.
3. Create a data-driven culture in the public sector.
4. Reflect a risk management approach to addressing digital security and privacy issues, and include the adoption of effective and appropriate security measures, so as to increase confidence on government services.

RECOMMENDS that, in developing their digital government strategies, governments should:

5. Secure leadership and political commitment to the strategy.
6. Ensure coherent use of digital technologies across policy areas and levels of government.
7. Establish effective organisational and governance frameworks to co-ordinate the implementation of the digital strategy within and across levels of government.
8. Strengthen international co-operation with other governments to better serve citizens and businesses across borders, and maximise the benefits that can emerge from early knowledge sharing and co-ordination of digital strategies internationally.

RECOMMENDS that, in implementing the digital government strategies, governments should:

9. Develop clear business cases to sustain the funding and focused implementation of digital technologies projects.
10. Reinforce institutional capacities to manage and monitor projects' implementation.
11. Procure digital technologies based on assessment of existing assets.
12. Ensure that general and sector-specific legal and regulatory frameworks allow digital opportunities to be seized.



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