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Digital Transformation and Human Resources Planning in Public Administration: Insights from the Spanish Experience

Abstract: Digital transformation is reshaping public administration, especially in human resource management. This article explores how it redefines organisational values, skills, and roles, highlighting job evaluation as crucial for adapting to new digital demands. It also addresses HR planning challenges, stressing the need to anticipate future profiles and build a culture that embraces technological innovation to create a more agile and efficient administration.

Keywords: digitalisation, digital competencies, innovation, new professional profiles, remote working

Introduction

Digitalisation, which basically consists of the acquisition and implementation of technology, is a prerequisite for digital transformation. This involves a more profound modification or change that affects not only technology (ICTs), but also organisational culture, management models (administrative processes), and interaction with citizens in order to respond to their needs and expectations. The notion of digital transformation helps to understand the impact of digitisation, the implementation of which redefines the way we interact, work, and access public (and private)

services (Ayata, 2024; Kerikmäe et al., 2019; Mazur & Ramiro Troitiño, 2024; Ramiro Troitiño, 2022). Digital transformation brings about profound and extensive changes in public organisations that affect both their structure (how they are organised, their hierarchies, and the distribution of functions) and their functioning (procedures, decision-making, service provision, etc.) (Salvador Serna, 2021). Therefore public administrations, like other organisations, generate changes when they adopt technological tools, forcing them to comprehensively reconfigure their public management model (processes, structures, competencies, and values).

The human resources subsystem is deeply impacted by digital transformation, which requires updating public employees' training to develop digital skills aligned with today's technological demands (Salvador et al., 2020). Human resources planning (HRP) must also anticipate future professional needs, manage talent proactively, and enhance skills, structures, and performance. However, such planning is often informal and lacks professionalisation, relying on the discretion of senior officials or politicians. While not explored in depth here, digitisation enhances data-driven human resource management through AI, big data, and integrated systems, enabling better planning, evaluation, and training. It also demands new organisational standards, system interoperability, and updated methods, reshaping talent management in the public sector.

Two key points follow from the above. First, given that public employment represents a large share of the workforce in developed countries (Lupi et al., 2024; Niskanen, 1971), the planning and sizing of human resources deserve priority, especially in adapting to digital transformation (de la Guardia, 2005). Second, strategic management of public employment has a democratic role: amid growing scepticism about democracy, institutional legitimacy depends on delivering effective results (Easton, 1965). Assuming that public administration supports democratic development (Acemoglu & Robinson, 2012), this study sees improved HRP as a means to reinforce democracy.

After defining the concepts of digitalisation and digital transformation, this article aims to analyse their implications in the field of public administration, particularly in HRP. Based on an initial theoretical foundation, it refers to practices and values that emerge in the digital context, as well as the impact of these processes on the education and training of public employees. Next, it addresses some of the consequences of digital transformation on strategic HRP, with a special focus on identifying new professional profiles and adapting public employment to the demands of the digital environment, including remote working. The analysis is set in the Spanish context and seeks to contribute to a deeper understanding of the challenges and opportunities posed by talent management in the face of the digital transformation process.

1. Digital transformation and public administration: Evolving tools, services, and values

Mergel et al. (2019) outline three phases of digital transformation: digitisation (conversion of analogue services to digital formats and channels), digitalisation (process redesign through technology to enhance efficiency and accessibility), and digital transformation (which entails broader organisational, cultural, and relational shifts). This last phase represents a comprehensive rethinking of public services, grounded in user needs and policy analysis, and leading to both improved and entirely new digital services. As Trujillo Sáez & Álvarez Jiménez (2021) note, this transformation entails a reinvention of public administration to strengthen core values like efficiency, transparency, accountability, trust, and legitimacy.

Trujillo et al. (2021) emphasise that digital transformation arises from digitalisation, driving broad economic and social changes that impact organisations (Giovannola, 2023; Rek, 2024). However, adoption varies greatly across countries and regions, causing disparities in public service efficiency and quality. While some nations have advanced digital integration, others struggle due to poor infrastructure, resistance to change, and inadequate staff training (López et al., 2025; Poulouse et al., 2024). Digital transformation positively influences strategy, culture, leadership, and human resources, enhancing strategic agility, but faces obstacles like infrastructure gaps, cybersecurity concerns, and skill shortages (López et al., 2025). This process affects all government levels – national, regional, and local – reshaping public service organisation and delivery (Hamulák, 2016; Maatsch, 2024).

Pittaway and Montazemi (2020) argue that digital transformation entails redesigning key organisational processes, replacing outdated technologies, developing new skills, and introducing new working methods, leading to significant operational changes. This goes beyond technology adoption, involving structural and cultural reinvention within public organisations, and requiring shifts in the behaviours of both employees and citizens. Digital technologies improve efficiency and help institutions better meet challenges like transparency, agility, and personalised services. Thus digital transformation should be seen as a strategic and cultural change, where technology is a tool but managing organisational change is the real challenge.

Digital transformation deeply reshapes administrative processes to enhance agility, efficiency, and citizen focus. It promotes automation, simplification, and interoperability to enable accessible, personalised online services, replacing traditional face-to-face and paper-based models with faster, more transparent interactions. Workplace practices evolve through remote working and flexible office designs, changing task execution and professional interactions. These changes optimise internal management and transform citizen relationships, fostering a more efficient and accessible public service model (Salvador Serna, 2021). New workplace dynamics like remote working, task automation, and system interoperability are promoted. Public

employees need to develop digital skills, and organisations must implement change management strategies for smooth adaptation. The use of collaborative tools and data-driven decision-making, supported by technologies such as data analytics and AI, enables administrations to make more informed, evidence-based decisions beyond traditional methods.

Digital transformation fosters a citizen-centred approach that enhances proactivity, personalised service, and user satisfaction. It reshapes the relationship between administration and citizens by empowering the latter to participate actively, demand transparency, and access services directly. This raises citizens' expectations for faster, simpler public services, prompting administrations to modernise procedures, train staff, and build trust through accessible, efficient, and transparent services.

In short, digital transformation goes beyond technology, representing a comprehensive change that reshapes work practices, institutional values, and societal perceptions of public administration. As Salvador (2021) highlights, its success depends on strategic planning that integrates technological modernisation, staff training, and the fostering of an organisational culture aligned with digital-age challenges. Several authors (Ballart & Ramió, 2000; Cortés Abad, 2020, cited in Trujillo Sáez & Álvarez Jiménez, 2021; Mokrá, 2023; Rüse, 2014) underline the evident cross-cutting role of digital technologies in current public administration transformation policies.

Public administration must move beyond simply digitalising existing processes and services; it needs to harness the opportunities offered by digital technologies and data to fundamentally redesign operational models and its relationship with citizens. Specifically, three core dimensions of digital transformation can be identified: processes, technologies, and public servants. Each dimension includes key factors: processes involve policies, procedures, re-engineering, and computerisation; technologies cover data transmission, citizen interaction, and meeting needs; public servants encompass roles and responsibilities, training and innovation, and competencies (Salvador et al., 2020). Digital transformation is not merely technological upgrading but a structural and cultural shift that reshapes how administrations function and engage with society. Modernising technology alone does not ensure greater efficiency or improved public services; it requires a comprehensive strategy that integrates staff training and organisational change management.

2. Public employees and digital transformation: Redefining professional profiles in public administration

At the organisational level, digital transformation impacts four main areas: 1) the administration's structure, including governance type, unit size and organisation, resources, inter-institutional collaboration, and public-private partnerships; 2) the role of public employees, encompassing their mindsets, skills, and inter-organi-

sational networks of care; 3) leadership, which promotes learning from successfully transformed units, problem-solving, and resource mobilisation; 4) the distribution of power, particularly in decentralised contexts (Trujillo Sáez & Álvarez Jiménez, 2021).

In the context of digital transformation, human resources policies are crucial for organisational adaptation. Beyond the implementation of technology, staff must be trained to use it effectively, and the organisational culture must evolve. Trujillo Sáez and Álvarez Jiménez (2021) and López et al. (2025) emphasise the need for public employees to develop digital skills and receive ongoing training to meet new roles and responsibilities. For instance, Spain's National Digital Skills Plan (2021) recognises the unique digital training needs of public servants and proposes a dedicated programme to equip them for internal transformation, enabling the administration to fulfil its role in driving the country's digital transition (Trujillo Sáez & Álvarez Jiménez, 2021).

To meet the increasing expectations of digitally savvy users – particularly younger generations – public administrations must adopt technology to transform how they engage with citizens. This transformation begins with public servants, who are central to implementing these changes (Salvador et al., 2020). The widespread use of digital tools has significantly altered how governments operate and communicate, raising citizens' expectations for accessible, agile, and high-quality services. Consequently, it is crucial to reform recruitment and retention strategies to prioritise candidates with expertise in digital technologies, data analysis, and artificial intelligence. Additionally, performance evaluation systems should incorporate metrics that assess adaptability to digital environments and improvements in service quality.

Digital transformation necessitates a clear understanding of the digital competencies that current public employees must develop. This goes beyond simply learning to use new technologies; it involves grasping their broader impact on administrative workflows and service delivery. Key priorities for public administrations include promoting digital skills training programmes, fostering a culture of innovation that embraces technological solutions, and ensuring the recruitment of specialised talent in areas such as data analysis, artificial intelligence, cybersecurity, and digital platform development.

Finally, digital transformation in public institutions demands not only technical training but also a profound cultural shift (Criado Grande, 2016). This includes moving away from rigid hierarchical structures towards more collaborative and efficiency-driven work models. It involves challenging traditional mindsets that view digitalisation as a threat and replacing outdated bureaucratic procedures through automation and interoperability. A key obstacle in this process is resistance to change. To address this, public administrations must implement change management strategies, actively involve employees in the transformation, and emphasise the benefits for their daily work (Poulose et al., 2024). In this regard, when there is resistance to change in public organisations, it often works very well to clarify the purpose of these changes, eliminating uncertainties, socialise them among the workforce, and refining a good discourse from the leadership that motivates and rationalises the need for change.

In the context of digital transformation, public administrations must implement human resource management strategies that support staff in adapting to new digital tools and actively participating in the modernisation of the public sector. This process requires not only continuous training but also strategic workforce planning to identify which professional profiles will be essential, or redundant, in the future. The following analysis explores HRP within digital transformation, emphasising the challenges and opportunities it presents for public employment.

3. Human resource planning in the context of digital transformation

To properly understand the issue, it is important to recognise that public employment is not merely a structural matter but a subjective one (Pineda Nebot, 2019). It reflects political, economic, social, and cultural models tied to the concept of the public sector being managed (OECD, 2009). The characteristics, size, and structure of public employment often align with political ideologies ranging from more to less liberal views on the economy and public services. However, once a country defines its public sector model, the planning of public employment becomes a technical task which includes formalised human resource management processes such as job planning and analysis (Dolan et al., 2007).

Planning must be understood as both an essential (Cuenca Cervera, 2018) and a complex public function, given the significant resources and societal impact associated with public services and employees. In many developed countries, between 20% and 35% of public spending is allocated to staff salaries, with public administrations often being the largest employers (Knies et al., 2018; Pineda Nebot, 2019), representing an average of 20.8% of total employment in OECD nations (OECD, 2022). The concept of 'legitimacy through results' (Easton, 1965) or 'legitimacy through performance', in Weber's (2002) terms, remains central, as public service outcomes are directly tied to government actions and taxpayer contributions. Human resource management systems play a critical role in organisational performance (Knies et al., 2018). It is therefore important to distinguish between the political dimension of public sector size and the technical dimension of its management efficiency, with strategic planning falling under the latter. However, defining HRP is challenging due to the nature of public organisations as 'weak links', lacking clear, shared objectives (March & Olsen, 1976). This ambiguity undermines the strategic character of HRP, as a coherent strategy requires well-defined goals known throughout the organisation (Cuenca Cervera, 2018). Moreover, an absence of a long-term vision is exacerbated by the short-term focus of political agendas driven by electoral cycles (Salvador Serna, 2001, 2008).

The term *strategic* highlights the importance of aligning personnel decisions with the broader objectives of public administrations (Colley & Price, 2010; Cotten, 2007; Waterman et al., 1980). However, this planning function has often lacked profession-

alisation, becoming entangled in internal power struggles among departments and bureaucratic bodies (Salvador Serna, 2001; Sánchez Morón, 2012). Despite these challenges, HRP in public administrations is increasingly recognised as a strategic activity (Barzelay, 2006), requiring adaptability to changing environments (Mondy & Noe, 2005) and long-term vision (Bohlander & Scott, 2007). Strategic human resources planning, which is very common in the private sector, has traditionally been considered one of the main shortcomings of current public administrations. This traditional shortcoming is accentuated by the enormous complexity of the scope, diversity of tasks, and interests involved in any public administration (Salvador Serna, 2001).

This initial deficit in strategic planning (Gorriti Bontigui & Jiménez Asensio, 2018), traditionally justified by an incrementalist approach (Parrado Díez, 1996) and a context not conducive to rational resource use (Mayntz, 1985), complicates efforts to improve human resource management due to unclear starting points and time frames. Beyond these structural and technical limitations, there are operational challenges: departments often lack a clear understanding of their human resource needs, and personnel databases are frequently fragmented (Bouzas Lorenzo, 2011) or suffer from basic deficiencies (Cortés Carreres, 2001; Ferretti, 2022), resulting in duplicated data handling. However, this situation is gradually improving with the integration of big data technologies to support decision-making (Varela et al., 2023).

According to the classic definition by Vetter (1972), refined by Cuenca Cervera (2018), HRP is the process by which an organisation ensures it has a sufficient number of qualified staff in the right roles at the right time to enhance efficiency. This concept links organisational goals with the resources needed to achieve them. Cotten (2007) reinforces this idea by emphasising that HRP ensures the right people with the right skills are in the right job at the right time.

Building on Herrero (1995), HRP can be understood as a set of interrelated activities connected to various personnel subsystems (Bohlander & Scott, 2007), such as recruitment (to identify suitable candidates), training (to ensure up-to-date qualifications, especially in the context of digital transformation), and workforce management (to align staffing with workload demands). However, as Colley and Price (2010) note, many organisations lack sufficient data on their workforce – such as employee numbers, skills, and roles – which hinders effective planning and analysis.

The traditional lack of technical methods in HRP within public administrations can be attributed to several factors: the diversity and scale of public sector organisations (Albi et al., 1997; Salvador Serna, 2001), the fragmentation of units and agencies versus a need for centralised data (Colley & Price, 2010), and the absence of clear strategic objectives due to the political nature of public administration (Lohman, 2005, 2009). Often, political interests – regardless of party – favour informal and intuitive approaches to staffing decisions, complicating the development of strategic planning (Colley & Price, 2010; Salvador Serna, 2001). Nonetheless, there is growing consensus on the need for technical, objective workforce planning (Colley & Price, 2010),

as emphasised in Spain by the report of the Committee of Experts for the Study and Preparation of the Public Employee Statute (CEBEP, 2005). The following challenges are universally recognised as key obstacles to effective strategic HRP:

- The complexity and diversity of public administration
- Poor strategic orientation and a tendency towards intuitive processes
- The problem of incrementalism
- Deficiencies in personnel records
- The impact of corporatism

Conversely, based on these negative factors that affect proper planning, we can point to the features of a professionalised model or a correct way of planning. We can consider (Cuenca Cervera, 2010; Pineda Nebot, 2019; Villoria Mendieta, 1997) a series of activities that would necessarily be included in an HRP subsystem. These are sequentially arranged in the following list:

- 1) Planning of personnel stock (quantity and composition)
- 2) Planning of personnel needs (quantity and composition)
- 3) Planning of coverage strategy (specific objectives)
- 4) Evaluation of planning objectives and areas; projects for improvement (quantitative and qualitative redesign of positions)
- 5) Socialization and political-managerial leadership of planning

According to Poulouse et al. (2024), digital transformation requires professionals to evolve and acquire new skills while collaborating with leadership to implement effective human capital strategies (Hill, 2019). For successful adoption, HR professionals must possess digital competencies and be familiar with relevant technologies, as these factors influence users' readiness to embrace new systems. However, HR departments often lag behind other areas in digital proficiency, which hampers digitalisation efforts (Mazurchenko & Maršíková, 2019). Additionally, HR professionals need strong data analytics capabilities – including statistical analysis, big data management for public decision-making (Varela et al., 2023), multivariate modelling, research methods, and qualitative data collection – along with the ability to formulate research questions and develop analytical models (Poulouse et al., 2024).

4. Planning personnel needs: New profiles for a new digital public service

The planning phase for personnel needs goes beyond numerical estimations and includes assessing professional suitability and qualification profiles, aligning with concepts such as 'competency-based management' (Alles, 2007) and 'human capital

management' (Bontis et al., 1999, p. 393). This phase also requires precision in identifying the specific positions to be filled and the urgency for them to be covered, forming part of a broader strategy for effective workforce planning.

Job evaluation is a strategic procedure in human resource management that is essential for advancing towards a more sophisticated management model. Its purpose is to assess the relative value of different roles within an organisation, which influences their placement in the staffing structure. This process enables the integration of emerging needs linked to digital transformation – such as digital communication, personalised technical support, cybersecurity, and complex technical procedures – into the job catalogue. As society evolves, so too must the skills and roles within the public sector. Once the need to depoliticise HRP and align it with professionalised planning is established, it is important to highlight the profound transformation underway due to the impact of new technologies on public administration.

As a result of the intense digitalisation process, current administrations need to adapt to a new technological environment. New trends in human resources management cannot ignore the constant impact on public administrations of new information technologies, digitalisation, big data, and AI, to mention just a few. These can be categorised and broken down into the following key areas.

4.1. The impact of digitalisation on processes

Digitalisation has significantly reduced the need for manpower in traditional administrative functions due to the streamlining of processes through e-government initiatives (Criado et al., 2004), robotic automation, and increased citizen participation. A notable example is the role private companies played in Spain during the rapid implementation of ERTes (Temporary Employment Regulation Files) during the COVID-19 pandemic, effectively acting as processing agents. This shift illustrates how new technologies and automation are reshaping administrative operations. In this regard, examples of the introduction of new technologies and robotisation in the Administration include:

- Robotisation or automation of procedures: Automation has streamlined administrative tasks through interconnected databases across different government levels. For example, in Spain, verifying a person's legal residence, once a manual, paper-based process involving local police, is now handled digitally between the Ministry of the Interior and local administrations. Similarly, checks for tax or social security debts are now automated, reducing manual workload and increasing efficiency.
- Improvement of institutional websites as an official and reliable communication channel: In the case of Spain, the Tax Agency, the National Police, regional and local administrations, and the wide variety of health services that can be managed from the websites of the health departments of the different

autonomous communities stand out (Mahou Lago & Bouzas Lorenzo, 2012). Web forms have also been improved and simplified, and are now more intuitive, with simple and accessible information that is easily understandable by all types of users.

- Use of chatbots: The use of chatbots for recurring queries from public service users often replace the classic frequently asked questions or ‘FAQs’ sections. Examples in Spain include the Tax Agency and the public railway company (RENFE).
- Use of mobile applications (‘apps’) and smartphone features (WhatsApp, Telegram, SMS, etc.): Here, we can recall important meteorological phenomena in Spain in which these types of tools have played a major role, sometimes because of their usefulness in warning the population and ultimately saving human lives, and in other cases because their misuse and poor management of these warnings led to extreme weather events causing a significant number of human losses.¹
- Massive introduction of fully telematic administrative procedures.

These changes in work processes bring up a clear debate, addressed extensively in Spain by Ramió and Salvador (2018), on the need to reformulate public sector staffing and design new standards of professional competence, in line with the logic of reducing the number of staff who ‘row’, and compensating for this reduction with staff who ‘steer’ (highly qualified and specialised personnel), if deemed necessary in each administration (Osborne & Gaebler, 1994). The exploration of new possibilities, in addition to being the focus of educational programmes, must be considered by training schools for public employees from the point of view of the production of intra-organisational knowledge that must flow through all parts of the institution (Bouzas Lorenzo & García Arias, 2007).

The protective role of the state must ensure that digital transformation does not exclude citizens lacking technological means or skills. This process must uphold values such as equity and the egalitarian purpose of public administration, avoiding the digital divide and ensuring, as European Commission state (2021), that ‘no one is left behind’. In Spain, recent research highlights not only access issues but also digital complexity, with even young people struggling with procedures like obtaining a digital certificate (González-Cacheda et al., 2024).

1 In 2024, the DANA (*Depresión Aislada en Niveles Altos*, or isolated depression at high levels) phenomenon in Valencia was particularly striking in this regard. Despite the existence of such technological warning systems, significant shortcomings were observed in management and decision-making processes, which ultimately rendered the available alert technologies ineffective.

4.2. The impact of digital transformation on selection, provision, and ongoing training

Access

Selection processes, which clearly need improvement in Spain, are starting to develop the idea of accrediting prior digital skills (there is currently a debate about which model each administration should follow). The other option, whether complementary to certified accreditation or not, consists of demonstrating these skills through some type of test, which would normally be eliminatory in nature. However, this is beginning to be criticised due to its cost in terms of equipment, facilities, and test controls, with the idea of moving towards a system of prior accreditation of digital skills, or even demonstration of previous experience, gaining momentum.

On the other hand, civil service positions themselves seem to be at a critical juncture. The prevailing scientific doctrine in Spain predicts the disappearance of civil service positions linked to activities that do not contribute public value, are easily replaceable, or will undergo intense robotisation in the performance of their tasks. At this point, it seems clear that alongside this movement of 'contraction' there is another of expansion, with an increase in STEM professions (professions linked to training in technical disciplines) and other profiles related to the digital revolution (MPTFP, 2021), such as data analysts, software developers, cybersecurity experts, and artificial intelligence experts, to name a few.

It is already possible to find examples in official gazettes that announce calls for applications for positions that reflect these new profiles, which are now considered structural even in the field of local government. This is the case of the Ayuntamiento de Guadalajara, which has advertised a position for a Communications and New Technologies Technician, and the Ayuntamiento de Finestrat (Alicante), which is looking to recruit a social media and communications technician.

Continuous retraining

Administrations are beginning to anticipate the need for constant updating of knowledge, with special attention to knowledge of computer environments or applications, given the enormous speed with which these contexts change. In this regard, special attention should also be paid to new forms of telematic relations between citizens and their administration (Salvador Serna, 2021), and within this, to the digital identity of users and the administration, with its various aspects in terms of security, accessibility, and usability of websites or telematic environments (Mahou Lago & Bouzas Lorenzo, 2012). This adaptation to new technological scenarios and procedures must be linked to opportunities for promotion, career advancement, or the provision of career destinations and jobs. In other words, adaptation to new ways of working in digital environments must be considered a professional merit, even though it also has a duty dimension: the duty of all public employees to keep up to date in their jobs, which is usually included in the civil service regulations of any

modern country. However, it should be noted that there may be excessive pressure on staff, who are subject to the intense pace of change in technological requirements and needs, making training and updating throughout their professional lives a source of stress and impairment in their personal and professional development. This causes a negative externality that is directly contrary to what is intended.

Training

Training in new technologies should be approached in a broad sense, with access to training being considered an obligation while at the same time being promoted, with a view to the ultimate goal of ensuring that such training permeates the entire organisation. It will be necessary to consider current and, above all, future skills (some of which are even unthinkable at this point), but it is possible to anticipate some basic skills that the profiles of public employees should have.

4.3. Process digitalisation and remote working

For some years now, human resource management theory has largely defended the possibilities of remote working in public administration, without any loss of productivity and even with the opposite effect. In fact, remote-working projects were already considered by the EU in 1993 as an important social phenomenon (European Union, 1993); they were and are presented with the characteristics of voluntariness, reversibility in both directions (company–employee) (AMC, 2002), adaptation to jobs where it can be implemented, the introduction of technical criteria for access to remote work, and objectives, and are offered with maximum transparency in the organisation. In a current definition, in this case taken from the relevant Spanish legislation (Real Decreto-ley 28/2020, 2020), remote work is ‘carried out through the exclusive or prevalent use of computer, telematic, and telecommunications (ICT) means and systems’.

The first steps towards remote working as a project to be implemented in public administrations can be found in the European Framework Agreement on Teleworking, in the Lisbon Strategy (CES, 2007). This agreement, revised in 2009, seeks to promote ‘e-government’ to take advantage of new technologies by making information more accessible, structuring remote working around the basic principles discussed above (AMC, 2002). This first legal milestone was the result of a European initiative launched at the time to advance the development of this form of work organisation, based on articles 138 and 139 of the Treaty Establishing the European Community. It was founded on several key principles: remote working and returning to the workplace must be voluntary, and remote workers should receive equal treatment and rights to on-site employees, including collective representation, health and safety protections, training, and access to necessary work equipment.

Remote working aligns with and accelerates the digitisation of public administration and the shift towards hybrid work environments (Dixit, 2023). This trend builds on earlier European initiatives, including the 2010 Action Plan on eGovern-

ment (European Commission, 2010) and its predecessor from 2006. After the 2008 economic crisis, the Europe 2020 Strategy aimed for smart, sustainable, and inclusive growth, further supporting digital transformation. Although momentum has slowed in recent years, remote working has resurged, driven largely by the COVID-19 pandemic's unplanned and reactive push, and is now a key focus in debates on human resource management (Poulose et al., 2024).

Alongside organisational socialization, the citizen's perspective is crucial, and it is necessary to recognise the legitimate right of citizens to have their needs met and to the responsiveness of the public sector. As Sancho Royo (1999) highlights, citizens' contact with public administration remains fundamental, and this must be considered in remote working arrangements and broader digitalisation efforts, despite the well-documented benefits of online service delivery. The debate may be somewhat skewed: while face-to-face services remain highly valued by the public, growing evidence supports a dual-channel service-delivery model (*'two-way service'*) that complements remote working. This model offers users both digital interaction and in-person assistance. A remote working approach compatible with maintaining face-to-face services seems the most suitable framework, considering all stakeholders in public service, as confirmed by González-Cacheda et al. (2024).

Data on remote working across Europe reveal that it is not the 'dream labour paradise' it was once thought to be. It is neither universally desired nor seen as a fully remote model where civil servants lose all in-person contact. Studies after the pandemic-forced shift show no clear preference for remote working among employees. Consequently, the future remote working model remains uncertain; clarity on its optimal extent, implementation challenges, and impacts on citizens in public administrations is awaited.

Based on original analyses conducted with over one hundred public employees since 2007, the following table summarises the key strengths, weaknesses, opportunities, and threats (SWOT) associated with the shift to remote working arrangements.

Table 1. Arguments for and against Remote Working.

For	Against
Lower environmental externalities (pollution), energy costs, and labour-related costs associated with the absence of the remote worker from public buildings.	Costs of equipment and connectivity; reliance on the remote worker's personal equipment unless the administration explicitly provides all necessary equipment.
Increased productivity in intellectual work, provided that a more isolated and focused environment is achieved at home.	Risk of reduced quality in public service provision (requires monitoring by the authority granting the remote work). In some cases, remote workers are expected to be permanently available and may be summoned to attend physically at any time.

Improved work–life balance, with knock-on benefits for the workplace climate (enhanced perception of the value of work and greater staff retention).	Loss of corporate identity or organisational socialisation (which can be mitigated by requiring at least one mandatory weekly day of in-person presence).
Potential for improved work efficiency through self-organisation.	Lack of direct supervision (which can be mitigated through technological tools or task-/goal-based performance techniques).
Motivation can be maintained through digital communication enhanced by the benefit of being allowed to work remotely.	Loss of motivational influence from the human team or hierarchical superiors, where these structures are present.
Social acceptance is possible if the greater oversight of remote working and the reduction in ecological footprint are properly communicated.	Lack of social acceptance, especially given the perception that public sector employment already enjoys favourable conditions.
Reduction in absenteeism due to improved compatibility between personal, family, and professional obligations.	–
Relocation of public administration jobs to rural or less advantaged areas.	Potential loss of collective learning.
Reduction in public expenditure associated with remote work (lower spending on electricity, heating, shared services staff, etc.).	Increased cost for citizens in terms of dissatisfaction with virtual service provision when compared to face-to-face attention.

Source: Author’s own elaboration based on the reviewed literature and the SWOT methodology

An important issue is monitoring the quality and quantity of work under remote working arrangements. For remote working to gain social acceptance, productivity must be strictly controlled. Tools for tracking working hours, evaluating service quality, and monitoring performance are essential to demonstrate that remote working and productivity control are fully compatible.

Conclusions

This article has examined the impact of digital transformation on public administration, focusing particularly on strategic HRP. Digital transformation should be seen as an integrated process that goes beyond adopting technological tools (digitalisation), requiring the adaptation of people, processes, and organisational culture. It reshapes public administration by altering internal processes and citizen relationships. Automation, interoperability, and personalised digital services are replacing traditional, standardised, presence-based models; at the same time, a citizen-centred approach is gaining strength, enhancing participation, transparency, and service quality.

Digital transformation is reshaping the working environment through remote working, workspace reorganisation, and new organisational dynamics. Strategic HRP is directly affected, making investment in training, change management, and talent attraction essential. Public administrations must equip current staff to use dig-

ital tools and contribute to modernisation, while also identifying professional profiles that may be needed in the future or that may potentially become obsolete.

HRP encompasses activities like recruitment, training, and workforce allocation. Effective planning is hindered by the lack of accurate data on staff numbers, skills, and roles – a critical issue as public administrations face the challenges of rapid technological change. Emerging trends in people management must account for technologies like AI, big data, and automation, which are reshaping required job profiles and tools for strategic talent management.

Evidence shows that the new digital environment brings several challenges: a need for continuous training, ‘technostress’, reduced human interaction in service delivery, and the potential erosion of team spirit and organisational culture in remote work. These developments highlight the need to rethink HRP models and recruitment processes to align with evolving digital demands and to uphold core public sector values such as efficiency, transparency, accountability, and trust. At the same time, the debate on technological challenges has been enriched by proposals to address their impact on public organisations – particularly in HRP, but also in areas such as training, talent retention, organisational climate, personal development, and productivity monitoring in remote-work settings.

Finally, it is essential to reflect – drawing on scholarly evidence – on the impact of new work arrangements, especially remote working. Further research is needed on three levels: organisational dynamics, employee adaptation, and citizen satisfaction. This emerging line of inquiry carries major economic, social, political, and organisational implications, and requires a stronger empirical foundation.

REFERENCES

- Acemoglu, D., & Robinson, J. A. (2012). *Why nations fail: The origins of power, prosperity, and poverty*. Crown Business.
- Albi, E., González, J., & López, G. (1997). *Gestión pública. Fundamentos, técnicas y casos*. Ariel Economía.
- Alles, M. A. (2007). *Gestión por competencias. El diccionario*. Granica.
- AMC. (2002). *Acuerdo Marco Europeo sobre el teletrabajo*. <https://ec.europa.eu/social/main.jsp?catId=521&langId=en&agreementId=1106>
- Ayata, Z. (2024). European Union contracts in digital environments. In Ramiro Troitiño, D., *E-governance in the European Union: Strategies, tools, and implementation* (pp. 173–185). Springer Nature Switzerland.
- Ballart, X. & Ramió, C. (2000). *Ciencia de la Administración*. Tirant lo Blanch.
- Barzelay, M. (2006). O estudo do desenvolvemento de estratexias nas organizacións gobernamentais; como integrar a xestión estratéxica e as teorías de prácticas sociais. *Revista Galega de Administración Pública* ,, 1(2), 9–25.
- Bohlander, G., & Scott, S. (2007). *Administración de recursos humanos*. Thomson Learning.:

- Bontis, N., Dragonetti, N. C., Jacobsen, K., & Roos, G. (1999). The knowledge toolbox: A review of tools available to measure and manage intangible resources. *European Management Journal*, 17(4), 391–402. [https://doi.org/10.1016/S0263-2373\(99\)00019-5](https://doi.org/10.1016/S0263-2373(99)00019-5)
- Bouzas Lorenzo, R. (2011). Sector público: Los recursos humanos en las administraciones públicas en España. In R. Gutiérrez & M. Martínez (Eds.), *Gestión de recursos humanos. Contexto y políticas* (259–278).. Thomson–Civitas 2011.
- Bouzas Lorenzo, R., & García Arias, C. (2007, 10–14 July). *Detection of regional administration employee training needs in Spain: Developing an innovative methodology* [Conference presentation]. IAAS 27th International Congress of Administrative Sciences. Abu Dhabi. CD-ROM.
- CEBEP. (2005). *Informe de la Comisión para el estudio y preparación del EBEP*. Instituto Nacional de Administración Pública – Ministerio de Administraciones Públicas.
- CES. (2007). *Dictamen del Consejo Económico y Social sobre el Proyecto de real decreto por el que se regula el teletrabajo en la Administración General del Estado*. Mimeografiado.
- Colley, L., & Price, R. (2010). Where have all the workers gone? Exploring public sector workforce planning. *Australian Journal of Public Administration*, 69, 202–213. <https://doi.org/10.1111/j.1467-8500.2010.00676.x>
- Cortés Abad, O. (2020). La Administración tras el coronabreak. Políticas para ¿un nuevo paradigma administrativo? *Gestión y Análisis de Políticas Públicas*, 24, 6–23. <https://doi.org/10.24965/gapp.i24.10811>
- Cortés Carreres, J. V. (2001). *Manual práctico de gestión de recursos humanos en la administración local*. Dykinson.
- Cotten, A. (2007). *Seven steps of effective workforce planning*. IBM Center for the Business of Government.
- Criado, J.I., Fernández B, D., Olías de Lima G, M.B. (2004). *Construyendo la e-Administración Local*. Madrid. EuroGestion Pública.
- Criado Grande, J. I. (2016). Las administraciones públicas en la era del gobierno abierto. Gobernanza inteligente para un cambio de paradigma en la gestión pública. *Revista de Estudios Políticos*, 173, 245–275. <https://doi.org/10.18042/cepc/rep.173.07>
- Cuenca Cervera, J. (2010). *Manual de dirección y gestión de recursos humanos en los gobiernos locales*. INAP.
- Cuenca Cervera, J. (2018). Instrumentos de planificación de recursos humanos y selección: ¿Cambio de paradigma? *Revista Vasca de Gestión de Personas y Organizaciones Públicas*, Extra 2, 52–65.
- De la Guardia, C. (2005). La historia en la era digital. *Ayer. Revista de Historia Contemporánea*, (58), 41–54. <https://doi.org/10.55509/ayer/58-2005-03>
- Dixit R. (2023), “HR Trends for 2023: Future of Human Resource Management” Accessed online 25/6/23; <https://www.selecthub.com/hris/hr-trends/#7>
- Dolan, S., Shuler, R., & Valle, R. (2007). *La gestión de los recursos humanos*. McGraw-Hill.
- Easton, D. (1965). *A systems analysis of political life*. John Wiley & Sons.
- European Commission. (2010). *Informe sobre la sociedad de la información europea para el crecimiento y el empleo*. <https://eur-lex.europa.eu/legal-content/ES/TXT/HTML/?uri=LEGISSUM:c11328>

- European Commission. (2021). *2030 Digital Compass: The European way for the Digital Decade* (COM/2021/118 final). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021DC0118>
- European Union. (1993). *Crecimiento, competitividad, empleo*. <https://op.europa.eu/en/publication-detail/-/publication/4e6ecfb6-471e-4108-9c7d-90cb1c3096af/language-es>
- Ferretti, F. (2022). A single European data space and data act for the digital single market: On datafication and the viability of a PSD2-like access regime for the platform economy. *European Journal. Legal Studies*, 14, 173–218.
- Giovanola, B. (2023). Justice, emotions, socially disruptive technologies. *Critical Review of International Social and Political Philosophy*, 26(1), 104–119.
- González-Cacheda, B., Briones-Gamarra, Ó., & Varela-Álvarez, E. J. (2024). Atención telefónica y calidad percibida en los servicios de atención primaria en España. *Cuadernos de Gobierno y Administración Pública*, 11(2), e97055. <https://doi.org/10.5209/cgap.97055>
- Gorriti Bontigui, M., & Jiménez Asensio, R. (2018, 25 September). Mantener o transformar (gestión inteligente de vacantes en el empleo público del futuro). *Ensayo y Política*. <https://rafaeljimenezasensio.com/2018/09/25/mantener-o-transformar-gestion-inteligente-de-vacantes-en-el-empleo-publico-del-futuro/>
- Hamulák, O. (2016). *National sovereignty in the European Union: View from the Czech perspective*. Springer.
- Herrero, R. (1995). Los instrumentos de planificación. La oferta de empleo público. In B. Ollas de Lima (Ed.), *La gestión de recursos humanos en el ámbito público*, 143–160. Complutense.
- Hill, L. A. (2019). *Leading digital transformation* (HBS No. 420-043). Harvard Business School Publishing.
- Kerikmäe, T., Troitiño, D. R., & Shumilo, O. (2019). An idol or an ideal? A case study of Estonian e-governance: Public perceptions, myths and misbeliefs. *Acta Baltica Historiae et Philosophiae Scientiarum*, 7(1), 71–80.
- Knies, E., Boselie, P., Gould-Williams, J., & Vandenabeele, W. (2018). Strategic human resource management and public sector performance: Context matters. *International Journal of Human Resource Management*, 35(14):1–13. <https://doi.org/10.1080/09585192.2017.1407088>
- Lohman, M. C. (2005). A survey of factors influencing the engagement of two professional groups in informal workplace learning activities. *Human Resource Development Quarterly*, 16(4), 501–527.
- Lohman, M. C. (2009). A survey of factors influencing the engagement of information technology professionals in informal learning activities. *Information Technology, Learning, and Performance Journal*, 25(1), 43–53.
- López, A., Uquillas, G., Jácome, I., & Pérez, F. (2025). La transformación digital en la administración pública: evolución y tendencias de investigación. *Perspectivas Sociales y Administrativas*, 3(1), 17–36. <https://doi.org/10.61347/psa.v3i1.74>
- Lupi, A., Nolan-Flecha, N., & Handlos Thomassen, N. (2024). Size and composition of public employment: Data sources, methods and gaps. Towards improved internationally comparable data on public employment. *OECD Working Papers on Public Governance*, 76. OECD Publishing. <https://doi.org/10.1787/32c747be-en>

- Maatsch, A. (2024). Parliamentary adjustment during a crisis: Interplay of digitalization and domestic context factors. *Internet of Things*, 27, 101316.
- Mahou Lago, X. M., & Bouzas Lorenzo, R. (2012). Atención al usuario y comunicación en los portales web de salud autonómicos en España. *Gestión y Análisis de Políticas Públicas*, 8, 99–113. <https://doi.org/10.24965/gapp.v0i8.10005>
- March, J. G., & Olsen, J. P. (1976). *Ambiguity and choice in organizations*. Universitetsforlaget.
- Mayntz, R. (1985). *Sociología de la administración pública*. Alianza Universidad.
- Mazur, V., & Ramiro Troitiño, D. (2024). The members of the EU and e-governance, analysis, and institutional support. In Ramiro Troitiño, D. (Ed.), *E-governance in the European Union: Strategies, tools, and implementation* (pp. 39–55). Springer Nature Switzerland.
- Ministerio de Política Territorial y Función Pública (MPTFP). (2021). *Orientaciones para el cambio en materia de selección en la Administración General del Estado*. <https://funcionpublica.hacienda.gob.es/dam/es/portalsefp/secretaria-general-funcion-publica/Actualidad/2021/05/orientacionescambio.pdf>
- Mokrá, L. (2023). Digitally sovereign individuals: the right to disconnect as a new challenge for European legislation in the context of building the EU digital market. In Troitiño, David & Kerikmäe, Tanel & Hamulak, Ondrej. (Eds.). *Digital development of the European Union: An interdisciplinary perspective* (pp. 189–197). Springer International Publishing.
- Mondy, R. W., & Noe, R. M. (2005). *Human resource management* (9th ed.). Prentice Hall.
- Niskanen, W. A. (1971). *Bureaucracy and representative government*. Routledge.
- OECD. (2009). *Government at a glance 2009*. OECD Publishing.
- OECD. (2022). *Panorama de las administraciones públicas 2021*. OECD Publishing. <https://doi.org/10.1787/1c258f55-es>
- Osborne, D. y Gaebler, T. (1994), *La reinención del gobierno*. Ed. Paidós.
- Parrado Díez, S. (1996). *Las élites de la administración estatal (1982–1991): estudio y pautas de reclutamiento*. Instituto Andaluz de Administración Pública.
- Parrado Díez, S. (2002). *Sistemas administrativos comparados*. Tecnos.
- Pineda Nebot, C. (2019). Retos de futuro en la gestión de los recursos humanos públicos en España. *Administração Pública e Gestão Social*, 11(4), 1–19.,
- Pittaway, J. J., & Montazemi, A. R. (2020). Know-how to lead digital transformation: The case of local governments. *Government Information Quarterly*, 37(4), 101474. <https://doi.org/10.1016/j.giq.2020.101474>
- Poulose, S., Bhattacharjee, B., & Chakravorty, A. (2024). Determinants and drivers of change for digital transformation and digitalization in human resource management: A systematic literature review and conceptual framework building. *Management Review Quarterly* 75(3) 1911–1936 . <https://doi.org/10.1007/s11301-024-00423-2>
- Ramió, C., & Salvador, M. (2018). *La nueva gestión del empleo público: Recursos humanos e innovación de la administración*. Ediciones Tibidabo.

- Real Decreto-ley 28/2020, de 22 de septiembre, de trabajo a distancia [Royal Decree-Law 28/2020, of September 22, on remote work]. (2020). *Boletín Oficial del Estado*, (253). <https://www.boe.es/eli/es/rd/2020/09/22/28>
- Rek, M. (2024). E-democracy in the EU. In Ramiro Troitiño, D. (eds). *E-governance in the European Union: Strategies, tools, and implementation* (pp. 103–115). Springer Nature Switzerland.
- Rüse, I. (2014). Nordic–Baltic interaction in European Union negotiations: Taking advantage of institutionalized cooperation. *Journal of Baltic Studies*, 45(2), 229–246.
- Salvador, Y., Llanes, M., & Suárez, M. A. (2020). Transformación digital en la administración pública: ejes y factores esenciales. *Avances*, 22(4), 590–602. <http://www.ciget.pinar.cu/ojs/index.php/publicaciones/article/view/573/1635/>
- Salvador Serna, M. (2001). El papel de las instituciones en la gestión de las administraciones públicas. *Revista del CLAD Reforma y Democracia*, 20, 1–19.
- Salvador Serna, M. (2008). Nuevas tendencias en gestión de recursos humanos en las administraciones públicas: ¿Están cambiando las reglas del juego? *Revista Internacional de Organizaciones*, 1, 109–127.
- Salvador Serna, M. (2021). Transformación digital y función pública: capacidades institucionales para afrontar nuevos retos. *Documentación Administrativa*, 8, 25–42. <https://doi.org/10.24965/da.i8.11030>
- Sánchez Morón, M. (2012). *La administración tras la crisis: el empleo local* [Conference presentation]. XII congreso sobre recursos humanos en el sector público. Vitoria.
- Sancho Royo, D. (1999). *Gestión de servicios públicos: estrategias de marketing y calidad*. Tecnos.
- Troitiño, D. R. (2022). The European Union facing the 21st century: The digital revolution. *TalTech Journal of European Studies*, 12(1), pp. 60–78.
- Trujillo Sáez, F., & Álvarez Jiménez, D. (2021). Transformación digital de la administración pública: ¿Qué competencias necesitan los empleados públicos? *Gestión y Análisis de Políticas Públicas*, 27, 49–67. <https://doi.org/10.24965/gapp.i27.10923>
- Varela, E., Briones, O., & González, B. (2023). La gobernanza de la salud a partir de la gestión de la evidencia: análisis de la toma de decisiones sanitarias en el caso de la pandemia COVID-19 en Galicia. (2020–2022) [Special issue]. *Revista Vasca de Gestión de Personas y Organizaciones Públicas*, 5, 80–105. <https://doi.org/10.47623/ivap-rvvp.06.2023.AB.05>
- Vetter, E. W. (1972). The nature of long range manpower planning. In M. J. Matteson, R. N. Blakeney, & D. R. Domm (Eds.), *Contemporary personnel management: A reader* (pp. 94–103). Canfield Press.
- Villoria Mendieta, M. (1997). Modernización administrativa y gobierno posburocrático. In E. Bañón & R. Carrillo (Eds.), *La nueva administración pública*, 77–104. Alianza.
- Waterman, R. H., Jr., Peters, T. J., & Phillips, J. R. (1980). *Structure is not organization*. *Business Horizons*, 23(3), 14–26. [https://doi.org/10.1016/0007-6813\(80\)90027-0](https://doi.org/10.1016/0007-6813(80)90027-0)
- Weber, M. (2002). *Economía y sociedad*. Fondo de Cultura Económica.

