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Public Policies for the Digitalization of Public Services in the European Union: From Foundations to Contemporary Challenges

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Abstract. This article examines the digitalization of public services within the European Union (EU), focusing on its institutional, technological, and socio-political aspects. The EU has prioritized e-government to enhance administrative efficiency, transparency, and citizen engagement. Benchmarking tools like the E-Government Development Index (EGDI) and the Digital Economy and Society Index (DESI) are highlighted as key measures for assessing progress across member states. Case studies from countries such as Estonia, Greece, Italy, and Romania reveal significant variations in digital readiness, infrastructure, and governance. The paper emphasizes the importance of collaborative governance, transparency, and open government in building public trust and advancing digital transformation. It also addresses challenges including corruption, gaps in digital literacy, and ethical concerns in the use of automated decision-making. The COVID-19 pandemic's role in accelerating digital initiatives is discussed, along with policy recommendations aimed at improving interoperability, fostering digital skills, and aligning national recovery plans to achieve inclusive and efficient digital governance.

Keywords. e-government, digital transformation, public administration, European Union, open government

Introduction

Public administrations across the European Union (EU) have experienced profound changes in recent decades due to the rapid spread and adoption of digital technologies. Governments at all levels—local, regional, national, and supra-national—have sought to harness Information and Communication Technologies (ICTs) to optimize public service delivery, streamline internal procedures, and enhance civic engagement. Against the backdrop of an increasingly globalized world, characterized by rapid technological innovation and interconnectivity, the EU has positioned e-government and digital transformation as priority areas in its policy agenda. These initiatives aim to enhance not only administrative efficiency but also democratic legitimacy and accountability by widening channels of participation and ensuring greater transparency.

The digitalization of public services in the EU is closely monitored through various indices and benchmarking mechanisms, most notably the E-Government Development Index (EGDI), a tool that provides comparative data on how national administrations harness ICT for public service delivery (Androniceanu & Georgescu, 2023). This index comprises multiple dimensions capturing the scope and depth of electronic services, telecommunication infrastructure, and human capital. Likewise, the E-Participation Index (EPI) sheds light on the extent to which digital tools are employed to foster citizen engagement in policy-making, thereby highlighting the role of e-participation in modern administrative systems (Androniceanu & Georgescu, 2023). Additionally, the Telecommunication Infrastructure Index (TII) and Internet Use by Individuals (INTUSE) remain essential metrics for evaluating the foundations necessary for the digital transformation of public administration (Androniceanu & Georgescu, 2023). These indices jointly underscore how readiness for digital governance is contingent upon not only technological capacity but also the political will to use such capacity in inclusive and equitable ways.

Through initiatives such as the Digital Economy and Society Index (DESI), the European Commission tracks the progress made by EU member states in integrating digital technology, expanding human capital, and improving connectivity (Kontogeorgis & Varotsis, 2021). Although certain EU member states—Estonia and Finland often mentioned as leaders—demonstrate mature e-government ecosystems, other countries grapple with structural, financial, and political challenges. Greece, for instance, despite noteworthy efforts and the support of EU financial programs, still lags in digital governance compared to some of its Northern European counterparts (Kontogeorgis & Varotsis, 2021). The discrepancy in performance among EU member states underscores the complexity of achieving a “digital single market” in which administrative boundaries are minimized and public services become widely accessible online.

Alongside these national variations, collaboration mechanisms and intergovernmental partnerships form a pivotal aspect of the EU’s digital transformation policies. To expedite and coordinate the digitization of local government functions, authorities often establish specialized teams or coordination bodies aimed at harmonizing strategic plans, monitoring ongoing programs, and ensuring the alignment of administrative priorities with broader EU guidelines (Maulana et al., 2024). In tandem with these structural developments, the COVID-19 pandemic served as an accelerant for digitalization processes, both in public administration broadly and in the realm of public administration education and training specifically. Many universities and training institutes rapidly adopted e-learning platforms, signaling the potential for lasting changes in how future public servants are educated (Moldovan et al., 2024).

At the European level, major policy documents have highlighted digital transformation as a cornerstone for inclusive, transparent, and efficient governance. Notably, the Tallinn Declaration on eGovernment (2017) reaffirmed the EU’s stance on e-government and recognized its role in addressing social, economic, and environmental challenges. The Declaration underscores the centrality of individual rights—such as freedom of expression and privacy—and frames e-government as a means to empower citizens and businesses through enhanced digital services (Nemec et al., 2022). These commitments are supported by the overarching objective of the European Union to enhance citizen trust and reduce the so-called “democratic deficit,” wherein EU-level decisions often appear distant from everyday citizens (Nemec et al., 2022).

Digital transformation in public administration, however, is not solely a matter of implementing new technologies. It entails reimagining organizational structures, modifying

administrative cultures, and, often, reforming legal and regulatory frameworks. Scholars have increasingly turned their attention to the multifaceted implications of digital government, including moral dilemmas surrounding automation, the balance between transparency and data protection, and the evolving discretion of “street-level bureaucrats” (Johansson, 2024). In countries such as Germany, where the Online Access Act (OZG) was designed to convert all public services into digitized forms by the end of 2022, progress has been uneven (Nagel, 2025). Fragmented IT solutions at the state and municipal levels, combined with interoperability challenges, have hindered the seamless adoption of digital services.

Open government principles have likewise garnered increased attention, as the EU’s digital agenda places strong emphasis on transparency, accountability, and citizen engagement. The Treaty on European Union explicitly calls for decisions to be taken as openly and as closely as possible to citizens, a stance bolstered by policy frameworks such as the eGovernment Action Plan (2016-2020) and the Path to the Digital Decade (Villaplana et al., 2023). Yet the impact of these measures differs across member states, reflecting the variegated administrative traditions and governance capacities within the EU. Digital transformation is often grounded in co-creation and collaboration across public, private, and civil society sectors, a process facilitated by digital tools but also contingent on stakeholder demands and institutional readiness (Weissmueller et al., 2023).

Within this broader landscape of policy discourse, scholars have pointed to corruption and administrative inefficiencies as potential obstacles that can stymie Industry 4.0 transitions and the broader implementation of e-government initiatives (Nemec et al., 2022). For instance, a lack of transparent procurement procedures or robust regulatory frameworks may undermine trust in digital platforms, thus weakening citizen uptake of online services. Furthermore, national recovery and resilience plans (NRRPs) have emerged as strategic instruments to address these barriers and align EU funding with clear, outcome-based goals. Italy’s approach, for example, centers on a regional eGovernment indicator to track functional objectives for digitalization in public administration, recognizing the risk that poorly informed digital policies might exacerbate existing territorial inequalities (Traversa & Ivaldi, 2024).

This article presents a comprehensive literature review of public policies regarding the digitalization of public services in the European Union. By examining the scholarship from general theoretical underpinnings to particular policy case studies, the review illuminates the critical dimensions—institutional, technological, political, and ethical—that shape the digital transformation journey. The discussion proceeds by critically synthesizing the major themes arising from relevant studies, beginning with conceptual frameworks for e-government and e-participation, continuing through issues of digital discretion and street-level bureaucracy, and culminating in analyses of how different EU member states manage digital transformation strategies. The concluding section offers policy recommendations informed by the literature, avoiding repetition of prior discussions and focusing instead on forward-looking insights that address persisting gaps and new opportunities.

Literature Review

1. Conceptual Foundations of E-Government in the EU

The concept of e-government transcends the mere adoption of ICT tools to automate traditional administrative tasks. Rather, it represents a paradigm shift in how governments organize, engage, and deliver services. The European Union has long promoted digital governance as integral to its vision of a harmonized single market, economic growth, and democratic accountability (Androniceanu & Georgescu, 2023; Pirni et al., 2019). E-government

involves “rethinking organizations and processes and changing behavior so that public services are delivered more efficiently to people who need to use them” (Nemec et al., 2022). While technology is often the visible facet of e-government, the underlying transformations require institutional reform, workforce capacity building, and policy realignments to ensure inclusivity and interoperability across national contexts.

At a theoretical level, digital transformation in the public sector has been explored through various lenses: the technology acceptance model, diffusion of innovations, new public management (NPM), and more recently, digital-era governance (Johansson, 2024; Weissmueller et al., 2023). These frameworks collectively underscore the centrality of citizens as co-producers of public value, as well as the role of state capacity and political will in shaping the trajectory of digital service rollout. In many EU member states, e-government aligns with broader modernization efforts underpinned by the impetus to reduce administrative burdens and enhance competitiveness, reflecting the internal market logic of the EU’s founding treaties.

The scholarship also highlights how the digitalization of public services intersects with normative ideals such as transparency, accountability, and open government. Villaplana et al. (2023) remark that open government is an increasingly utilized management model in many European public administrations, especially in the wake of The Path to the Digital Decade initiative. This vision—rooted in the EU Treaty’s emphasis on closeness to citizens—melds digital service provision with participatory governance structures, opening new spaces for civic engagement and oversight (Villaplana et al., 2023). E-government thereby fosters an environment in which public data and services become more accessible, though practical success remains contingent on institutional capacity, leadership commitment, and robust legal frameworks (Johansson, 2024).

2. Indices and Measurement Frameworks for E-Government Readiness

A defining feature of EU digital policy has been the development of standardized indices and benchmarking tools to measure member states’ progress. These metrics not only track performance but also guide policymaking by identifying best practices and pinpointing persistent gaps. The E-Government Development Index (EGDI), administered by the United Nations, is frequently cited as a global standard for assessing national readiness to deliver public services online. It comprises dimensions such as the scope of online services, telecommunication infrastructures, and human capital (Androniceanu & Georgescu, 2023). Meanwhile, the E-Participation Index (EPI) supplements the EGDI by gauging the extent of government efforts to use digital channels for engaging citizens in policymaking and civic discourse (Androniceanu & Georgescu, 2023).

In the European context, the Digital Economy and Society Index (DESI) is a key instrument used by the European Commission to rank and monitor member states. DESI integrates multiple indicators: integration of digital technology (e.g., the level of adoption in SMEs and large companies), use of internet services (e.g., frequency of online interactions), human capital (digital literacy, advanced skills), connectivity (broadband coverage, speed), and digital public services (Kontogeorgis & Varotsis, 2021). Although DESI has proven valuable for policy guidance, some scholars question its ability to capture nuances tied to local administrative culture or to account for intangible factors such as political will and institutional inertia (Kontogeorgis & Varotsis, 2021; Maulana et al., 2024).

Despite these challenges, indices like DESI highlight critical divergences among EU member states. Greece’s consistent underperformance, for example, underscores the structural challenges it faces, including fragmented administrative practices, complex regulations, and

limited digital infrastructure, which together hamper the realization of fully digital public services (Kontogeorgis & Varotsis, 2021). Conversely, Nordic countries typically excel in these indices, reflecting their robust ICT infrastructure, strong political commitment, and historical emphasis on public sector modernization (Androniceanu & Georgescu, 2023). Measurement frameworks thus serve as diagnostic tools, enabling policymakers to more precisely target interventions and draw inspiration from best practices across the EU.

3. The EU Policy Framework: From the Digital Agenda to the Path to the Digital Decade

EU-level policy documents and initiatives have shaped much of the discourse on digital public services. The Digital Agenda for Europe (DAE), launched under the Europe 2020 strategy, emphasized “smart growth” by leveraging ICT potential in diverse areas—business, education, governance, etc. (Pirni et al., 2019). The DAE underscored the necessity of a digital single market, facilitating cross-border interoperability and ensuring citizens’ trust and security in their online interactions. Building upon these principles, the eGovernment Action Plan (2016-2020) sought to accelerate the shift to e-government by advocating user-centric services, once-only principles (avoiding repeated data requests to citizens), and increased transparency (Villaplana et al., 2023).

In more recent years, the EU has expanded its focus on the “human-centric” digital transformation, as articulated in *The Path to the Digital Decade* and the *Digital Compass for 2030*. These policy directions stress that digital solutions must be inclusive, fair, and respectful of fundamental rights. The *Tallinn Declaration on eGovernment (2017)* crystallized these aspirations by emphasizing citizen empowerment, data privacy, and interoperability. The Declaration highlighted the role of e-government in addressing social, economic, and environmental challenges—an alignment with the broader sustainable development discourse (Nemec et al., 2022; Pirni et al., 2019).

However, the practical realization of EU-level objectives often collides with national administrative traditions, financial resources, and political contexts. The success of EU directives and action plans relies on the willingness and ability of national governments to adopt reforms that streamline legal frameworks and encourage digitization. As demonstrated by Italy’s case, reliance on regionally differentiated strategies can facilitate targeted approaches, but it also risks deepening existing territorial inequalities if not carefully managed (Traversa & Ivaldi, 2024). Thus, while EU policies offer direction and support, the ultimate outcomes hinge on member states’ capacity to institutionalize these policies through coherent and adaptive measures (Nagel, 2025).

4. Collaborative Governance and the Role of Local Administrations

A recurring theme in the literature pertains to collaborative governance, wherein multiple stakeholders—public agencies, private sector entities, nonprofits, and citizens—come together to co-create solutions for digital transformation (Weissmueller et al., 2023). Maulana et al. (2024) show that local government coordination teams can be highly effective in aligning digital initiatives with regional needs. These teams often draw on leadership support to facilitate open dialogue among disparate local agencies, ensuring that policies and projects reflect local priorities and constraints.

The emergence of collaborative platforms resonates with the concept of network governance, where digitalization offers new opportunities to break down traditional silos and foster communication flows both vertically (between central and local government) and

horizontally (across municipalities) (Weissmueller et al., 2023). This collaborative ethos also carries implications for public service co-production: citizens increasingly expect digital platforms to provide not just information but also interactive capabilities, allowing them to contribute ideas, monitor public projects, and offer real-time feedback (Johansson, 2024).

Moreover, digital collaboration can enhance local governments' resilience in times of crisis, as evidenced during the COVID-19 pandemic, when municipalities worldwide had to shift essential functions online. Co-creation, however, requires an enabling environment: strong ICT infrastructure, institutional incentives to share information, and a clear legal framework that addresses potential risks such as data security and intellectual property. The interplay of these factors explains why local digital strategies often vary considerably in both ambition and efficacy within the same country (Maulana et al., 2024).

5. Impetus from the COVID-19 Pandemic

The outbreak of COVID-19 in early 2020 acted as a catalyst for digitalization across multiple sectors, including public administration. Lockdowns and social distancing measures made face-to-face interactions difficult, pushing governments to accelerate online service delivery. Digital platforms became indispensable for fulfilling administrative tasks such as licensing, tax filing, and social service applications, which previously relied on physical documentation and in-person appointments (Moldovan et al., 2024). Scholars note that in the realm of public administration education, the pivot to online teaching methods had a transformational impact, demonstrating that at least some aspects of distance learning could be effectively maintained even post-pandemic (Moldovan et al., 2024).

Moldovan et al. (2024) reference Nurlybaeva's (2023) findings that digitalization of teaching and learning processes, alongside the organization of distant learning, were pivotal measures in Russia's public administration (PA) education landscape. Similar trends were observed across Europe, reinforcing the notion that digital competencies are essential not only for public administrators but also for students who aspire to work in the public sector. As Jakoet-Salie and Ramalobe (2023) define it, the digital transformation of higher education involves creating new infrastructures, increasing the use of digital media for teaching, research, support services, and communication, as well as cultivating new (digital) skills among students and faculty.

However, not all ramifications of the pandemic-driven acceleration of digital transformation have been positive or uniform. While some institutions demonstrated agility by quickly adopting digital tools such as Moodle, others struggled with insufficient bandwidth, limited staff training, or outdated policy frameworks (Moldovan et al., 2024). Matei and Dinca's (2022) work points to the enduring importance of face-to-face learning or blended formats, especially for continuous training programs for civil servants. Indeed, the forced pivot to digital solutions highlighted existing divides in digital literacy and technological infrastructure among EU member states. Yet, it also fueled a robust conversation on how to leverage the momentum to establish more resilient and innovative public service delivery models (Nagel, 2025).

6. Corruption, Ethical, and Moral Dilemmas in Digital Transformation

While digital government is often heralded as a solution to inefficiency and corruption, the reality is more nuanced. Nemec et al. (2022) argue that corruption in public administration can serve as a significant barrier to transitions toward Industry 4.0 and e-government. Even as digital tools may boost transparency by automating procedures and reducing direct human contact (thereby lowering opportunities for bribery), corrupt elements within an administration

can manipulate digital systems or stall their implementation. In some instances, digital systems can even inadvertently create new avenues for misconduct if oversight mechanisms are weak.

Ethical and moral dilemmas also come to the fore in discussions on digital discretion, or the extent to which street-level bureaucrats retain autonomy once administrative procedures become automated (Johansson, 2024). Automated decision-making can limit personal biases and expedite service delivery, but it may also diminish frontline workers' capacity to tailor solutions to individual cases. Johansson (2024) notes that legislative frameworks in many EU countries have not kept pace with the rapid expansion of automated decision-making tools, leading to concerns about accountability. If decisions are rendered by algorithms that are opaque or proprietary, citizens' ability to appeal or question an unfavorable outcome is curtailed, thus undermining legal safeguards (Johansson, 2024).

Navigating the intersection of technology, corruption, and ethics requires transparent procurement processes, robust data governance, and continuous assessment of how ICT solutions interface with administrative structures. EU policy documents stress that digital solutions must be grounded in democratic values, including inclusivity, equality, and respect for fundamental rights (Nemec et al., 2022). However, bridging the gap between aspirational policy statements and on-the-ground practice remains a formidable challenge in many EU member states, particularly those where corruption is deeply entrenched or legal frameworks are outdated.

7. National and Regional Case Studies

7.1. Greece

Greece's path toward e-government exemplifies the multifaceted influences at play in EU digital transformation efforts. According to Kontogeorgis and Varotsis (2021), the country has historically been among the lower-ranked EU member states in DESI due to financial, infrastructural, and administrative bottlenecks. Yet, the European Union's financial programs have offered a significant boost to the development of digital governance (Kontogeorgis & Varotsis, 2021). The modernization of Greek e-government is contingent upon political decisions—political will, adoption of new public management standards, and tax or fiscal policy reforms—and has been pursued more aggressively in the aftermath of the financial crisis.

Greece's e-government journey also demonstrates the pivotal role of citizen usability and cross-border mobility in shaping e-government uptake. Despite a growing number of online services, user adoption remains uneven, suggesting a need for more user-centric design and stronger digital literacy interventions (Kontogeorgis & Varotsis, 2021). The example of Finland and Estonia—where digital public services are predominantly online, and mobile government apps have become the norm—serves as a reference point for Greek policymakers, highlighting the importance of integrated digital solutions and legislative simplifications.

7.2. Italy and Regional Indices

Italy offers a contrasting lens on digital governance in the EU. The 2017 Tallinn Declaration propelled Italian policymakers to integrate e-government at local and regional levels (Pirni et al., 2019). However, disparities in infrastructure and administrative capacity between Northern and Southern regions remain significant. These territorial gaps risk entrenching digital inequalities, which the National Recovery and Resilience Plan (NRRP) seeks to address (Traversa & Ivaldi, 2024). The development of a regional eGovernment indicator, aligned with NRRP objectives, allows Italian policymakers to better target interventions and track progress.

Traversa and Ivaldi (2024) highlight how the COVID-19 crisis compelled Italian public authorities to expedite digital projects to ensure continuity of essential services. Yet policy fragmentation remains problematic, as local governments often diverge in the pace and scope of digital reform. Some regions, like Liguria, have adopted dedicated strategic programs with a focus on open government principles and specialized digital services for citizens and businesses (Nemec et al., 2022; Pirni et al., 2019). This decentralized approach can yield innovative solutions but can also complicate the establishment of a uniform national framework.

7.3. Romania

Romania's position near the bottom of the DESI rankings exemplifies the challenges faced by newer EU member states. Although the National Recovery and Resilience Plan (NRRP) sets forth ambitious goals for green and digital transitions, the country continues to grapple with limited connectivity in rural areas, insufficient digital skills among the population, and low integration of digital technologies (Profiroiu & Negoia, 2022). Reforms to public administration remain ongoing, with emphasis placed on modernizing interactions between citizens, suppliers, and beneficiaries of public services. The example of the 2022 population and housing census, which shifted toward digital methodologies, underscores both the potential and the learning curves faced by Romanian administrative bodies (Profiroiu & Negoia, 2022).

Another barrier in the Romanian context is the low level of trust in public institutions, which can dampen user uptake of e-services. Accordingly, Romanian officials have prioritized data protection, confidentiality, and clear communication strategies to assuage citizen concerns. The existence of a large rural population, many of whom possess limited digital literacy or inadequate internet connectivity, further complicates Romania's digital transformation efforts (Profiroiu & Negoia, 2022). This underscores the broader issue of digital inequalities that persist within and among EU member states.

7.4. Germany

Germany's Online Access Act (OZG), initiated to fully digitize public services by the end of 2022, illustrates both the aspirations and the complexities of national-level digital reform (Nagel, 2025). While Germany is known for its strong economy and well-developed infrastructure, its federal administrative structure complicates uniform implementation. Nagel (2025) reveals that by late 2022, only 19% of services that could be digitized were available online, and even these services varied considerably across the country's 11,000 municipalities. Fragmented IT solutions, the absence of a universal data standard, and rigid data protection regulations collectively hindered progress.

The German case exemplifies how administrative fragmentation and legal constraints can undermine a bold digital agenda, even in states with substantial resources. Interoperability deficits and the autonomy of local governments in designing independent digital solutions preclude a cohesive national e-government ecosystem (Nagel, 2025). Observers underscore the need for a stronger oversight mechanism or a more coordinated approach that balances local autonomy with the demands of national (and EU) digital strategies.

7.5. Switzerland (Non-EU but Interconnected)

While Switzerland is not an EU member, its municipal-level digital transformation provides noteworthy insights into cross-sectoral collaboration and co-creation, a dynamic that resonates within EU contexts (Weissmueller et al., 2023). The Swiss experience shows that digital transformation is as much about stakeholder demand as it is about administrative

readiness. Weissmueller et al. (2023) emphasize that impulses external to the organizations—such as citizen demand, federal incentives, or private sector partnerships—often serve as catalysts for collaborative engagement in digital transformation. This finding has parallels in smaller EU member states, where local governments may rely more heavily on external funding or expertise to launch ambitious e-government projects.

The Swiss experience also underscores how digitalization can increase accessibility and citizen satisfaction by removing geographical and temporal constraints to service provision (Weissmueller et al., 2023). Nonetheless, municipal autonomy can lead to divergent practices, making cross-cantonal or cross-regional data exchange difficult. These observations echo issues in Germany, Italy, and other European states, where the absence of uniform standards or shared platforms impedes the scaling of successful digital solutions.

8. Digital Discretion, Street-Level Bureaucracy, and Policy Challenges

The literature on street-level bureaucracy explores how frontline public servants navigate the tension between organizational rules and individual judgment when interacting with citizens. Digital transformation reshapes this tension by introducing automated decision-making processes that may curb frontline discretion (Johansson, 2024). While some scholars argue that automation reduces bias and speeds up service delivery, others raise concerns that street-level bureaucrats lose the capacity to provide nuanced responses to citizens with unique circumstances (Johansson, 2024; Nagel, 2025).

This interplay between technology and frontline autonomy holds significant implications for policy legitimacy and the quality of public services. If citizens perceive automated decisions as inaccurate or unfair, trust in public institutions may erode. Johansson (2024) mentions that many legal frameworks have yet to catch up with the realities of AI-assisted or automated decision-making, particularly regarding transparency. When the algorithms used are proprietary or opaque, accountability gaps emerge: citizens and even public officials may struggle to understand how certain decisions were reached, raising ethical and legal dilemmas.

The policy challenges extend beyond frontline discretion. Funding constraints, interoperability hurdles, and divergent administrative cultures across EU countries underscore the difficulty of establishing uniform digital standards. Additionally, data privacy regulations, such as the General Data Protection Regulation (GDPR), impose constraints on how data can be stored, shared, or used by automated systems. Balancing transparency and accountability with the need to protect personal information remains a fundamental tension in digital governance, particularly where cross-border services are concerned (Nemec et al., 2022).

9. Open Government, Transparency, and Democratic Legitimacy

Open government encapsulates many of the ideals behind digital transformation: accountability, participation, and transparency. In the EU, the drive toward open government is rooted in the Treaty on European Union, which mandates decisions be taken as openly and as closely as possible to the citizen (Villaplana et al., 2023). Digital tools are seen as the primary vehicle to achieve this proximity, be it through e-participation platforms, open data repositories, or integrated communication channels that allow citizens to track policy initiatives in real time.

However, the literature also points out potential shortcomings. Public broadcasters in a digital environment, for example, grapple with regulations and market pressures that may undermine transparency. Rivera Otero et al. (2021) argue that digital society per se has not drastically altered the frameworks that promote or hinder transparency; rather, the political

willingness to be transparent remains paramount. Moreover, the multiplicity of platforms and the rise of social media can lead to information overload or the proliferation of fake news, challenging the capacity of governments to maintain coherent communication strategies (Rivera Otero et al., 2021). Tools like fact-checking services and editorial oversight policies must therefore be integrated into broader transparency efforts.

From a governance perspective, open government also aligns with ongoing efforts to make the EU more democratic. Digital solutions offer channels for citizens to participate in consultations, deliberations, and even policy co-creation. Yet, as with e-government adoption, the success of open government initiatives depends on digital literacy levels, stable broadband access, and trust in authorities (Johansson, 2024). Without these prerequisites, the digital public sphere can become polarized or exclusionary, reinforcing rather than mitigating social and political inequalities.

Conclusion and policy recommendations

The literature on digitalizing public services in the European Union underscores a complex interplay of technological capabilities, institutional frameworks, and socio-political dynamics. Despite the broad consensus on the value of digital transformation—supported by EU-wide policies such as the Digital Agenda for Europe, the eGovernment Action Plan (2016-2020), the Tallinn Declaration on eGovernment, and the Path to the Digital Decade—practical outcomes vary considerably across member states. Countries like Estonia and Finland stand out for their advanced e-government ecosystems, while Greece, Romania, and others continue to grapple with infrastructural deficits, fragmented administrative practices, and limited digital literacy.

Research consistently reveals how financial resources, structural reforms, and cultural factors shape the trajectory of e-government initiatives. Digital transformation extends beyond the deployment of ICT tools to encompass organizational change and proactive policymaking. Local collaboration platforms, when supported by leadership and stakeholder engagement, accelerate digitization at municipal and regional levels. However, persistent issues such as corruption, ethical dilemmas in automated decision-making, and interoperability challenges require sustained political will and robust legal frameworks.

The spectrum of experiences discussed in the academic literature offers a roadmap for constructive policy interventions. Drawing on the analyses of case studies from across Europe, several overarching recommendations can be made:

First, strengthening interoperability emerges as a linchpin for a more cohesive digital environment. The fragmentation observed in federal states like Germany illustrates the need for uniform data standards, shared platforms, and clearer frameworks for collaboration among agencies. Harmonizing systems at the national level can also facilitate cross-border interoperability, in line with EU goals for a truly integrated digital market.

Second, enhancing digital literacy is indispensable for inclusive e-government. Success in digital policy depends as much on citizen uptake as on administrative readiness. Targeted initiatives that equip citizens—including marginalized groups—with the skills and devices needed for online interactions are pivotal. Likewise, continuous professional development must be available to public officials, ensuring they can effectively manage and utilize new digital tools.

Third, fostering open government and transparency can reinforce public trust in digital services. Authorities should not only publish data in accessible formats but also actively solicit citizen feedback on policy formulation and service design. Well-structured e-participation

channels can translate digital availability into genuine democratic engagement, provided that the processes are well-managed and mindful of privacy and security.

Fourth, revisiting legal and ethical standards for automated decision-making and algorithmic governance is essential. As digital discretion reshapes the role of street-level bureaucrats, legislators should update administrative laws to address transparency, accountability, and appeal mechanisms. Clear guidelines on the use of artificial intelligence and big data in public administration can mitigate risks of bias or legal grey areas, fostering trust in automated processes.

Fifth, integrating anti-corruption safeguards into digital systems will be fundamental to harnessing e-government for improved governance. While digitalization can reduce opportunities for corrupt intermediaries, it can also create new vulnerabilities if accountability and oversight are inadequate. Transparent procurement processes, strong audit systems, and public reporting of digital project outcomes can enhance credibility and reduce opportunities for misconduct.

Sixth, aligning with national recovery and resilience plans offers an avenue to mobilize EU financial support for digital transformation. By adopting evidence-based performance indicators—like the regional eGovernment index in Italy—member states can set measurable targets and prioritize investments that address structural weaknesses. This data-driven approach can further identify best practices that can be scaled up or adapted to diverse contexts.

Seventh, safeguarding fundamental rights through robust data protection frameworks remains a top priority for the EU, reflecting the normative dimension of digital governance. The challenges arising from data sharing, especially in cross-border contexts, make it vital to continuously update regulations to keep pace with evolving technological standards and societal concerns.

In conclusion, a successful digital transformation of public services within the EU depends on a balance of political vision, institutional coordination, and public engagement. The extensive body of research reviewed here indicates that while technology provides an indispensable tool for modernizing administration, its ultimate success hinges on a broader ecosystem of reforms and strategies. By investing in interoperable systems, elevating digital literacy, refining legal frameworks, enhancing transparency, and tackling corruption, the EU and its member states can create a robust foundation for next-generation e-government. As the digital era continues to evolve, ongoing dialogue among policymakers, academics, civil society, and citizens themselves will prove crucial for shaping public administration that is not only efficient and innovative but also equitable and inclusive.

References

- [1] Androniceanu, A., & Georgescu, I. (2023). Hierarchical clustering of the European countries from the perspective of e-government, e-participation, and human development. In *NISPAcee Journal of Public Administration and Policy* (Vol. 16, Issue 2, pp. 1–29). Sciendo. <https://doi.org/10.2478/nispa-2023-0011>
- [2] Johansson, J. (2024). Research on digital discretion: The subjectification of street-level work in public administration. In *Review of Policy Research*. Wiley. <https://doi.org/10.1111/ropr.12637>
- [3] Kontogeorgis, G., & Varotsis, N. (2021). Reinstating Greek e-governance: A framework for e-government benchmarking, improvement and government policies. In *Voprosy Gosudarstvennogo i Munitsipalnogo Upravleniya - Public Administration*

- Issues* (Issues 6, 2, pp. 103–127). Natl Res Univ Higher Sch Economics. <https://doi.org/10.17323/1999-5431-2021-0-6-103-127>
- [4] Maulana, R. Y., Durnik, M., & Decman, M. (2024). Collaborative approach on digital government transformation: In-depth analysis from expert interview. In *NISPAcee Journal of Public Administration and Policy* (Vol. 17, Issue 1, pp. 94–119). Sciendo. <https://doi.org/10.2478/nispa-2024-0005>
- [5] Moldovan, O., Macarie, F. C., & Barnes, D. (2024). Public administration education during the COVID-19 pandemic: Teaching experiences and policy implications. In *Transylvanian Review of Administrative Sciences* (Issue 72E, pp. 78–97). Babes-Bolyai Univ. <https://doi.org/10.24193/tras.72E.5>
- [6] Nagel, M. L. (2025). The challenge of balancing innovation and tradition in the public sector: The role of street-level bureaucrats in digital transformation. In *Administration & Society* (Vol. 57, Issue 1, pp. 154–181). SAGE Publications Inc. <https://doi.org/10.1177/00953997241296100>
- [7] Nemec, D., Machova, Z., Kotlan, I., Kotlanova, E., & Klikova, C. (2022). Corruption in public administration as a brake on transition to industry 4.0. In *SAGE Open* (Vol. 12, Issue 1). SAGE Publications Inc. <https://doi.org/10.1177/21582440221085009>
- [8] Pirni, A., Giampellegrini, P. P., & Raffini, L. (2019). Digital transformation and e-government: For a research agenda on the Liguria region. In *Obets-Revista de Ciencias Sociales* (Vol. 14, Issue 2, pp. 471–490). Univ Alicante, Inst Univ Desarrollo Social & Paz-IUDESP. <https://doi.org/10.14198/OBETS2019.14.2.07>
- [9] Profiroi, C. M., & Negoia, I. C. (2022). Public administration reform in Romania: Assessing the past and looking into the future. In *Transylvanian Review of Administrative Sciences* (Issue SI, pp. 131–149). Babes-Bolyai Univ. <https://doi.org/10.24193/tras.SI2022.9>
- [10] Rivera Otero, J. M., Lagares Diez, N., Pereira Lopez, M., & Lopez-Lopez, P. C. (2021). Transparency policies in European public broadcasters: Sustainability, digitalisation and fact-checking. In *Social Sciences-Basel* (Vol. 10, Issue 6). MDPI. <https://doi.org/10.3390/socsci10060217>
- [11] Traversa, S., & Ivaldi, E. (2024). eGovernment implementation in Italy: Regional index for NRRP goals evaluation. In *Social Indicators Research*. Springer. <https://doi.org/10.1007/s11205-024-03361-4>
- [12] Villaplana, F. R., Megias, A., & Sandri, G. (2023). From open government to open parties in Europe: A framework for analysis. In *Frontiers in Political Science* (Vol. 5). Frontiers Media SA. <https://doi.org/10.3389/fpos.2023.1095241>
- [13] Weissmueller, K. S., Ritz, A., & Yerramsetti, S. (2023). Collaborating and co-creating the digital transformation: Empirical evidence on the crucial role of stakeholder demand from Swiss municipalities. In *Public Policy and Administration*. SAGE Publications Ltd. <https://doi.org/10.1177/09520767231170100>