Advanced digital technologies

How they can help Public Administrations to expedite EU funding procedures

The digitalization of Public Administrations across Europe is a growing trend, but uptake and penetration are by no means uniform. Yet the adoption of advanced digital technologies could not only bring the benefits of e-government to those countries lagging behind, but also help to expedite procedures around the application for EU funds. With the creation of the 'Next Generation EU' recovery plan in response to Covid-19, there has never been a better time to use advanced digitalization to successfully navigate the public funding process.

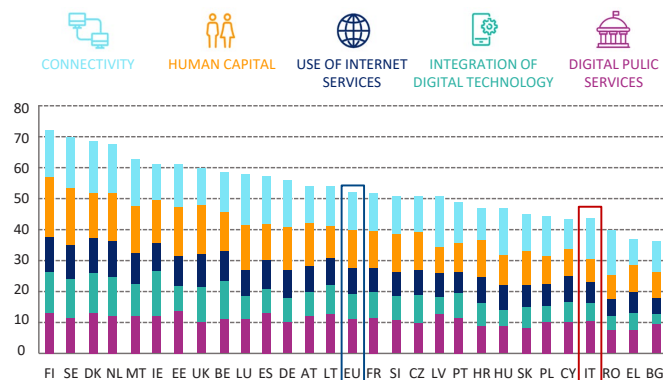## Overview of European Digitalization

Digital integration in Europe is not homogenous. While the Nordic countries are the most integrated, Eastern Europe is still struggling to create a more digitalized system. The largest EU economies in terms of GDP are not necessarily among the digital frontrunners; Italy, for instance, finds itself among the least digitalized countries, together with Romania, Greece and Bulgaria. Are EU countries doing enough to improve their under-digitalized economies? Are digital public services up to the challenge?

Overview of European Digitalization status

Source: DESi 2020; European Commission

Arthur D. Little has identified some critical elements of Digital Public Services:

- Digital Infrastructure.
- Digital skills.
- Advanced digital technologies.

This analysis focuses on **advanced digital technologies**, which can be a fundamental driver for economic growth if correctly applied to public funding procedures.

Why digitalizing Public Administration is important

Digital technologies create new demands and expectations in the public sector. Realizing the full potential of such technologies is a key challenge, but effective e-government can provide a wide variety of benefits, including:

- Greater efficiency and savings for both governments and businesses.
- Increased transparency and openness.

As such, the digital transformation of Public Administration can bring enormous benefits to its users, particularly in the area of public funding procedures.

The importance of efficient digital funding processes

The European Union (EU) uses public funding to affect change and improvement in member states. **Direct funds** are provided by the European Commission (EC) to users through the General Directorates or Executive Agencies. Examples include the Erasmus+ Programme, Horizon 2020, etc. **Cohesion funds** are managed by member states' national and regional authorities and comprise nearly 80% of the EU budget. Some examples are ESF, ERDF, EAFRD etc.

The Covid-19 pandemic has led to the creation of a common recovery plan called **'Next Generation EU'** (NGEU). The EC has put forward a proposal to establish a €750 billion European recovery instrument, to reinforce the EU's 2021-2027 multiannual financial framework.

Next Generation EU consists of three elements:

- Instruments to support member states' efforts to recover, repair and emerge from the crisis.

- Measures to boost private investment and support ailing companies.

- Reinforcement of key EU programmes to make the single market stronger and more resilient and accelerate green and digital transitions.

> Member states' Public Administrations must be ready to quickly and efficiently manage these funding procedures, given that the recovery fund is expected to be operational from the first months of 2021.
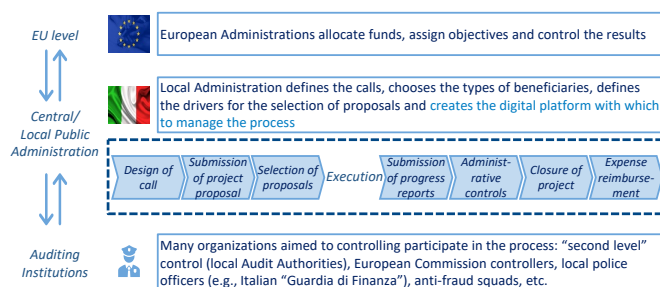
Managing funds in an efficient way means:

- Enabling beneficiaries to obtain funds fluidly.

- Investing in technologies to expedite the digitization of procedures.

Issues with public funding procedures

Tendering for funds involves very complex procedures with many relations and inputs:

Complex tendering process

Source: Arthur D. Little analysis

Even if already enabled by a digital platform, the process can be complex, slow and not results-oriented. For every phase of the process, Arthur D. Little has identified potential issues:

Design of call defines who can participate in the tender, what can be financed, and what the desired outcomes are. **Potential issue**: lack of oversight could result in inefficient allocation of funds e.g., funding of old technologies.

Submission of project proposal outlines the aim of the project and fairness of beneficiary's claim. **Potential issue**: excessive amount of documentation and certifications required.

Administrative controls of submitted evidence of activities, manually uploaded by the beneficiary. **Potential issue**: time-consuming and onerous process.

Closure of project records achievement of desired outcomes. **Potential issue**: intangible results are difficult to demonstrate, while tangible results are only self-certified.

Expense reimbursement is based on intermediate or final payments of the reported expenditure. **Potential issue**: slow procedures due to huge number of cross-checks.

Arthur D. Little's solution: Innovation & Technology

To improve the efficiency of these processes, Arthur D. Little has identified some advanced digital technologies applicable to critical steps:

Process technology and critical steps

Source: Arthur D. Little analysis

1) Analytics to enable data-driven decision-making:

Data analysis enables companies to know their customers better and optimize their business strategy by making it "data-driven". Relevant areas include Big Data, Data Science, the Internet of Things, Industry 4.0, Smart Mobility, Smart City and Smart Energy. **Objectives of adoption**: Make data-driven decisions (an evolution of Business Intelligence); produce predictive analysis of potential effects. **Possible uses**: Adoption is possible in all businesses and industries. **Focus on public funding process**: Make better decisions in the assessment phase and improve monitoring of results.

2) Blockchain to enable federated controls:

Blockchain is a cryptographically secured and distributed ledger that records transactions chronologically, permanently, and unalterably. It is essentially a digital record of transactions that is duplicated and distributed across an entire network of computer systems known as a blockchain. Every time a new transaction occurs in the blockchain, a record of that transaction is added to every participant's ledger. The decentralized database managed by multiple participants is known as Distributed Ledger Technology (DLT). **Objectives of adoption**: Improve accuracy and transparency by removing human involvement in verification and reduce costs by eliminating third-party verification. **Possible uses**: Asset Management: trade processing and settlement. Insurance: claims processing. Banking: cross-border payments and personal identification. **Focus on public funding process**: Improve audit and compliance processes by using a direct blockchain certification for identification of person/company.

3) Integration of certified database to obtain information:

Database integration is the process used to aggregate information from multiple sources – social media, sensor data from IoT, data warehouses, customer transactions etc. – and share a current, clean version of it across an organization. Database integration provides the home base from and to which all shared information will flow. **Objectives of adoption**: Reliable business data, holistic operation oversight and compliance improvement. **Possible uses**: Adoption is possible in all businesses and industries. By gathering, cleaning, securing and sharing data from and with a great number of heterogeneous sources, organizations can maintain a single source of business "truth". **Focus on public funding process**: Improve compliance and administrative processes.

4) Integration of back-office IT systems to avoid errors and redundant processes:

Systems integration means connecting an online platform with back-office accounts and database systems (Back office systems can be manual or automated). **Objectives of adoption**: Greatly improve customer service, increase response times, enhance business capacity, and improve accuracy - with all systems accessing the same data, there are fewer chances for error. **Possible uses**: A back-office system integrated with a database can record all purchases, update inventory records and generate appropriate documentation. **Focus on public funding process**: Improve interoperability between ERP system and platform for public grants.

5) Artificial Intelligence to perform "intelligent" procedures:

Artificial Intelligence (AI) refers to a machine-based system that can make predictions, recommendations and decisions which influence real or virtual environments. AI systems are designed to operate with varying levels of autonomy. In addition, AI machines can perform human-like cognitive functions. **Objectives of adoption**: Through greater accuracy, efficiency, speed, legitimacy, accountability, AI produces cost savings and productivity gains. It also reduces fraud, provides better service, and improves policy analysis and real-time evaluation. **Possible uses**: Process automation, sales and business forecasting, automated insights, smart personal assistant. **Focus on public funding process**: Automating documentation of information and basic administrative tasks, plus innovative CRM (e.g., virtual assistant).

6) Robotic Process Automation to automate low value activities:

Robotic Process Automation (RPA) enables the configuration of computer software via a "robot" that emulates the actions of a human interacting with digital systems to execute a business process. RPA robots utilize the user interface to capture data and manipulate applications just like humans do. They interpret information, trigger responses and communicate with other systems in order to perform a vast variety of repetitive tasks. **Objectives of adoption**: Improved accuracy and compliance, cost savings, scalability, increased speed and productivity. **Possible uses**: Processing lists and file storage, mass email generation, archiving, extracting, periodic reporting, data entry and data analysis. **Focus on public funding process**: Automatic controls on scanned documents/expenses, automating compliance, documenting and filing processes.

Conclusion: benefits of advanced digital technologies adoption in public funding procedures

Arthur D. Little's experience in supporting primary Public Administrations suggests the following **potential savings and benefits**:

- Analytics to enable data-driven decision-making: 15% reduction in time spent on manual information research; more efficient allocation of funds.

- Blockchain to enable federated controls: 10% cost reduction by eliminating manual verification; improved accuracy and transparency.

- Integration of certified database to obtain information: 15% cost reduction by eliminating manual verification; more reliability and compliance improvement.

- Integration of back-office IT system to avoid errors and redundant processes: cost reduction for beneficiaries for less redundant activities (10% reduction in time spent).

- Artificial Intelligence to perform "intelligent" procedures: 20% cost reduction by eliminating manual verification; increase in automation of basic administrative tasks.

- Robotic Process Automation to automate low value activities: 10% cost reduction by eliminating manual verification; increase in automation of basic administrative tasks.

However, these results are only possible depending on:

- The AS-IS business processes of Public Administrations.

- The starting level of digitization.

- The level of interoperability of the certified database.

- The readiness of civil servants to embrace radical change in relation to technology.

The application of advanced digital technologies can yield very significant benefits. In particularly favorable contexts, it is possible to radically improve performance, decreasing the end-to-end time of the submission and final approval of financing proposals between 10-20%, and between 5-10% of the total cost management of a public funding procedure.

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Arthur D. Little

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