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Centro di Ricerca sugli Enti Pubblici Società di Fondazione Etica

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DIGITALIZATION IN LOCAL AUTHORITIES

WHAT WE (DO NOT) KNOW AND

HOW TO STOP INVESTING IN THE DARK

Introduction

When discussing innovation in Public Administration, attention is almost always focused on services visible to citizens: online applications, digital identity, apps, electronic payments, or bureaucratic simplification. Much less space is instead given to the organizational and technological structure that allows municipalities to deliver these services. Yet it is precisely there that a decisive part of the digital transformation takes place: without an administrative system capable of supporting it, even the most ambitious projects risk remaining on paper.

Not by chance, in recent years European institutions have increasingly emphasized the issue of administrative capacity, seen as an essential condition for improving the effectiveness of public policies and the quality of local services. Digitalization is fully part of this process: it does not only mean introducing new technologies, but also equipping public administrations with the skills, infrastructure, and resources needed to manage them over time.

This drive has also been strengthened by the National Recovery and Resilience Plan (PNRR), which has allocated unprecedented resources to the digital transformation of local authorities. From cloud services to the adoption of national platforms such as SPID, PagoPA, and App IO, as well as cybersecurity and the digitalization of public services, municipalities have in recent years had access to significant funding to modernize administrative infrastructures and processes.

Mapping all of this, however, is currently not possible, as there is a lack of clear and homogeneous public data across administrations that would make it possible to highlight the situation before and after the digital transformation.

This means that, today, **our country is not able to fully assess the effects of the digital transition: which weaknesses have been resolved, in which administrations, and to what extent?**

The term "digitalization" itself is often not used consistently. For example, when it comes to digital services, municipalities do not even seem to agree on terminology. Some list them in a scattered way, others group them into subjective macro-categories, while still others define an online service as simply the ability to download a form.

To date, the only truly comparable data remain budget figures: how much a municipality spends on ICT and how much it invests in it.

It is true that even expenditure data are not without issues, but they remain essential for a consistent assessment of digitalization across public administrations. And it is from this starting point that the present analysis is developed.

Measuring digitalization: limits and challenges of the available data

Currently, in municipal budgets, the item dedicated to digitalization corresponds to Programme 08 of Mission 01, entitled "Statistics and Information Systems".

This is a broad category that includes amounts ranging from the management of IT systems to software and hardware maintenance, from institutional websites to certified e-mail (PEC), from digital signatures to e-government projects, and it also covers general support functions for offices as well as census activities.

As a result, it becomes difficult for citizens to distinguish spending on external digital services from that related to internal technical activities, system maintenance, and IT support. More generally, given how Programme 08 is structured, it is challenging to draw a clear boundary between expenditure aimed at routine operations and that directed toward innovation.

It is also worth noting that it is not uncommon to find part of digital spending recorded under other budget programmes. For example, the digitalization of registry services may be recorded within the item relating to population registers and civil status[1].

These limitations do not prevent the assessment of digitalization indicators: being aware of them helps to better interpret the data.

The expenditure data reported under Programme 08 of Mission 1 therefore remain a useful starting point for analysing whether and to what extent local authorities allocate financial resources to digitalization.

[1]The case of the Municipality of Messina can help to better understand this issue. The municipality, a provincial capital with over 200,000 inhabitants, appears to report no current expenditure under Programme 08 in the final budgets for 2022, 2023, and 2024. Yet, according to the 2024–2026 Digital Transition Triennial Plan, numerous digitalization projects were completed in 2024 alone, including interventions on service accessibility, cloud migration, cybersecurity, and integration with national platforms.
Where, then, do these expenditures go? They are plausibly distributed across other budget programmes, making them more difficult to identify and less immediately comparable with those of other municipalities.

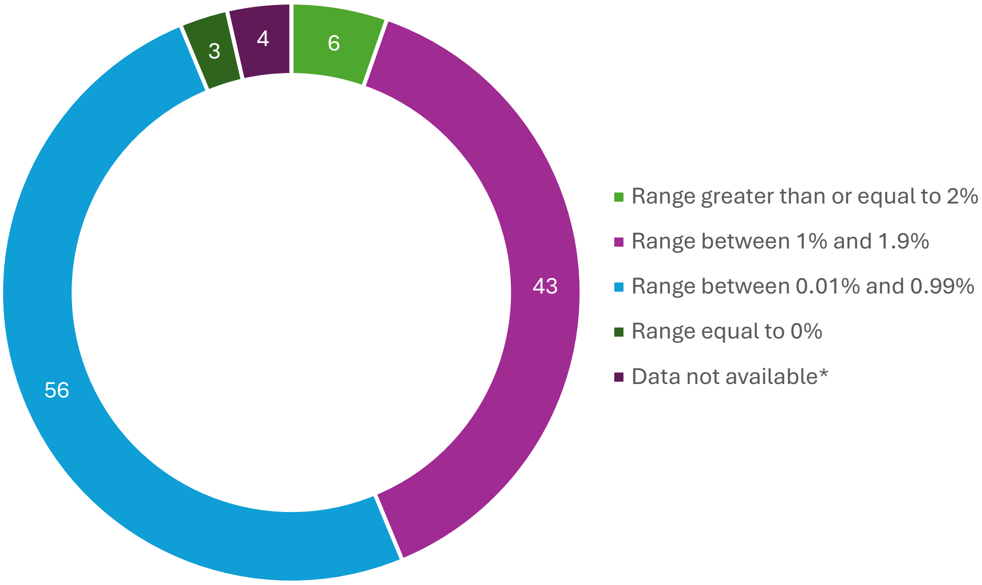
THE RESULTS OF THE ANALYSIS

Share of digitalization expenditure in total committed resources

From the most up-to-date budget data available today[2] a clear picture emerges: the weight of digitalization on total local government expenditure—which includes both current spending and investment spending, as well as the multi-year earmarked fund—remains very limited. In no case does it reach 3%, while the national average stands at around 0.9%, a value that is substantially stable compared to the previous year's final accounts.

In other words, out of every 100 euros, often less than 1 euro—and only in a few cases slightly more than 2 euros—is allocated to this programme. As also shown in Figure 1, in 2024 only six municipalities exceed 2% (without ever surpassing 3%), including Enna, Pesaro, and L'Aquila, while the vast majority (56 out of 112 provincial capital municipalities) cluster at much lower values, between 0.01% and 0.99%.

Figure 1 – Distribution of provincial capital municipalities by range of the share of spending on digitalization over total committed resources (%)



*Indicator not available for the municipalities of Agrigento, Catania, Palermo, and Trapani.
Source: REP Administrative Capacity Index – reworking of OpenBDAP data (2024)

Geographical location

From a territorial perspective, interesting patterns emerge. The highest values are mainly concentrated in municipalities in Central and Northern Italy, although there are also exceptions in the South: in fact, the highest percentage is recorded by Enna, which reaches 2.82%, followed by Pesaro (2.17%) and L'Aquila

[2] The most recent available budget data refer to 2024, as the 2025 budgets have not yet been approved by many municipalities.

(2.11%). At the 2% threshold, Siracusa appears alongside Bologna, while just below this level three Northern municipalities stand out: Como (1.92%), Milano (1.90%), and Aosta (1.86%).

On the opposite end of the ranking, many municipalities continue to record very low values, often below 1%, and there are also cases where the figure is close to or equal to zero. This is the case, for example, of Messina, which in recent years' final accounts does not report any expenditure under Programme 08, despite the presence of several digital transformation projects.

Time trend

Compared to the previous survey, based on 2023 budget data, the overall picture appears broadly stable, albeit with some significant variations.

Several municipalities show a marked increase in the share of expenditure allocated to digitalization: this is the case of L'Aquila, which rises from 0.64% in 2023 to 2.11% in 2024; Enna, which increases from 1.67% to 2.82%; and Potenza, which grows from 0.54% to 1.53% (see Table 1).

In other cases, however, a decrease is observed compared to the previous year, such as in Cagliari (from 2.65% in 2023 to 1.62% in 2024), Padova (from 2% to 1.53%), and Prato (from 2.06% to 1.73%). At the opposite end of the spectrum, municipalities such as Messina, Caltanissetta, and Vibo Valentia show zero values in both of the last two years analysed.

Overall, there does not appear to be a significant or widespread increase in the weight of digitalization in municipal budgets, despite the strong investment push driven in recent years by the PNRR.

Table 1 – Share of spending on digitalization (%) – Chronological trend of the Top 10

Entity	Indicator based on budget data for 2024	Indicator based on budget data for 2023	Percentage variation (%)
Enna	2,82	1,67	1,15
Pesaro	2,17	1,62	0,55
L'Aquila	2,11	0,64	1,47
Torino	2,04	1,53	0,51
Bologna	2,00	1,60	0,40
Siracusa	2,00	1,40	0,60
Como	1,92	1,70	0,22
Milano	1,90	1,90	0,00
Aosta	1,86	1,78	0,08
Prato	1,73	2,06	0,33

Source: REP Administrative Capacity Index – reworking of OpenBDAP data (2023 and 2024)

Digitalization investments per 1,000 inhabitants

A second indicator useful for analysing spending on digitalization concerns actual investments, measured in euros per 1,000 inhabitants.

Looking specifically at capital expenditure, the picture appears even more heterogeneous. On average, investments in digitalization amount to around €5,707 per 1,000 inhabitants for the year 2024, but this figure is strongly influenced by the presence of a few extreme cases. The median, in fact, is much lower (€2,165 per 1,000 inhabitants), indicating that most municipalities record modest investment levels, with only a few showing particularly high amounts.

Among the latter, a highly fragmented picture emerges, with municipalities that differ significantly in both territorial context and size. The top 15 municipalities in terms of investment include both large cities such as Milano and Bologna, and smaller municipalities such as Enna, Oristano, and Aosta. Alongside municipalities in the North, several are also located in the South, including Campobasso, Nuoro, Reggio Calabria, and Potenza (see Figure 2).

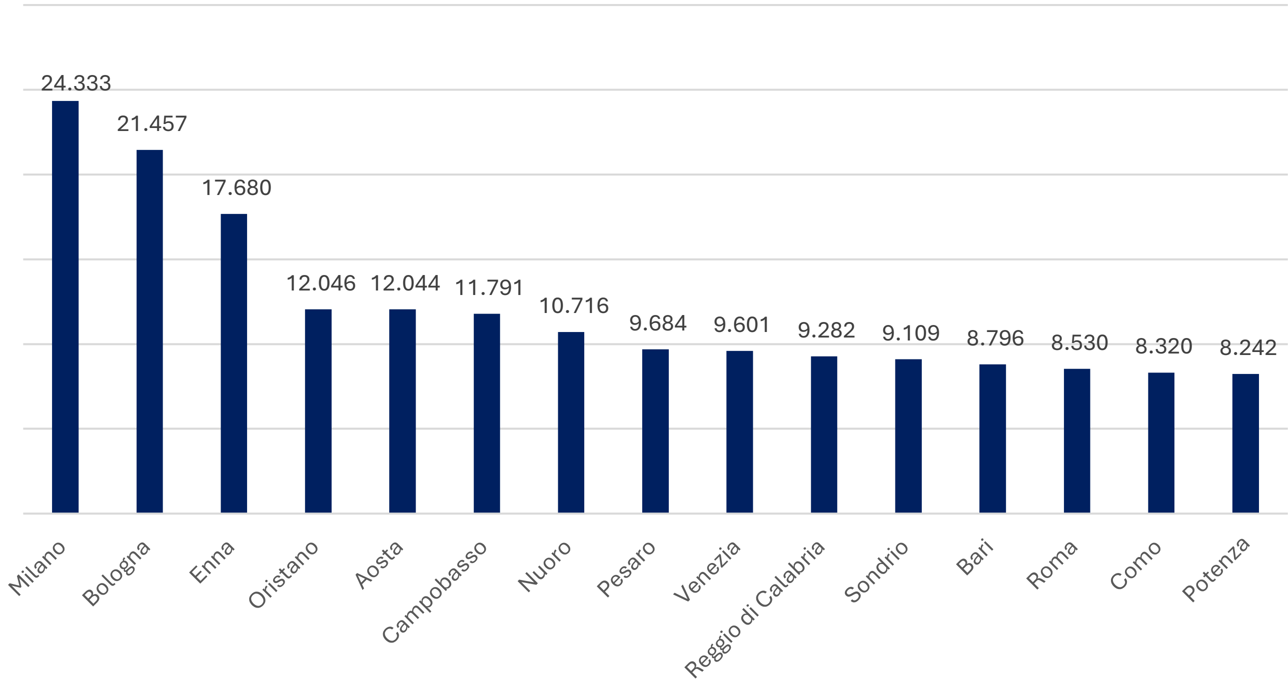
Such a distribution suggests that investments in digital transformation do not depend solely on the demographic size of local authorities, but also on their administrative capacity to launch projects, make use of available funding, and account for expenditure across different budget programmes.

The substantial gap between the mean and the median highlighted above points to an uneven distribution of investments, characterized by the presence of outliers that push the national average upward.

This is the case of L’Aquila, which stands out for particularly high levels of digital investment: more than €233,000 per 1,000 inhabitants in a single year. This represents a highly significant intervention, amounting overall to more than €16 million in 2024 for a population of just over 70,000 inhabitants. The figure is attributable to the PNRR, possibly also to post-earthquake reconstruction funds, as well as to major digitalization initiatives such as the “L’Aquila Smart City” public-private partnership project, supported by €24 million in funding and characterised by peaks in expenditure during 2024–2025.

It should, however, be recalled that, as explained above, very low investment amounts do not necessarily imply the absence of investments, just as very high values may result from the concentration of large projects within a single financial year or from different accounting and budgetary practices adopted by local authorities.

Figure 2 – Digitalization investments (€ per 1,000 inhabitants) – Top 15



* L'Aquila, although recording the highest capital expenditure (over €233,000), is not included in the chart in order to avoid distortions in the representation of the rest of the sample.

Source: REP Administrative Capacity Index – reworking of OpenBDAP data (2023 and 2024)

Comparing the results of this indicator with those from the previous survey reveals a rather uneven picture. Some municipalities show a substantial increase in capital investments for digitalization, likely also as a result of projects financed through the PNRR, while others record stable or even zero values.

Overall, investments do not appear to be evenly distributed across the national territory. The digital transition continues to progress at different rates among local authorities, and it is not always possible to determine to what extent these differences reflect actual investment levels and to what extent they are influenced by different methods of recording and allocating expenditure.

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In conclusion, to avoid continuing to invest in the dark, **the first investment that should be encouraged is the publication of clear, simple, and homogeneous data** on digitalization across all local authorities.

Some possible measures include: a budget item that distinguishes between the digitalization of internal administrative procedures and digitalization initiatives with a direct impact on citizens; a clear and standardized indication of how many and which online services are offered by each municipality, based on a common reporting framework; and a dedicated budget item for ICT expenditure that distinguishes between routine support and maintenance activities on the one hand, and software development and innovation on the other.