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# Artificial Intelligence and Administrative Capacity in Public Administration:

## A Bibliometric and Scientometric Investigation into EU Project Planning and Fund Governance

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**ABSTRACT - SOMMARIO**

*Purpose*. Artificial Intelligence (AI) is progressively reshaping the organisational structures, decision-making processes, and management functions of Public Administration, creating new prospects for strengthening administrative capacity and improving the governance of European funds. This study examines the potential contribution of AI to the processes of EU project planning as well as to the management, monitoring, and reporting of public funding, exploring associated opportunities, critical challenges, and organisational implications for Public Administration. *Methodology*. The study adopts an integrated exploratory approach combining a bibliometric analysis of the scientific literature on AI in Public Administration—conducted using Python—with a scientometric analysis performed through VOSviewer. Data were retrieved from the Scopus and Web of Science databases for the period 2018–2025, using Boolean search strings focused on artificial intelligence, public governance, public administration, and funded project management. The document selection process was recorded through a PRISMA flow diagram. Literature findings were subsequently reinterpreted through an administrative and organisational lens to develop a SWOT matrix specifically oriented toward administrative capacity and the management of European funds. *Findings*. The analysis reveals a growing body of scholarly work on AI applications in Public Administration, highlighting potential benefits in terms of strengthened administrative capacity, enhanced decision-making support, more efficient project-planning processes, improved monitoring, and reduced procedural errors in the management of European funds. Persistent challenges include shortfalls in digital competencies, limited interoperability of information systems, and uneven data quality. *Originality and Practical Implications*. The research offers a reinterpretation of the debate on AI in Public Administration that is specifically oriented toward EU project planning and the governance of European funds, providing an interpretive framework for understanding how AI can reinforce the administrative capacity of public bodies.

*Scopo*. L'Intelligenza Artificiale (IA) sta progressivamente rimodellando le strutture organizzative, i processi decisionali e le funzioni di gestione dell'Amministrazione Pubblica, creando nuove prospettive per rafforzare la capacità amministrativa e migliorare la governance dei fondi europei. Questo studio esamina il potenziale contributo dell'IA ai processi di pianificazione dei progetti UE, nonché alla gestione, al monitoraggio e alla rendicontazione dei

finanziamenti pubblici, esplorando opportunità correlate, sfide critiche e implicazioni organizzative per l'Amministrazione Pubblica. *Metodologia*. Lo studio adotta un approccio esplorativo integrato che combina un'analisi bibliometrica della letteratura scientifica sull'IA nella Pubblica Amministrazione — condotta con Python — con un'analisi scientometrica effettuata tramite VOSviewer. I dati sono stati recuperati dai database Scopus e Web of Science per il periodo 2018–2025, utilizzando stringhe di ricerca booleane focalizzate su intelligenza artificiale, governance pubblica, amministrazione pubblica e gestione di progetti finanziati. Il processo di selezione del documento è stato registrato tramite un diagramma di flusso PRISMA. I risultati della letteratura sono stati successivamente reinterpretati attraverso una lente amministrativa e organizzativa per sviluppare una matrice SWOT specificamente orientata alla capacità amministrativa e alla gestione dei fondi europei. *Risultati*. L'analisi rivela un crescente corpus di studi accademici sulle applicazioni dell'IA nell'Amministrazione Pubblica, evidenziando potenziali benefici in termini di rafforzamento della capacità amministrativa, supporto decisionale rafforzato, processi di pianificazione dei progetti più efficienti, monitoraggio migliorato e riduzione degli errori procedurali nella gestione dei fondi europei. Le sfide persistenti includono carenze nelle competenze digitali, limitata interoperabilità dei sistemi informativi e qualità disomogenea dei dati. *Originalità e implicazioni pratiche*. La ricerca offre una reinterpretazione del dibattito sull'IA nell'Amministrazione Pubblica, specificamente orientata alla pianificazione dei progetti UE e alla governance dei fondi europei, fornendo un quadro interpretativo per comprendere come l'IA possa rafforzare la capacità amministrativa degli enti pubblici.

**Keywords:** Artificial Intelligence; Public Administration; Administrative Capacity; European Funds; EU Project Planning (EU project planning); Public Governance; Digital Government

## 1 – Introduction

Artificial Intelligence (AI) is progressively redefining the operating conditions of Public Administration (PA), affecting not only digitalisation processes but also administrative capacity, the organisation of decision-making, and the management of public policies (Van Noordt & Misuraca, 2022). In contexts marked by increasing administrative complexity, resource scarcity, and mounting pressure for greater accountability, AI can represent a strategic lever to support programming, design, monitoring, and evaluation of public policies (OECD, 2024).

Although the literature has gradually explored the role of AI in digital government and public innovation, contributions specifically examining its operational implications for EU project planning and for the governance of European funds remain limited, particularly with respect to territorial bodies characterised by restricted administrative capacity.

The strengthening of Public Administration's digital capabilities sits within a broader modernisation trajectory promoted by the European Union since the Lisbon Strategy, later consolidated through successive initiatives on e-government, data interoperability, and AI regulation (European Council, 2000). Within this framework, the adoption of the "AI Act" (2024) marks a significant step in setting out principles of safety, transparency, and accountability for the use of AI in public contexts (European Parliament and Council of the European Union, 2024).

Relevant asymmetries persist, however, in the digital maturity of public bodies, especially among territorial entities of different organisational size. The literature identifies recurring challenges relating to digital competencies, interoperability of information systems, data quality, and organisational capacity: factors that directly impinge on the ability to plan, access, manage, and report on European funds (OECD, 2024; European Commission Joint Research Centre, 2023).

In order to understand the potential contribution of AI to the governance of European funds and to the reinforcement of administrative capacity, this study adopts an exploratory approach grounded in a review of the scientific literature on AI in Public Administration (Van Eck & Waltman, 2010). That review is supported by bibliometric and scientometric tools, employed to identify the principal research trajectories, emerging challenges, and potential application areas (Donthu et al., 2021). The resulting evidence base informs the construction of a SWOT matrix oriented toward understanding the opportunities and critical constraints associated with deploying AI in the processes of EU project planning, management, and monitoring of European funds (Benzaghta et al., 2021).

The research is guided by the following questions:

> **RQ1**: In what ways can Artificial Intelligence contribute to strengthening the administrative capacity of Public Administration, with particular reference to the programming, management, and monitoring of European funds?
>
> **RQ2**: What opportunities, critical challenges, and organisational implications arise from the adoption of Artificial Intelligence in the processes of EU project planning, implementation, and reporting of public funding?

This study contributes to the literature on AI in Public Administration through the lens of administrative capacity and European fund governance, drawing out potential operational implications for the processes of EU project planning, monitoring, implementation, and reporting of funded programmes.

The research is subject to certain limitations: reliance on the Scopus and Web of Science databases may exclude relevant contributions held elsewhere, and the limited availability of empirical studies specifically addressing AI in the context of EU project planning and European fund management restricts the depth of evidence. Furthermore, the bibliometric and scientometric tools employed serve a predominantly exploratory and interpretive function, and do not allow for direct measurement of AI's applied effects in administrative contexts.

The remainder of the article is organised as follows: SECTION 2 presents the literature review; SECTION 3 sets out the methodological approach; SECTION 4 develops the SWOT matrix and presents the results; SECTION 5 discusses the findings; SECTION 6 offers conclusions.

## 2 – Literature Review

Analysing Artificial Intelligence in Public Administration requires a multi-dimensional approach capable of addressing organisational, technological, regulatory, and decision-making implications, particularly in contexts characterised by significant administrative complexity, such as the programming, management, and governance of public and European funds. In this regard, AI assumes relevance not merely as a digitalisation-support technology, but as a potential strategic lever for reinforcing administrative capacity and improving EU project planning processes (Wirtz et al., 2019).

The literature distinguishes two principal modalities of AI integration in public contexts: automation and augmentation. In the first case, AI is employed to handle repetitive and standardisable tasks, reducing the operational burden of routine administrative procedures. In the second case, it fulfils a decision-support function, assisting public officials in managing complex decision-making processes through predictive analyses, scenario simulation, and risk assessment (Dar, 2024).

This distinction is of particular relevance to public funding and European fund management processes. Given the discretionary components, regulatory constraints, and administrative accountability involved, augmentation models, oriented toward supporting decision-making and organisational capabilities are generally more appropriate than full automation (Pevcin et al., 2025).

In this perspective, AI can contribute to strengthening administrative capacity by supporting programming activities, tender analysis, project evaluation, procedural monitoring, and reporting. The literature in this regard invokes the concepts of human-in-the-loop and hybrid intelligence, which emphasise the integration of algorithmic analytical capabilities with human oversight in order to guarantee greater reliability, decision control, and accountability in public processes (Ransbotham et al., 2020). In administrative contexts characterised by high levels of discretion, such as project evaluation, selection of fundable interventions, and programme monitoring, these approaches are especially pertinent: they allow AI to function as a decision-support instrument without displacing administrative judgement (OECD, 2019). The potential contribution of AI thus aligns more closely with the reinforcement of administrative capacity than with any substitution of public decision-making functions.

The adoption of AI in Public Administration forms part of a broader process of digital transformation promoted by the European Union, aimed at strengthening administrative capacities, information interoperability, and the quality of public decision-making processes (European Commission, 2021; European Commission, 2022). In this context, digital technologies do not merely serve a procedural efficiency function; they contribute to reconfiguring the design, management, and monitoring of public policies and funded programmes.

From this perspective, the concept of digital government transcends the mere computerisation of administrative activity and implies a transformation of organisational and decision-making processes through the strategic deployment of digital technologies. In parallel, data-driven governance approaches assign a central role to the use of data as a lever for supporting programming, resource allocation, and the monitoring of public policies (Janssen et al., 2020).

In European fund management processes, such approaches can be particularly valuable in supporting the identification of territorial needs, intervention selection, procedural monitoring, and results evaluation, potentially contributing to the reinforcement of the administrative capacity of public bodies.

The effectiveness of AI systems in public contexts depends, however, on the quality, interoperability, and availability of administrative data. In this regard, the interoperability principle promoted by the European Interoperability Framework (EIF) is of particular relevance, as it enables greater information integration across public administrations (European Commission, 2017). In European fund management processes, insufficient interoperability can compromise monitoring quality, the timeliness of administrative checks, and the reliability of predictive analyses, limiting public bodies' capacity to plan and effectively govern funded interventions. This concern is especially acute in small and medium-sized local authorities, often characterised by fragmented information systems, limited digitalisation, and reduced technical capacity.

Currently, AI is applied in Public Administration in activities such as document management, decision support, administrative data analysis, and the automation of standardised procedures (Sun & Medaglia, 2019; Sacco 2025). In European fund management processes, these applications may extend to tender analysis, document preparation, procedural and financial monitoring, and the early detection of project risks and anomalies (OECD, 2019).

The literature indicates that AI can contribute to improving administrative efficiency, reducing procedural errors, and strengthening decision-making timeliness, particularly in contexts characterised by high documentary intensity and organisational complexity (Sun & Medaglia, 2019; Wirtz et al., 2020). These benefits appear heterogeneous and often derive from experimental or sector-specific settings, making them not automatically transferable to the management of funded programmes and European funds.

In this perspective, AI could contribute to strengthening administrative capacity through more efficient allocation of organisational resources and an enhanced ability to manage information (Gritta,2026). This dimension is of particular relevance in small and medium-sized municipalities, often marked by limited technical capacity and difficulties in accessing and managing European funds. In these settings, AI could support programming activities, project preparation, physical and financial monitoring, document control, and reporting, potentially improving both project quality and the capacity to absorb European resources (Wirtz et al., 2018; OECD, 2020).

Despite the potential highlighted, the literature signals significant obstacles to AI integration in Public Administration, particularly pronounced in territorial bodies with limited organisational and technological capacity. Major challenges include personal data protection, the quality and reliability of information bases, information security, and the need to ensure adequate levels of transparency in automated processes (Saura et al., 2022). In this regard, the General Data Protection Regulation (GDPR) is of particular relevance, imposing constraints on the processing, storage, and use of data that directly affect the implementation of AI solutions in public contexts (European Union, 2016).

A further obstacle to AI adoption in Public Administration concerns the limited transparency of algorithmic models, frequently described in the literature as 'black-box' systems whose functioning is difficult to interpret even for institutional users. This opacity can generate organisational resistance and accountability challenges, especially in processes characterised by high administrative discretion, such as the selection of fundable interventions, programme monitoring, and results evaluation. In this perspective, growing relevance is being assigned to the paradigm of Explainable Artificial Intelligence (XAI), oriented toward making algorithmic decisions more interpretable and verifiable, thereby strengthening transparency, trust, and public oversight in administrative processes (European Data Protection Supervisor, 2023). As Brunetti et al. (2020) observe, effective AI implementation requires a balance between computational capacity and human supervision, so as to guarantee both administrative efficiency and the protection of fundamental rights.

The challenges identified intertwine with the opportunities associated with AI adoption in public management. The literature shows that intelligent tools can improve the organisational efficiency and decision-making capacity of local administrations, facilitating greater operational timeliness and support for complex administrative processes (Parycek et al., 2024). For these benefits to translate into an effective strengthening of administrative capacity, however, adequate organisational, regulatory, and technological conditions are required, together with public policies oriented toward algorithmic transparency, data quality, and institutional trust (Costa et al., 2024).

Despite AI's growing diffusion in public contexts, the literature still reveals a limited availability of studies specifically devoted to EU project planning processes and the governance of European funds. A systematic review by Davahli (2020) underlines that AI application in public project management remains at an early stage, owing largely to the difficulty of adapting

algorithmic tools to the administrative and procedural requirements of planning, implementation, monitoring, and evaluation phases. An important contribution in this domain is offered by Silvia et. al (2023), who explores the use of AI across the various phases of EU-funded projects, identifying possible applications in tender evaluation, resource allocation, procedural monitoring, risk management, and reporting, suggesting that AI may operate as a lever for reinforcing administrative capacity and improving the absorption of European resources.

A significant portion of empirical AI literature continues to focus on the private sector, where such tools support decision-making processes, risk management, and performance control (Zuiderwijk et al., 2021; Elmousalami, 2020). Although these findings are not automatically transferable to public contexts, they suggest potential application pathways that may also be relevant to the management of funded programmes, particularly with respect to procedural efficiency, error reduction, and decision-making support for public administrations.

The literature on the life cycle of EU-funded projects offers a complementary interpretive framework to analyses of Artificial Intelligence in Public Administration. Studies on project cycle management of Structural Funds highlight how administrative capacity influences the various phases of the cycle in a differentiated manner: from programming and project proposal drafting, to selection and ex ante evaluation, through to implementation, ongoing monitoring, and ex post evaluation (Bachtler & Wren, 2006; Tosun, 2014). From this perspective, asymmetries in the administrative capacity of territorial bodies do not translate solely into difficulties in accessing funds, but manifest throughout the entire project cycle, conditioning the quality of reporting, the management of procedural irregularities, and institutional learning capacity (Milio, 2007; Mendez & Bachtler, 2011). This cyclical approach to the management of European funds is particularly relevant for framing the potential contribution of AI: artificial intelligence tools can, in fact, intervene in a targeted manner across the different phases of the cycle, supporting both the project design and tender analysis phase and that of monitoring, control, and results evaluation (Ferry & McMaster, 2013). The absence of studies explicitly adopting this cyclical perspective in the analysis of AI applied to European funds represents one of the gaps that the present work aims to contribute to addressing.

## 3 – Methodology

This study adopts an exploratory approach aimed at examining the potential contribution of Artificial Intelligence to the processes of European fund governance and the reinforcement of administrative capacity in Public Administration. To this end, the scientific literature review was supported by bibliometric and scientometric instruments, employed in an exploratory capacity to identify emerging research trajectories, application areas, recurring challenges, and organisational implications associated with the adoption of AI in public contexts and in the governance processes of funded programmes (Donthu et al., 2021; Van Eck & Waltman, 2010).

Data collection was carried out through the Scopus and Web of Science databases, selected on account of their broad coverage of the international scientific literature and their well-established indexing quality (Baas et al., 2020; Wang et al., 2014). The observation period (2018–2025) was chosen in light of the growing scientific and institutional attention to Artificial Intelligence, coinciding with the progressive evolution of the regulatory framework and European strategies on digitalisation and AI governance (Donthu et al., 2021).

The temporal scope of the analysis was defined to begin from 2018, a year that coincides with a significant acceleration in the scientific debate on AI in Public Administration, driven by the progressive diffusion of machine learning and deep learning applications in public sector contexts. This starting point is consistent with comparable bibliometric studies in the field (Donthu et al., 2021) and allows for a sufficiently consolidated body of literature to be captured while maintaining analytical focus on the most recent and policy-relevant developments.

The identification of relevant scientific contributions was conducted through a Boolean search strategy designed to capture studies relating to the application of AI in contexts of public governance and local administration. The following query was used: "Artificial Intelligence" AND ("government" OR "public administration" OR "public sector" OR "e-government" OR "local government" OR "municipality" OR "europlanning") (Corea, 2019).

The combination of terms made it possible to select contributions pertaining to Public Administration, public governance processes, and—more specifically—to domains relating to the design and management of public and European funding. The AND operator was used to circumscribe results to Artificial Intelligence, while the OR operators allowed for the inclusion of different conceptual dimensions of public governance and EU project planning (Van Eck & Waltman, 2010; Donthu et al., 2021). The choice to retain the umbrella term 'Artificial Intelligence' as the primary keyword was aimed at preserving conceptual coherence with the study objective, avoiding undue narrowing of the analysis to specific technologies or computational approaches (e.g. machine learning, deep learning, natural language processing), which were treated as functionally encompassed within the broader AI paradigm (Donthu et al., 2021).

In line with the research objective, only the subject areas of Business, Management, Accounting, Economics, Econometrics and Finance were selected, as these were judged most pertinent for analysing the organisational, economic-financial, and governance implications of AI adoption in Public Administration. This methodological choice was made to privilege contributions more closely aligned with the dimensions of public governance, administrative capacity, and funded programme management, while avoiding over-representation of purely technical or engineering-oriented studies.

Documents were exported in CSV format, including metadata on authors, publication year, title, abstract, citations, keywords, and journal source. Database searches were performed in January 2026 to ensure the most up-to-date available literature was captured. Only peer-reviewed scientific contributions published in English and indexed in the selected databases were included. The analysis was conducted on the entire resulting dataset, deliberately avoiding citation-based sampling procedures in order to reduce potential temporal distortions and the over-representation of more established contributions.

In total, 1,925 documents were identified from Scopus and 4,000 from Web of Science, yielding 5,926 bibliographic records subsequently integrated into a single information base. To ensure coherence, accuracy, and reliability of the dataset, a data-cleaning procedure was performed through the automated removal of duplicates by comparing title, author, and publication year fields, leading to the elimination of 414 overlapping records. The selection process was documented using a PRISMA flow diagram. The dataset analysis was developed through the integrated use of Python and VOSviewer, employed in an exploratory function to support the reconstruction of the principal thematic configurations of the literature, the potential application areas, and the challenges associated with AI adoption in Public Administration (Helms & Nixon, 2010). The resulting evidence was subsequently interpreted

through an administrative and organisational lens in order to support the construction of a SWOT matrix, employed not as a mere descriptive tool but as an interpretive device aimed at comprehending the opportunities, constraints, and organisational implications of AI adoption in the processes of European fund governance and the reinforcement of administrative capacity (Bird et al., 2009).

# 4 – Results

## 4.1 – *Emerging Evidence from the Literature and Implications for European Fund Governance*

### 4.1.1 – Evolution of the Literature and Growing Relevance of AI in Public Administration

The analysis of the temporal trend of scientific output (Figure 1) on the application of Artificial Intelligence in Public Administration over the period 2018–2025 reveals a progressive consolidation of academic interest in this theme. This finding allows for contextualising the growing recognition accorded to AI as a lever for administrative innovation, decision support, and organisational reinforcement.

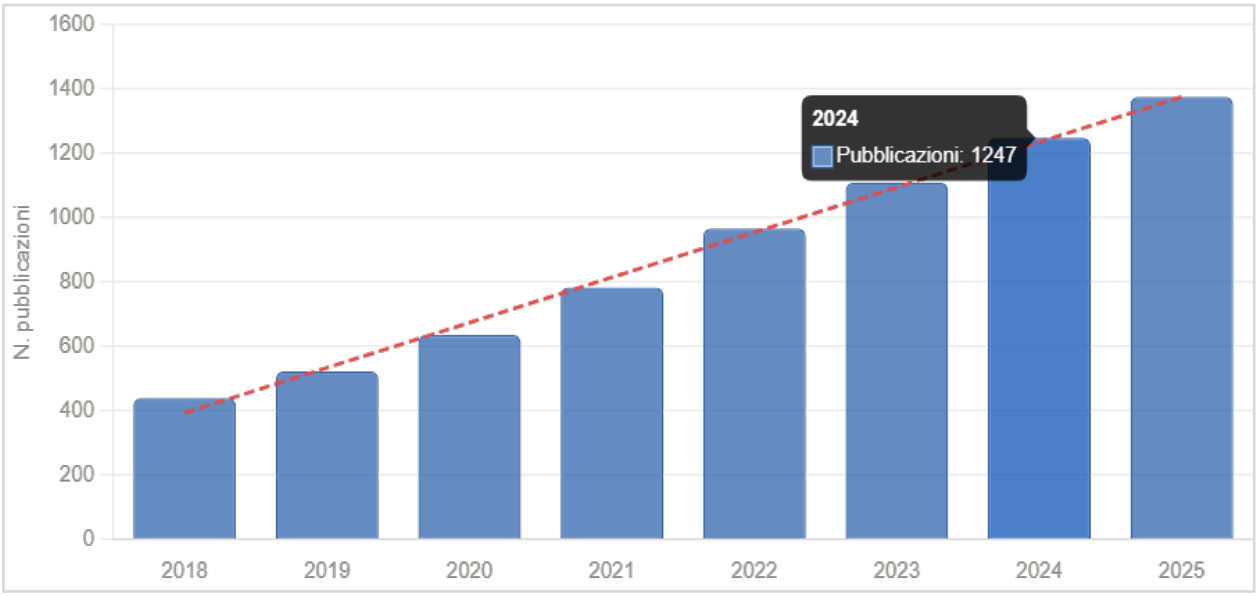



**Fig. 1 – Temporal Trend of Scientific Publications on AI in Public Administration (2018–2025)** (Source: *Author's own elaboration conducted in Python based on bibliographic dataset retrieved from Scopus and Web of Science*)

The observed growth suggests a progressive orientation of the literature toward the role of AI in the transformation of Public Administration, with particular reference to organisational efficiency, information management, and the improvement of decision-making capacities. In this perspective, the expanding scientific output appears consistent with the reinforcement of European strategies aimed at administrative digitalisation, data interoperability, and the development of digital government models.

Rather than constituting a purely technological phenomenon, AI adoption emerges from the literature as a potential factor for reinforcing administrative capacity, especially in contexts characterised by high procedural complexity, documentary intensity, and the need for multilevel coordination, such as the programming, implementation, monitoring, and reporting of European funds. From this standpoint, the literature suggests that AI may fulfil a support role in administrative processes, contributing to the reduction of procedural errors, document management, and the timeliness of monitoring activities.

### 4.1.2 – Emerging Thematic Trajectories and Implications for EU project planning

The analysis of recurring author keywords (Figure 2) was reinterpreted through an administrative lens in order to identify the principal emerging thematic trajectories pertinent to understanding the potential implications of AI in public governance processes and the management of funded programmes.

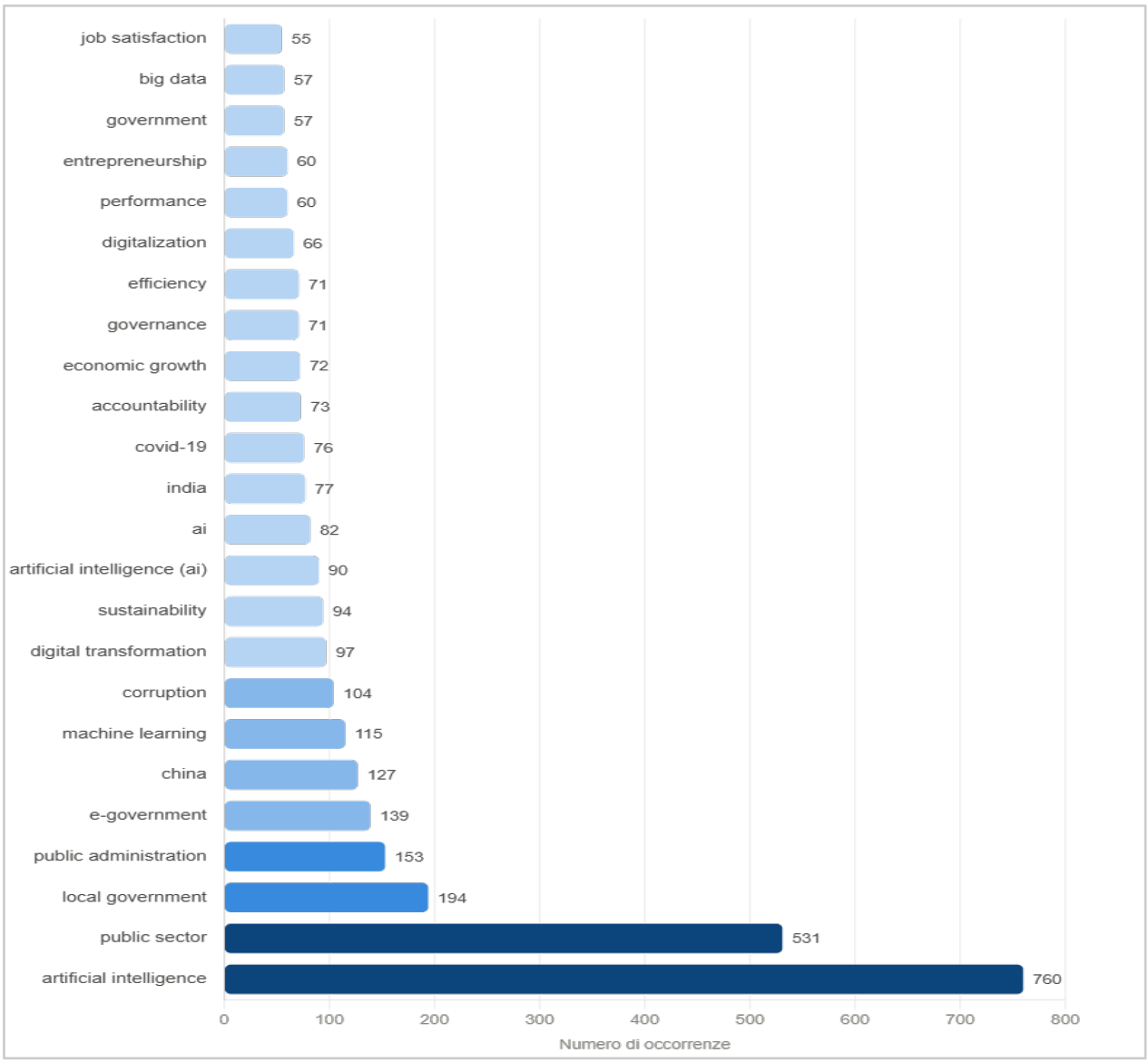



**Fig. 2 – Top 20 Author Keywords by Publication Frequency** (Source: *Author's own elaboration conducted in Python based on bibliographic dataset retrieved from Scopus and Web of Science)*

The keyword distribution reveals a thematic structure strongly concentrated around the term artificial intelligence, which occupies a position as the central conceptual node of the entire analysed corpus. This evidence suggests that the scientific debate develops primarily around the implications of AI for organisational and administrative transformation processes, rather than around specific sector-level applications. The recurrence of expressions such as public administration, public sector, local government, and e-government signals a particular scholarly interest in the institutional and organisational dimensions of public innovation, highlighting the role of intelligent technologies in administrative modernisation, information management, and decision support at local government level. In parallel, the presence of terms such as digital transformation, machine learning, innovation, governance, and efficiency suggests a progressive convergence between the debate on Artificial Intelligence, digitalisation strategies in Public Administration, and organisational efficiency processes. From this perspective, AI emerges in the literature not exclusively as an automating technology but as a potential lever for reinforcing administrative capacity through support to the collection, processing, and interpretation of information needed for the programming and management of public interventions. With respect to EU project planning processes, the analysis takes on particular significance in light of keywords attributable to public governance, the local dimension, and administrative performance management, elements that can be indirectly associated with the activities of planning, monitoring, evaluation, and reporting of funded programmes. Notably, the term europlanning was absent from the bibliographic metadata examined, even after verification through lexical variants such as Euro Planning and Euro-Planning.

This finding points to a limited explicit thematisation of EU project planning processes in the AI-and-public-administration literature, suggesting the existence of a partially unexplored research space. Rather than indicating a total absence of indirectly relevant contributions, this evidence seems to reflect a conceptual fragmentation of the theme, which is frequently subsumed within broader dimensions such as public governance, digital government, project management, or administrative capacity, without being treated as an autonomous area of analysis. In order to provide a more granular geographical perspective, the distribution of scientific publications by country of author affiliation was analysed (Figure 3).

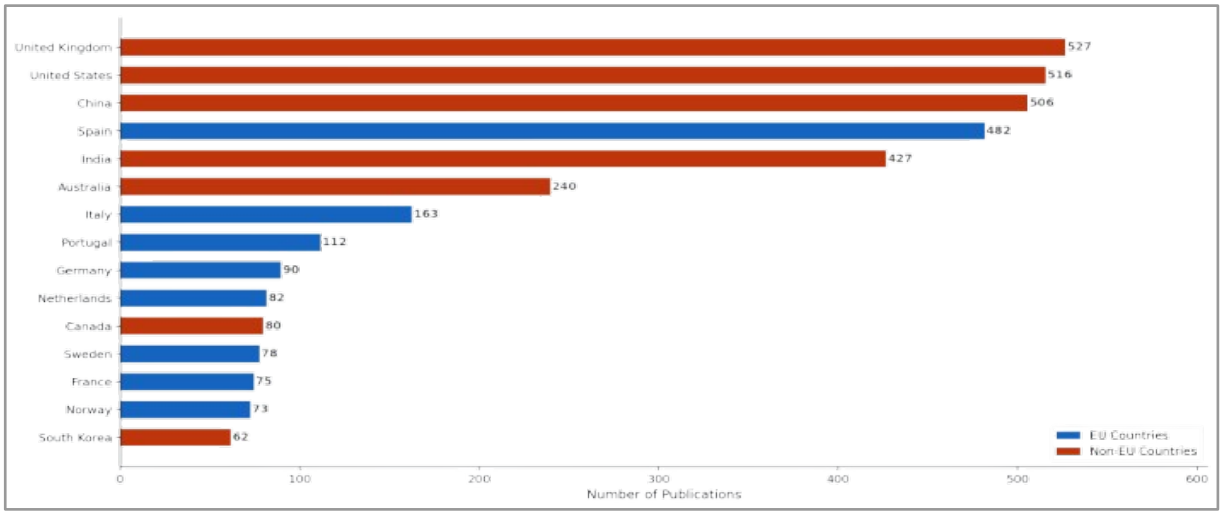



**Fig. 3 – Distribution of Publications on AI in Public Administration by Country (Top 15). Blue = EU countries; Red = Non-EU countries** (Source*: Author's own elaboration conducted in Python based on bibliographic dataset retrieved from Scopus and Web of Science*)

As illustrated in Figure 4, the United Kingdom (527), the United States (516), and China (506) emerge as the most productive national contexts, reflecting the global character of the research debate on AI in Public Administration. Among European Union member states, Spain (482) and Italy (163) represent the most active contributors, followed by Portugal (112) and Germany (90). This geographical distribution confirms the international scope of the field while also highlighting a relevant presence of EU-based research, consistent with the policy priorities of the European digital agenda.

### 4.1.3 – Topic Modelling Results

The Topic Modelling analysis conducted using the Latent Dirichlet Allocation (LDA) algorithm—applied to the textual content of titles and abstracts—enabled the reconstruction of the principal thematic configurations structuring the scientific debate on AI in Public Administration, identifying recurring semantic patterns, dominant interpretive nuclei, and areas of intersection between technological innovation, public governance, and organisational processes.

| # | Thematic area | Representative terms |
|---|---|---|
| Topic 1 | AI & digital governance | artificial intelligence, digital, government, public, technology, adoption, governance, research, study |
| Topic 2 | Local gov. & firm innovation | local government, China, firms, innovation, corporate, green, debt, enterprises, impact |
| Topic 3 | Public sector management | public sector, management, accounting, performance, knowledge, findings, approach, paper |
| Topic 4 | Municipal taxation | local government, tax, municipalities, information, social, development, analysis, results |
| Topic 5 | Fiscal policy & growth | public sector, fiscal, economic growth, corruption, countries, policy, private, effects |
| Topic 6 | Banking & financial efficiency | banks, financial sector, public sector, efficiency, capital, banking, Indian, performance |
| Topic 7 | AI & sustainable industry | artificial intelligence, data, sustainable, industry, technologies, business, global, development |
| Topic 8 | HR & organizational behavior | employees, leadership, job satisfaction, organizational, relationship, model, service, data |

**Fig. 4 – LDA Topic Modelling — Key Terms per Cluster. 8 latent topics extracted from Scopus & Web of Science bibliographic data** (Source: *Author's own elaboration conducted in Python (Topic Modelling – LDA) based on bibliographic dataset retrieved from Scopus and Web of Science)*

The analysis identified eight thematic clusters attributable to different interpretive perspectives on the use of AI in public and para-public contexts. Rather than representing rigidly separate categories, these topics delineate areas of specialisation within the literature that tend frequently to overlap, reflecting the multidimensional nature of the phenomenon under investigation. A first interpretive nucleus concerns the processes of digital transformation of Public Administration. Within this domain fall Topic 1, oriented toward AI adoption dynamics, digitalisation, and digital governance models, and Topic 7, more focused on data-driven logics, emerging technologies, and processes of innovation and development. Considered jointly, these clusters suggest that the scientific debate is according growing relevance to the capacity of intelligent technologies to support decision-making processes, information management, and organisational transformation, with possible implications also

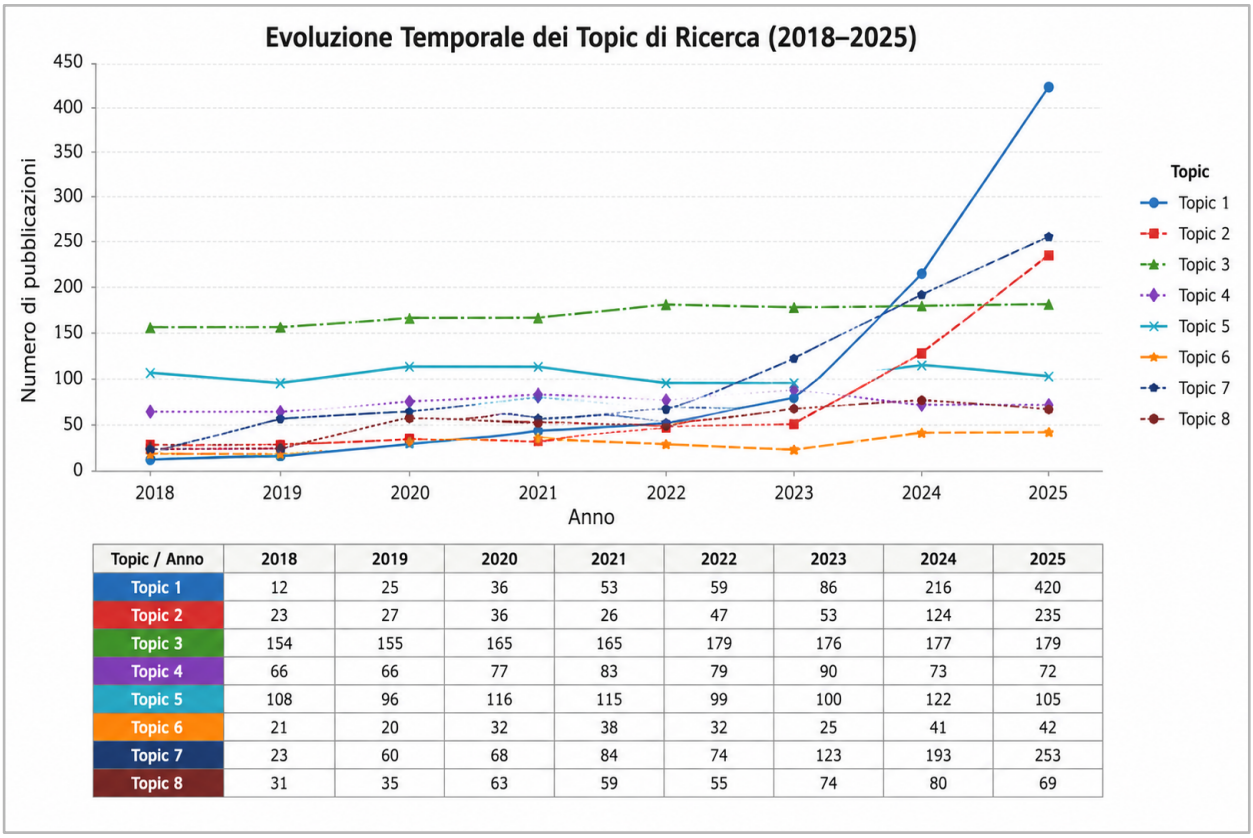
for the reinforcement of administrative capacity in the programming, monitoring, and management of funded programmes. A second thematic direction is attributable to economic-institutional and territorial governance. Topic 2 highlights the centrality of local governments, territorial innovation processes, and interactions between public policies and economic systems, while Topics 4 and 5 address respectively the dimensions of municipal governance, fiscal policies, and public-private sector relations, including aspects related to corruption and the effectiveness of public institutions. In this perspective, a literature emerges that is interested not only in the technological implications of AI but also in its potential influence on coordination mechanisms, resource allocation, and the governance of territorial systems. A third thematic configuration concerns the organisational and managerial dimension of the public sector. Topic 3, the most numerically extensive cluster, appears centred on administrative performance, accounting systems, and public sector management practices, suggesting persistent attention to the themes of efficiency, evaluation, and organisational management. In parallel, Topic 8 introduces a perspective more oriented toward human capital, encompassing aspects relating to leadership, labour relations, and organisational satisfaction—highlighting how digital transformation processes require adaptations that are not only technological but also organisational and cultural. Topic 6, dedicated to the banking and financial sector, constitutes a more peripheral cluster relative to the central focus of the investigation. Although primarily related to operational efficiency and capital management logics, this strand may nonetheless offer indirect insights into possible AI applications in performance control, monitoring, and evaluation processes in public contexts. The thematic mapping suggests the emergence of three macro-interpretive axes: (i) digital transformation and AI adoption in Public Administration; (ii) economic, territorial, and institutional governance; (iii) organisational, managerial, and behavioural dimensions of the public sector. This structure confirms that the scientific debate tends to position AI not exclusively as an automation technology but as a potential factor for the reconfiguration of administrative capacity, decision quality, and the management modalities of public policies and funded programmes.

### 4.1.4 – Temporal Evolution of Research Trajectories

The longitudinal analysis of topics over the period 2018–2025 enables observation of the progressive evolution of the research trajectories identified through Topic Modelling, highlighting not only quantitative growth dynamics but also differing levels of thematic consolidation and scientific specialisation.

The temporal distribution of publications (Figure 5) shows an overall expansion of scholarly interest in AI applications in public contexts, albeit with differing intensities across the clusters identified. Rather than constituting homogeneous trajectories, the topics exhibit differentiated evolutionary paths, reflecting the progressive broadening of the debate from predominantly technological dimensions toward organisational, economic, and institutional implications. In this context, Topic 3, attributable to public sector management themes, administrative performance, and public accounting systems, maintains a position of particular stability and centrality throughout the entire temporal horizon. This evidence suggests that the debate on AI in Public Administration is increasingly situated in relation to the management, evaluation, and improvement of organisational performance processes, rather than being confined to the technological dimension in the strict sense. A more moderate growth dynamic characterises the clusters attributable to territorial, fiscal, and economic governance (Topics 4 and 5), in which the

role of AI appears primarily associated with the capacity to support coordination, information management, and public policy monitoring processes. The lower development intensity of these strands suggests a literature still in a consolidation phase, characterised by progressive but uneven integration of digital perspectives into institutional governance processes.




| Topic / Anno | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|---|---|---|
| Topic 1 | 12 | 25 | 36 | 53 | 59 | 86 | 216 | 420 |
| Topic 2 | 23 | 27 | 36 | 26 | 47 | 53 | 124 | 235 |
| Topic 3 | 154 | 155 | 165 | 165 | 179 | 176 | 177 | 179 |
| Topic 4 | 66 | 66 | 77 | 83 | 79 | 90 | 73 | 72 |
| Topic 5 | 108 | 96 | 116 | 115 | 99 | 100 | 122 | 105 |
| Topic 6 | 21 | 20 | 32 | 38 | 32 | 25 | 41 | 42 |
| Topic 7 | 23 | 60 | 68 | 84 | 74 | 123 | 193 | 253 |
| Topic 8 | 31 | 35 | 63 | 59 | 55 | 74 | 80 | 69 |

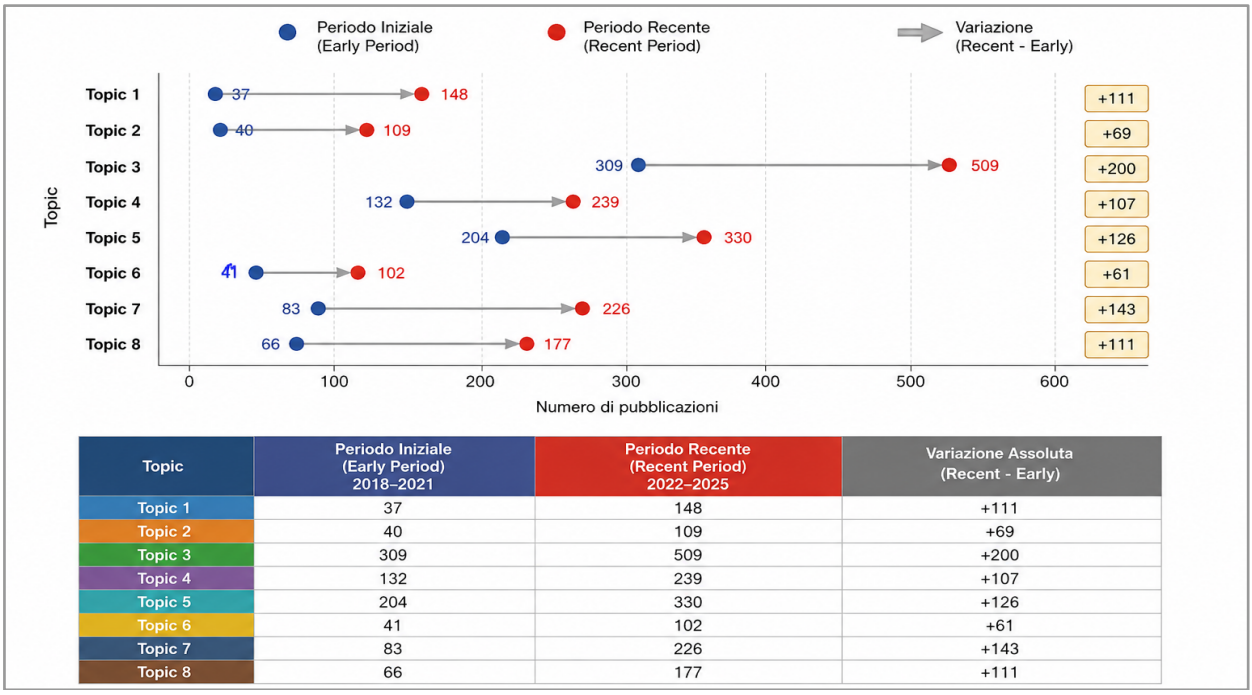
**Fig. 5 – Distribution of Publications by Topic** (Source: *Author's own elaboration conducted in Python based on bibliographic dataset retrieved from Scopus and Web of Science*)

Topic 6, relating to the banking and financial sector, presents a more contained and peripheral trajectory relative to the main interpretive nuclei identified. Although marginally situated with respect to public governance, this strand remains potentially relevant as a domain of methodological transferability, particularly with respect to the use of predictive tools, performance control, and data analysis applicable also to the monitoring and reporting of funded programmes. The temporal evolution of topics suggests a progressive shift of the literature from an AI vision centred primarily on technological innovation toward approaches more oriented to organisational, managerial, and institutional implications—reinforcing the notion that Artificial Intelligence is being progressively reinterpreted as a potential lever for supporting administrative capacity and public governance processes.

### 4.1.5 – Thematic Asymmetries and the Evolution of Research Areas

In order to understand the level of consolidation of the principal research trajectories identified through Topic Modelling, a comparative analysis was developed based on the distribution of publications by topic and their temporal evolution between the initial and the more recent phases of the observation period. Rather than identifying absolute thematic absences, this

approach enables the highlighting of different levels of literature maturation, distinguishing consolidated domains, expanding trajectories, and still relatively marginal strands (Figure 6).




| Topic | Periodo Iniziale (Early Period) 2018–2021 | Periodo Recente (Recent Period) 2022–2025 | Variazione Assoluta (Recent - Early) |
|---|---|---|---|
| Topic 1 | 37 | 148 | +111 |
| Topic 2 | 40 | 109 | +69 |
| Topic 3 | 309 | 509 | +200 |
| Topic 4 | 132 | 239 | +107 |
| Topic 5 | 204 | 330 | +126 |
| Topic 6 | 41 | 102 | +61 |
| Topic 7 | 83 | 226 | +143 |
| Topic 8 | 66 | 177 | +111 |

**Fig. 6 – Trends by Topic** (Source*: Author's own elaboration conducted in Python based on bibliographic dataset retrieved from Scopus and Web of Science*)

The analysis reveals a configuration characterised by a non-homogeneous distribution of scholarly attention. Topic 3, associated with public sector management, administrative performance, and accounting systems, emerges as the most consolidated cluster in terms of publication volume, confirming the persistent centrality of studies oriented toward the management, evaluation, and organisation of the public sector. This evidence suggests that the debate on Artificial Intelligence is progressively integrating with the themes of administrative capacity and the improvement of institutional performance.

A different configuration emerges for Topic 6, relating to AI applications in the banking and financial sector, which presents a lower density of scientific contributions compared to the other clusters. Rather than representing an area devoid of interest, this result seems to indicate a more specialised strand, less integrated with the principal interpretive trajectories of public governance literature. The diachronic reading between the initial and recent phases also highlights a significant acceleration of topics more closely connected to digital transformation processes and data-driven logics, particularly Topics 1 and 7, signalling a progressive shift of scholarly interest toward applications oriented to decision support, information analysis, and organisational innovation.ù Overall, the analysis does not point to the existence of absolute thematic gaps, but rather to an asymmetric configuration of research priorities, in which some areas are extensively consolidated while others appear still in a process of progressive structuring. In this perspective, the limited explicit thematisation of AI applications in EU project planning and funded programme management processes appears to constitute a partially open space for further investigation, potentially relevant to future research trajectories.

## 4.2 – *Scientometric Analysis (VOSviewer)*

### 4.2.1 – Relational Structure of Keywords and Emerging Thematic Configurations

The Keyword Co-occurrence analysis was developed using VOSviewer software in order to reconstruct the relational configuration of the literature on AI in Public Administration and to identify the principal conceptual proximities among emerging research domains (Figure 7). The analysis was performed using Author Keywords as the unit of observation, applying a minimum threshold of ten occurrences a methodological choice aimed at improving network readability and reducing the dispersion of marginal connections.

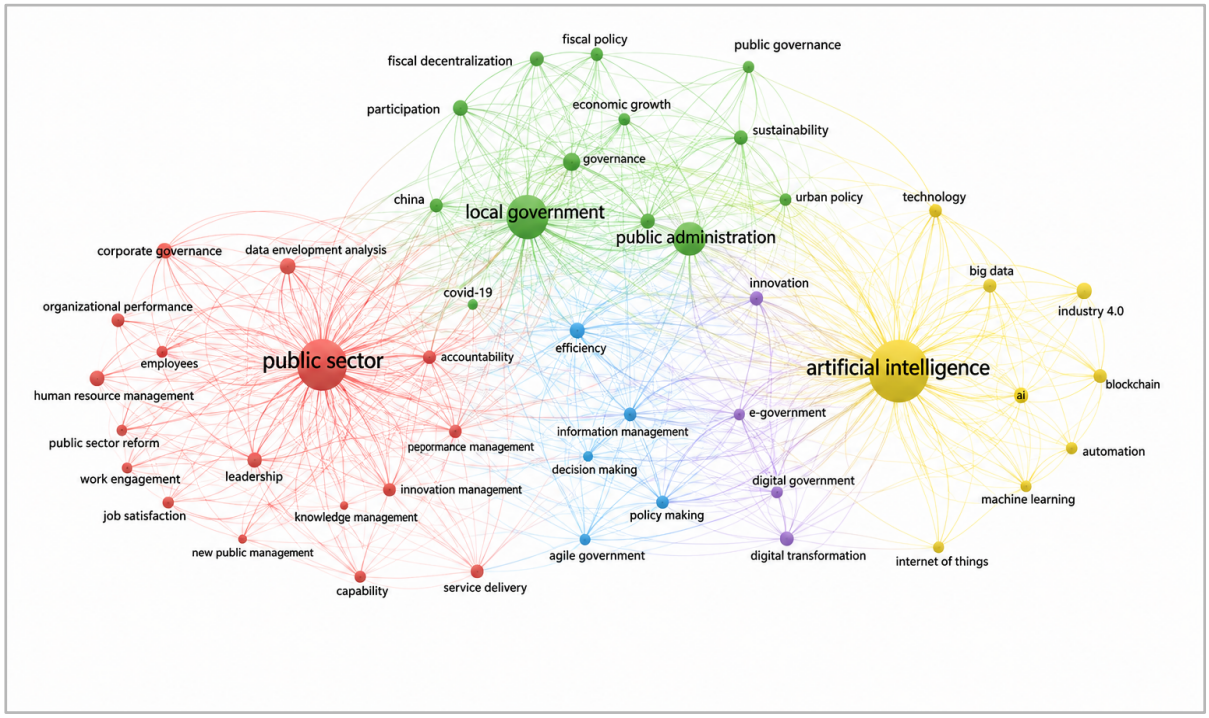



**Fig. 7 – Keyword Co-occurrence Network Visualization** *(Source: Author's own elaboration using VOSviewer based on the integrated bibliographic dataset retrieved from Scopus and Web of Science)*

The network visualisation reveals a semantic structure characterised by high relational density, in which keywords tend to organise themselves into interconnected thematic aggregations rather than autonomous, rigidly separated domains (Figure 8). Within this configuration, artificial intelligence assumes a position of particular centrality, configuring itself as a node of connection between different areas of the literature and confirming the transversal role accorded to AI in the processes of administrative and organisational transformation.

A first area of conceptual proximity concerns the technological and infrastructural dimension, within which terms attributable to the paradigms of digital innovation recur, including machine learning, big data, automation, blockchain, and Industry 4.0. The proximity between these keywords suggests a representation of AI as a set of enabling instruments for data processing, the automation of repetitive activities, and the reinforcement of decision-support processes in public contexts.

A second thematic configuration is oriented toward the organisational and managerial aspects of Public Administration. The co-presence of keywords such as public administration,

public sector, performance management, accountability, and human resource management indicates how a significant portion of the literature interprets AI adoption through the lens of administrative capacity, organisational efficiency, and the quality of public management processes.

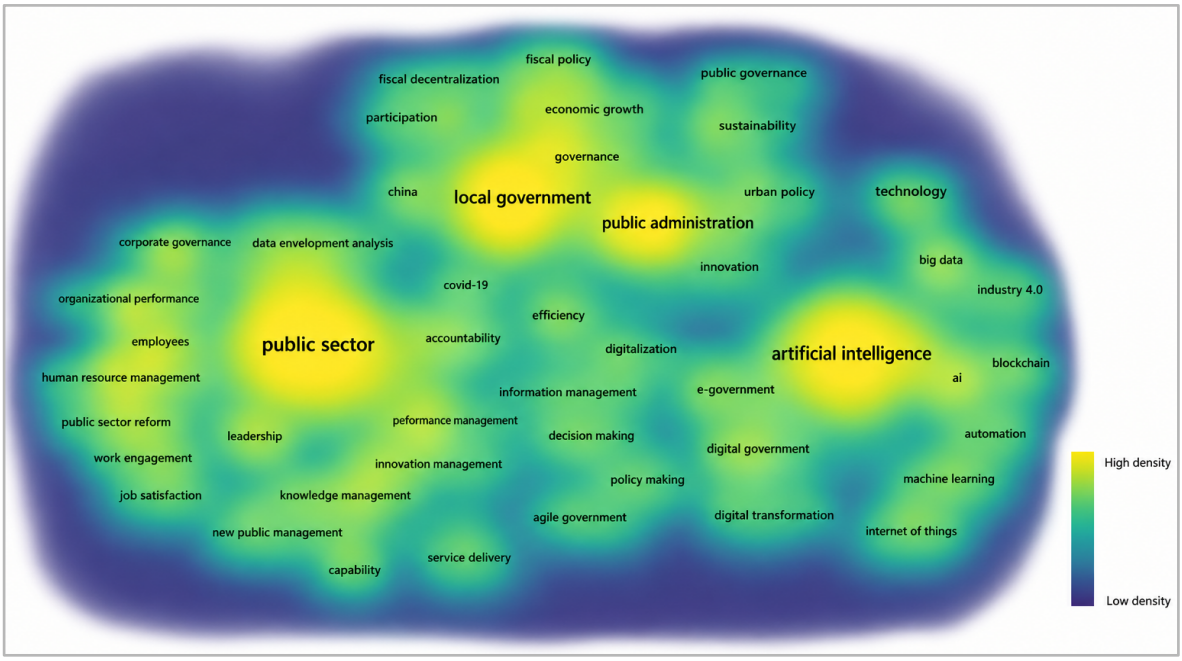



**Fig.8 – Keyword Density Visualization** (Source*: Author's own elaboration using VOSviewer based on the integrated bibliographic dataset retrieved from Scopus and Web of Science*)

A further relational nucleus develops around the concepts of digital government, e-government, innovation, and governance, delineating a perspective more oriented toward the transformation of decision-making models and the digitalisation of public services. In this perspective, AI emerges as a technology potentially functional for reinforcing coordination, programming, and administrative monitoring capacities. The network also highlights connections with territorial and political-institutional themes, in which keywords such as local government, public policy, economic growth, and sustainability assume relevance, suggesting growing interest in the role of AI in local governance processes, public policy management, and territorial development strategies.

Overall, the co-occurrence map produces an interpretive configuration in which the technological, governance, and organisational dimensions of AI applied to Public Administration are strongly intertwined. Rather than representing an autonomously delimited field of study, AI emerges as a transversal element capable of reconfiguring administrative practices, institutional coordination models, and information management processes, with potential implications also for the governance of funded programmes and the reinforcement of administrative capacity.

Reinterpreted through the lens of the research questions guiding this study, the thematic clusters emerging from the co-occurrence analysis map onto two distinct analytical dimensions. A first cluster, encompassing terms such as *public administration*, *e-government*, *accountability*, *governance*, *efficiency*, *transparency*, and *digitalization* is directly attributable to the domain of **RQ1**, concerning the contribution of AI to administrative capacity in the programming, management,

and monitoring of European funds. A second cluster organised around *machine learning*, *digital transformation*, *automation*, *big data*, and *innovation* corresponds to the technological and operational dimension explored by **RQ2**, relating to the opportunities and challenges arising from AI adoption in EU project planning and implementation processes. Notably, terms directly referencing EU funds management such as *cohesion policy*, *structural funds*, and *EU project planning* are virtually absent from the keyword co-occurrence network, appearing with a frequency close to zero (Figure 9, Figure 10). This empirical evidence corroborates the existence of a significant thematic gap in the literature, reinforcing the originality of the present study's focus.

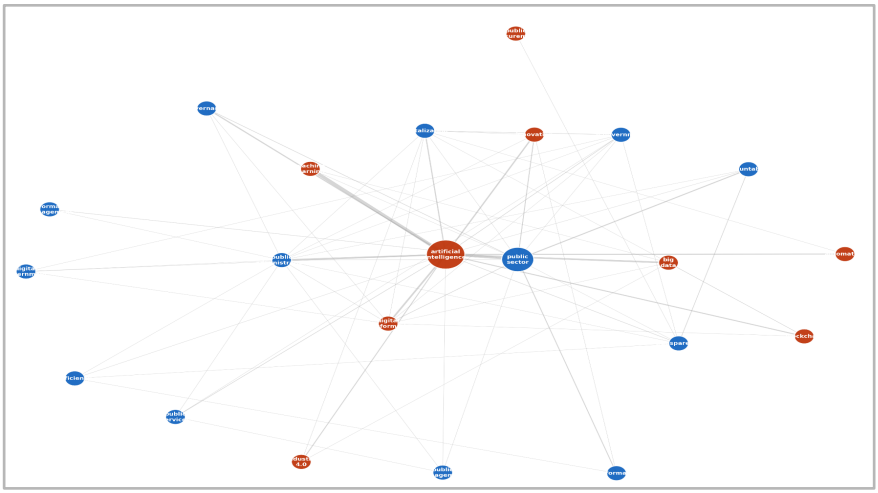



**Fig.9 – Keyword Co-occurrence Network — Thematic Clusters by Research Question. Blue = RQ1 (Administrative Capacity & Monitoring); Orange = RQ2 (AI Tools & Implementation); Purple = EU Funds Gap. Node size = keyword frequency** (Source: *Author's own elaboration using Python based on bibliographic dataset retrieved from Scopus and Web of Science*)

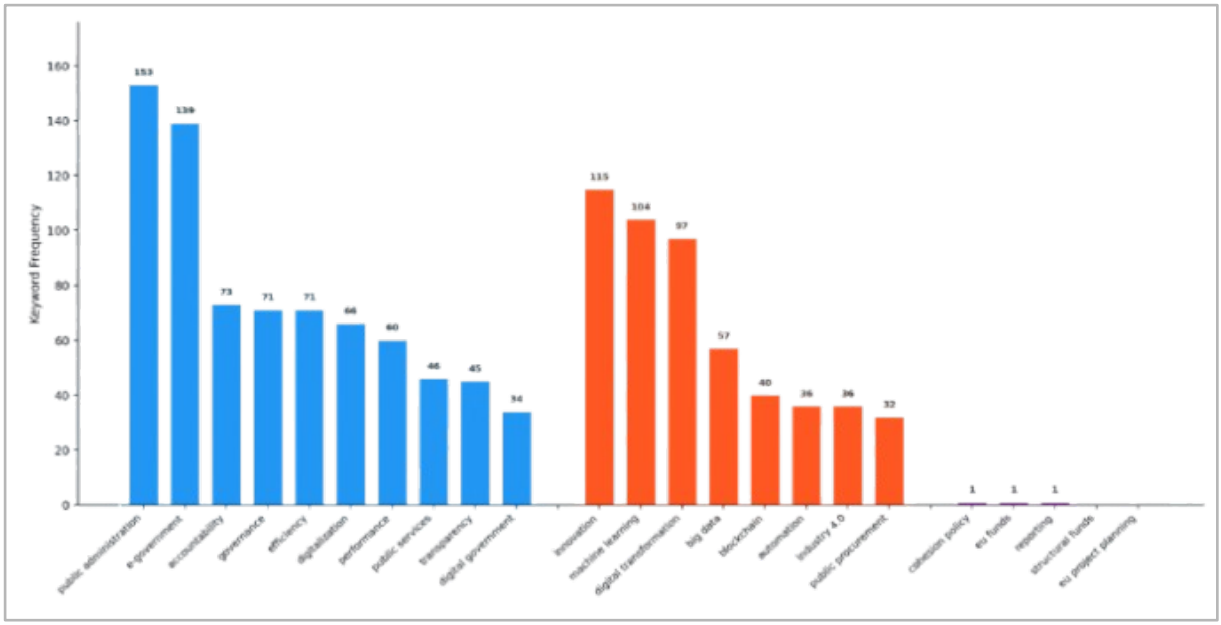



**Fig. 10 – Keyword Frequency by Research Question Cluster — Evidence of the EU Funds Thematic Gap** (Source: *Author's own elaboration using Python based on bibliographic dataset retrieved from Scopus and Web of Science*)

### 4.2.2 – Co-authorship Collaboration Analysis

The co-authorship analysis was employed in order to reconstruct the modalities of scientific interaction among researchers active in the domain of AI applied to Public Administration, enabling observation of the level of integration of the academic community, the dynamics of cooperation between research groups, and the distribution of collaborative connections within the analysed scientific domain (Figure 11).

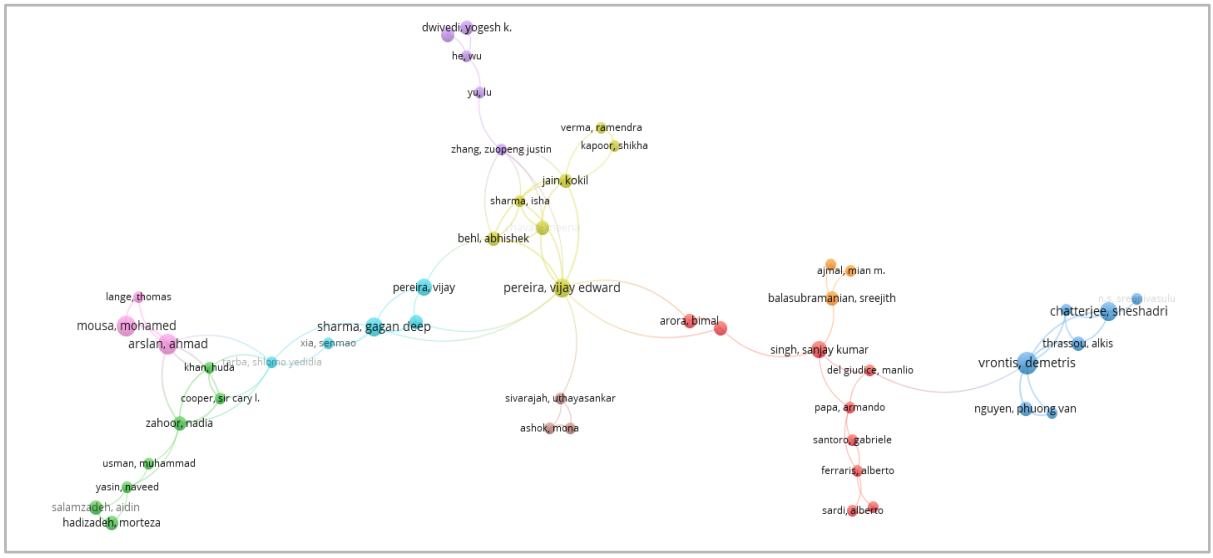



**Fig. 11 – Co-authorship Network Visualization** (Source: *Author's own elaboration using VOSviewer based on the integrated bibliographic dataset retrieved from Scopus and Web of Science*)

The co-authorship network reveals an articulated collaborative structure, characterised by the presence of relatively cohesive scientific groupings that tend to develop around more frequent and consolidated collaboration relationships. Rather than constituting a fully integrated network, the system of collaborations shows a polycentric structure in which different research groups are interconnected with varying degrees of intensity.

Within this configuration, certain actors emerge with high connectivity, whose position in the network suggests a function of scientific mediation between different research communities. The relevance of these nodes is attributable not exclusively to academic productivity but to their capacity to foster processes of knowledge transfer, interdisciplinary contamination, and convergence between heterogeneous theoretical perspectives. The distribution of collaborative relationships also suggests an evident international openness of the field, with connections crossing different geographical and institutional contexts, highlighting the progressive construction of transnational networks of scientific production. This aspect appears consistent with the very nature of the theme analysed, which is strongly influenced by processes of digitalisation, multilevel governance, and global technological development.

In parallel, the presence of relatively dense but not fully integrated sub-networks signals an evolutionary phase not yet fully consolidated in the literature. Rather than representing a limitation, this configuration may be interpreted as an indicator of an expanding scientific domain in which different disciplinary approaches (technological, organisational, managerial, and institutional) are progressively converging around the study of the implications of AI in public contexts.

### 4.2.3 – Institutional Collaboration Analysis

The analysis of institutional collaborations was developed in order to reconstruct the modalities through which universities, research centres, and academic organisations contribute to scientific production on AI applied to Public Administration, highlighting the level of interconnection among institutional actors and the principal collaborative trajectories of the field (Figure 12).

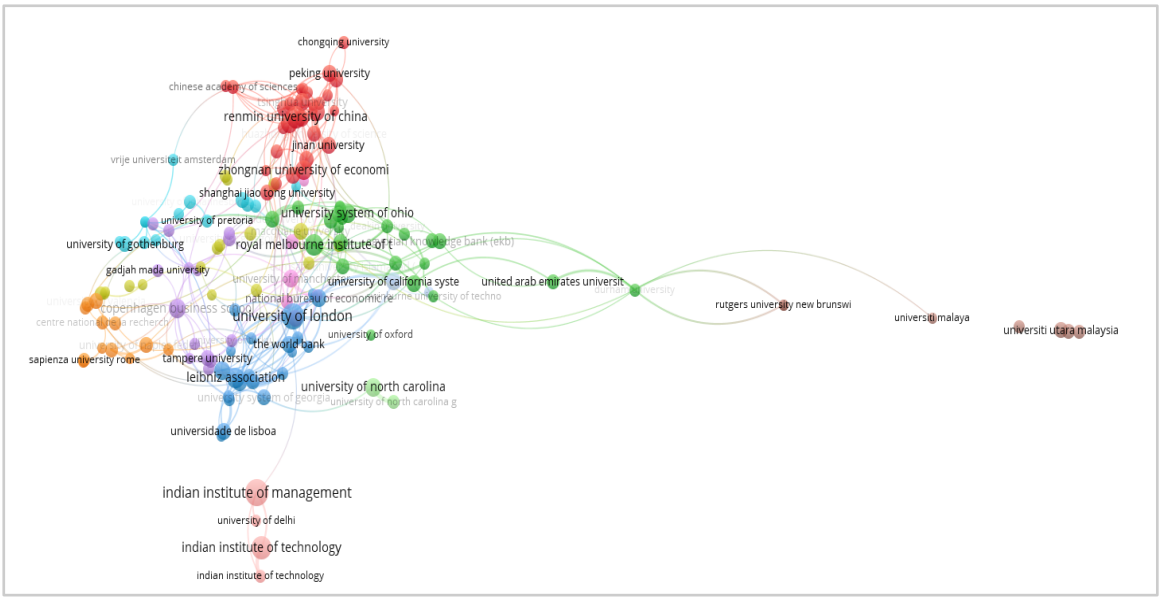



**Fig. 12 – Institutional Collaboration Network Visualization** (Source: *Author's own elaboration using VOSviewer based on the integrated bibliographic dataset retrieved from Scopus and Web of Science*)

The institutional network reveals a collaborative configuration characterised by differing levels of integration among scientific organisations. Rather than displaying a fully centralised system, the map suggests a distributed structure in which certain institutions assume a role of greater relational visibility, serving as connection points between research groups belonging to different academic ecosystems.

The presence of transnational links confirms the international character of the scientific debate on AI in Public Administration, showing how knowledge production tends to develop through partnerships that cross different geographical and disciplinary contexts. In particular, cooperation among universities belonging to consolidated research systems suggests the emergence of circuits of scientific production capable of fostering processes of mutual learning, methodological contamination, and skills transfer.

In parallel, the existence of sub-networks with more circumscribed connectivity levels suggests a configuration still in progressive structuring, in which highly integrated collaborative nuclei and more specialised or peripheral research groups coexist. This configuration appears consistent with an interdisciplinary and relatively recent scientific domain in which technological, organisational, economic, and institutional perspectives are progressively converging. The structure of institutional collaborations suggests a progressive reinforcement of the field's scientific coordination capacity, indicating growing international convergence around the study of the organisational and administrative implications of AI adoption in public contexts.

The analysis of the distribution of scientific publications by journal source was conducted in order to identify the principal outlets through which scholarly contributions on AI in Public Administration are disseminated. Rather than providing an exhaustive mapping of all journals present in the dataset, the analysis focuses on the fifteen most productive sources, selected on the basis of their publication frequency within the final bibliographic corpus. This approach allows for the identification of the most influential venues in terms of scientific output, offering an indication of the disciplinary positioning of the field and the editorial communities most actively engaged with the research themes examined in this study.

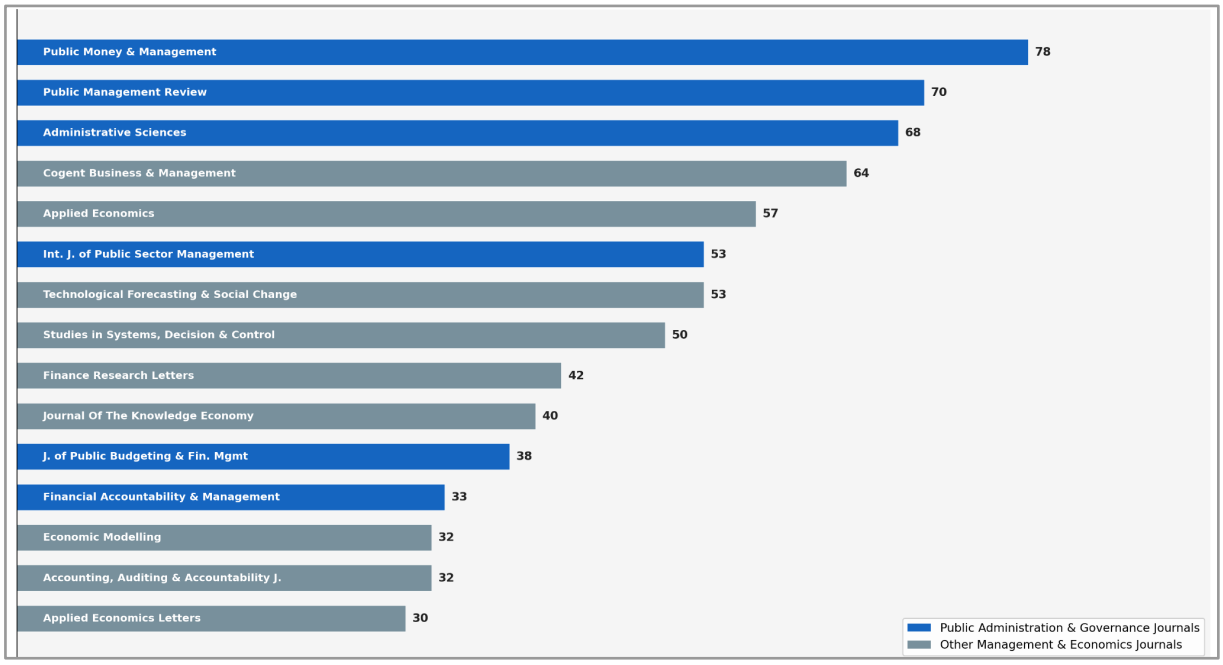



**Fig. 13 – Top 15 Journals by Number of Publications on AI in Public Administration. Blue = Public Administration & Governance journals; Grey = other Management & Economics journals** (Source: *Author's own elaboration using VOSviewer based on the integrated bibliographic dataset retrieved from Scopus and Web of Science*)

## 4.3 – *SWOT Analysis of AI Adoption in Public Administration*

The evidence emerging from the bibliometric and scientometric analyses was subsequently systematised within a SWOT matrix aimed at interpreting, in an integrated manner, the principal implications associated with the adoption of Artificial Intelligence in Public Administration (Table 1). In line with the approach proposed by Benzaghta et al. (2021), the construction of the matrix took place through an evidence-based synthesis process grounded in the integration of results derived from keyword co-occurrence analysis, network visualisation, density mapping, and thematic analysis of the literature.

The evidence-based analysis derived from the SWOT matrix suggests that AI adoption in Public Administration should be interpreted as a multidimensional process, in which potential benefits, organisational constraints, development opportunities, and risk factors are strongly interdependent.

A first finding concerns the transformative potential of AI with respect to administrative and decision-making processes. The thematic recurrences emerging from the literature

frequently associate intelligent technologies with improvements in operational efficiency, the reduction of repetitive activities, and the reinforcement of information management capacities. In this perspective, decision-support tools and data-driven approaches appear functional for supporting more timely decision-making, an enhanced analytical capacity, and new modalities of public service delivery, reinforcing the paradigm of digital government.

**Table 1 – SWOT Matrix of AI Adoption in Public Administration — Orientation toward Administrative Capacity and European Fund Governance** (Source*: Author's own elaboration based on bibliometric and scientometric analysis results*)

| Analytical Dimension | Evidence Emerging from Literature | Administrative Implications |
|---|---|---|
| **Internal Enablers (Strengths)** | Administrative automation; operational efficiency; decision-support systems; service innovation; digital government | Improved procedural efficiency, faster decision-making, and enhanced public service delivery |
| **Internal Constraints (Weaknesses)** | Digital skill gaps; organizational resistance; limited interoperability; data quality issues; implementation costs | Reduced organizational readiness and lower institutional capacity for effective AI integration |
| **External Development Drivers (Opportunities)** | EU funding; AI Act regulatory framework; smart governance; predictive analytics; AI-supported europlanning | Strengthening of administrative and project-management capacities, especially in public planning and EU-funded programs |
| **External Risks (Threats)** | Privacy concerns; algorithmic bias; cybersecurity vulnerabilities; legal liability; trust erosion | Risks for institutional legitimacy, accountability, transparency, and citizen trust |

In parallel, the literature highlights the existence of relevant enabling conditions that may limit the effective implementation of AI solutions in public contexts. The most recurrent challenges concern the availability of digital competencies, the capacity of organisations to absorb technological change, and the quality of information infrastructures. System fragmentation, limited data interoperability, and high implementation costs emerge as factors capable of slowing technological integration processes, highlighting how administrative maturity constitutes a fundamental prerequisite for the effective adoption of AI.

Regarding evolutionary prospects, the European framework appears particularly relevant in sustaining the diffusion of AI in the public sector. Digitalisation policies, the reinforcement of funding programmes, and the progressive definition of a European regulatory framework are fostering the emergence of new application opportunities in the processes of planning, management, and monitoring of public policies. In this perspective, AI is assuming growing relevance also in EU project planning processes, potentially supporting activities of needs analysis, intervention selection, project monitoring, and results evaluation, with potential effects on the reinforcement of local authorities' project-planning capacity.

Significant challenges remain associated with the ethical, legal, and reputational dimension of AI adoption. Questions relating to data protection, algorithmic biases, information security, and the transparency of automated processes recur frequently in the literature, highlighting the

risk of distorting effects on decision quality and the legitimation of public institutions. Citizens' trust, together with administrations' capacity to guarantee accountability and oversight of automated processes, thus configures itself as an essential condition for technological innovation to translate into genuine public value.

Overall, the SWOT matrix produces an interpretive framework in which the opportunities offered by Artificial Intelligence are closely conditioned by the level of administrative capacity, the quality of institutional governance, and the presence of adequate normative, organisational, and ethical safeguards.

## 5 – Discussion

The analysis conducted in this study has enabled a systematic interpretation of the evolution of the scientific literature on Artificial Intelligence in Public Administration, providing evidence useful for responding to the research questions posed.

> **RQ1**: In what ways can Artificial Intelligence contribute to strengthening the administrative capacity of Public Administration, with particular reference to the programming, management, and monitoring of European funds?

The evidence emerging from the literature review suggests that AI can contribute to reinforcing the administrative capacity of Public Administration primarily as an augmentation instrument for decision-making and organisational processes, rather than as a mechanism for substituting administrative functions. In this perspective, AI's contribution appears attributable to the improvement of information management capacities, the reduction of procedural burden, and support for activities characterised by high documentary intensity and administrative complexity.

With respect to European fund programming processes, AI can strengthen administrative capacity through instruments for territorial data analysis, needs identification, support for the definition of intervention priorities, and coherence assessment between strategic objectives, calls for proposals, and project plans. Data-driven approaches and decision-support systems can indeed contribute to improving the informational quality underlying resource allocation processes, facilitating more evidence-based decisions.

In the management and implementation phases of funded programmes, the potential contribution of AI emerges above all in relation to the automation of repetitive activities, document management, administrative compliance verification, and the procedural and financial monitoring of projects. In particular, intelligent systems could support tender analysis, document preparation, deadline control, the early detection of anomalies, and the monitoring of intervention progress, contributing to the reduction of procedural errors and greater administrative timeliness.

With regard to the monitoring and evaluation of European funds, AI can further support processes of predictive analysis and early identification of challenges, facilitating more effective management of project risks, an enhanced control capacity, and improved reporting quality. This function is of particular relevance in territorial bodies characterised by limited administrative capacity, scarce technical personnel, and fragmented information systems, in which AI could operate as an instrument for organisational reinforcement and support for administrative functions.

The analysis indicates, however, that these benefits are neither automatic nor uniformly distributable. The effectiveness of AI adoption depends on organisational, infrastructural, and

regulatory prerequisites, including the availability of digital competencies, data quality and interoperability, algorithmic transparency, human oversight capacity, and adequate ethical and normative safeguards. It follows that AI does not configure itself as a substitute for administrative capacity but rather as a potential lever for its reinforcement, one whose effectiveness is mediated by the level of organisational and institutional maturity of the administrations involved. The research suggests that AI may contribute to a progressive reconfiguration of programming, management, and monitoring processes for European funds, improving analytical capacity, decision-making timeliness, and the quality of administrative processes, while requiring governance models oriented toward the integration of algorithmic capacity and human oversight (human-in-the-loop).

> **RQ2**: What opportunities, critical challenges, and organisational implications arise from the adoption of Artificial Intelligence in the processes of EU project planning, implementation, and reporting of public funding?

The evidence from the literature suggests that AI adoption in the processes of EU project planning, implementation, and reporting of public funding presents an articulated set of opportunities, challenges, and organisational implications that are strongly dependent on the level of administrative and digital maturity of the entities involved. Rather than configuring itself as a self-sufficient technological solution, AI emerges as an organisational and decision-support instrument whose impact appears mediated by the quality of administrative structures, competencies, and information infrastructures available.

On the side of opportunities, the literature indicates how AI can contribute to improving the quality of EU project planning processes through support for tender analysis, territorial needs identification, intervention priority selection, and document preparation. In particular, tools based on data-driven logics and decision-support systems can reinforce the capacity to process large volumes of information, facilitate coherence verification between project objectives and programmatic priorities, and improve the quality of administrative decisions. In implementation processes, AI could further support physical and financial monitoring, procedural control, early detection of delays or anomalies, and document management, contributing to greater administrative timeliness and the reduction of procedural errors. In the reporting phase too, intelligent tools can facilitate compliance checks, document organisation, and administrative controls, reducing the operational burden associated with bureaucratic requirements.

In parallel, significant organisational, technical, and regulatory challenges emerge. The literature frequently identifies shortfalls in digital competencies, organisational resistance to change, fragmentation of information systems, and limited interoperability of administrative databases as factors that directly affect the possibility of effectively integrating AI tools into public processes. These elements are compounded by problems relating to data quality, implementation costs, information protection, and the limited transparency of algorithmic models, particularly in processes characterised by high administrative discretion, such as project selection, monitoring, and results evaluation.

The organisational implications are particularly significant. AI adoption requires a reconfiguration of Public Administration's operating modalities, entailing investments in competencies, interoperability, data governance, and inter-institutional coordination capacity. The literature suggests that the applications most consistent with European fund management processes are attributable to augmentation and human-in-the-loop models, in which intelligent

technologies operate as support instruments for the public official without replacing administrative judgement. In this perspective, AI tends to modify the role of administration. progressively orienting it toward functions of supervision, data interpretation, control, and validation of algorithmically supported decisions.

The research suggests that the opportunities offered by AI in EU project planning and public funding management processes can translate into an effective reinforcement of administrative capacity only in the presence of adequate organisational, infrastructural, and ethical conditions. In the absence of such prerequisites, there is a risk that intelligent technologies may amplify existing administrative asymmetries, particularly between territorial entities characterised by differing endowments of competencies, resources, and organisational capacities.

## 6 – Conclusions

This study has analysed the role of Artificial Intelligence in Public Administration through an integrated bibliometric and scientometric approach, aimed at understanding the evolution of the literature, the principal emerging interpretive trajectories, and the potential organisational implications connected to the use of intelligent technologies in administrative contexts. The evidence suggests that the scientific debate has progressively transcended a conception of AI limited to technological innovation alone, orienting itself toward a more integrated reading of its organisational, institutional, and decision-making implications. The growing attention toward themes such as digital government, administrative automation, decision-support systems, and performance management indicates that Artificial Intelligence is being progressively reinterpreted as a potential lever for reinforcing administrative capacity, one capable of affecting the processes of information collection, processing, and utilisation in public systems.

With respect to the first research question (**RQ1**), the study highlights how AI can contribute to reinforcing administrative capacity principally through support for the programming, management, and monitoring of public funds, improving administrations' analytical capacities, document management, and the procedural and financial monitoring of interventions. Rather than replacing administrative judgement, intelligent technologies appear to configure themselves as instruments of organisational and decision-making augmentation, potentially capable of supporting complex administrative processes characterised by high informational and documentary intensity.

With reference to the second research question (**RQ2**), the evidence shows that AI adoption in the processes of EU project planning, implementation, and reporting of public funding presents an articulated set of opportunities and challenges. On the one hand, potentialities emerge relating to the automation of repetitive activities, the intelligent management of information, project monitoring, and the improvement of decision-making processes. On the other hand, significant challenges persist associated with the availability of digital competencies, data interoperability, implementation costs, and the ethical and regulatory implications attributable to algorithmic transparency, accountability, and information protection.

A particularly notable finding concerns the limited thematisation of AI in European fund management processes within the examined literature. The substantial absence of explicit references to EU project planning in the bibliographic metadata analysed suggests the existence of a domain still poorly structured from a theoretical and empirical standpoint, one in which

studies oriented toward understanding AI's contribution to planning, monitoring, implementation, and reporting activities of funded programmes remain limited.

In this perspective, the principal contribution of this work consists in having placed the scientometric analysis of the literature on AI in Public Administration in relation to a reflection applied to the processes of public fund governance and EU project planning, proposing an interpretive key that connects technological innovation, administrative capacity, and the management of funded programmes.

Future research trajectories could deepen the analysis of empirical cases, organisational experiments, and operational models for integrating AI into European fund management processes, verifying the extent to which such technologies can affect programming quality, the capacity to absorb resources, and the effectiveness of monitoring and reporting systems. In particular, it would be valuable to develop comparative studies between administrations characterised by different levels of administrative capacity and digital maturity, in order to understand the organisational conditions that facilitate or hinder the effective generation of public value through Artificial Intelligence tools.

In this perspective, the literature on the life cycle of European projects suggests that administrative capacity exerts a differentiated influence across all phases of the project cycle, from proposal drafting through to final monitoring and results evaluation, with significant effects also on implementation quality and the achievement of policy objectives (Varga, 2017; Dotti, 2016). Future research could therefore examine more systematically at which specific phases of the cycle AI proves most effective in supporting administrative capacity, verifying whether and how the contribution of artificial intelligence tools varies depending on the project stage under consideration.

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