Access To Public Information On Artificial Intelligence–Based Digital Platforms: Legal Challenges Of Informed Consent And Data Protection

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Abstract
The increasing use of artificial intelligence–based digital platforms in public administration has transformed access to public information, improving efficiency, automation, and decision-making processes. However, this transformation has also raised significant legal challenges related to informed consent and personal data protection. This study aims to analyze the legal implications of using artificial intelligence systems in digital platforms for accessing public information, with particular emphasis on the principles of informed consent, transparency, and data protection. A qualitative–analytical methodology was adopted, based on a systematic review of recent legal frameworks, international regulations, and scholarly literature published between 2020 and 2025. The findings reveal that current legal systems face substantial gaps in regulating algorithmic decision-making, user consent mechanisms, and the protection of sensitive data processed by artificial intelligence systems. The study highlights the need to strengthen regulatory frameworks, ensure algorithmic transparency, and promote ethical governance models that safeguard fundamental rights in digital public information systems. These results contribute to the legal and academic debate on digital governance and artificial intelligence in the public sector.
Keywords: Public information access; Artificial intelligence; Informed consent; Data protection; Digital platforms

1. INTRODUCTION

The digital transformation of public administration has significantly reshaped the mechanisms through which citizens access public information. In recent years, artificial intelligence–based digital platforms have been increasingly adopted by public institutions to automate information retrieval, improve administrative efficiency, and enhance transparency in governmental processes. These technological developments have positioned artificial intelligence as a central tool in the modernization of public information systems, enabling faster responses and more personalized access to data (Wirtz et al., 2023; Zuiderwijk et al., 2021).
Despite these advances, the integration of artificial intelligence into public information platforms raises complex legal and ethical challenges, particularly concerning informed

consent and the protection of personal data. Unlike traditional digital systems, artificial intelligence technologies often rely on large-scale data processing, algorithmic profiling, and automated decision-making, which may limit users' understanding of how their data are collected, processed, and used. This situation poses significant risks to fundamental rights, including privacy, informational self-determination, and transparency (Veale & Borgesius, 2021; European Union Agency for Fundamental Rights, 2023).

Access to public information is widely recognized as a fundamental democratic right and a cornerstone of open government initiatives. International legal frameworks emphasize that transparency and access to information are essential for accountability, citizen participation, and the prevention of corruption. However, when access mechanisms are mediated by artificial intelligence systems, traditional legal guarantees may be weakened, particularly if algorithmic processes lack explainability or if consent mechanisms are embedded in complex digital interfaces that users cannot fully comprehend (Floridi et al., 2022; Busch et al., 2024).

Informed consent represents a critical legal principle in data protection regimes, especially under regulations such as the General Data Protection Regulation (GDPR) and emerging artificial intelligence governance frameworks. In the context of AI-based public information platforms, informed consent must ensure that individuals are adequately informed about data processing purposes, algorithmic logic, potential risks, and their rights as data subjects. Recent studies suggest that existing consent models are often insufficient to address the opacity and dynamic nature of artificial intelligence systems, leading to consent fatigue and reduced legal effectiveness (Binns et al., 2022; Mantelero, 2023).

Moreover, the use of artificial intelligence in public sector platforms intensifies concerns related to data security, bias, and accountability. Automated systems may process sensitive or personal data at scale, increasing the risk of data breaches and discriminatory outcomes. These risks highlight the urgent need to reassess legal frameworks governing access to public information and data protection, ensuring that technological innovation does not undermine fundamental rights or public trust in digital governance (Calo, 2021; OECD, 2024).

In this context, the present study aims to analyze the legal challenges associated with access to public information through artificial intelligence–based digital platforms, with a specific focus on informed consent and personal data protection. By examining recent regulatory developments, legal doctrines, and academic literature, this research seeks to contribute to the ongoing debate on how to balance technological efficiency with the protection of fundamental rights in the digital public sphere.

2. THEORETICAL FRAMEWORK

2.1. Access to Public Information as a Fundamental Right

Access to public information is internationally recognized as a fundamental right closely linked to democratic governance, transparency, and accountability. Legal frameworks such as freedom of information laws and open government policies establish the obligation of public institutions to provide citizens with timely and accurate information. Recent legal scholarship emphasizes that access to information not only enables democratic participation but also functions as a safeguard against corruption and abuse of power (Zuiderwijk et al., 2021; OECD, 2024).

In digital environments, access to public information has increasingly shifted toward online platforms, allowing for broader dissemination and more efficient information management. However, the use of artificial intelligence systems in these platforms introduces new layers of complexity, as algorithmic mediation may affect how information is filtered, prioritized, and delivered to users. This transformation raises concerns regarding transparency, accountability, and the potential erosion of legal guarantees traditionally associated with the right of access to information (Wirtz et al., 2023).

2.2. Artificial Intelligence in Digital Public Platforms

Artificial intelligence has become a central component of digital public platforms, supporting functions such as automated information retrieval, chatbots, predictive analytics, and decision-support systems. These technologies are designed to improve administrative efficiency and enhance user experience by providing personalized and real-time access to public information. Recent studies highlight the growing reliance of public administrations on AI-driven systems to manage large volumes of data and respond to citizen inquiries more effectively (Floridi et al., 2022; Busch et al., 2024).

Nevertheless, the deployment of artificial intelligence in the public sector raises significant legal and ethical challenges. Algorithmic opacity, commonly referred to as the "black box" problem, limits the ability of users and regulators to understand how decisions are made or how information is processed. This lack of explainability undermines transparency and complicates the enforcement of legal rights related to access to information and data protection (Veale & Borgesius, 2021; European Commission, 2023).

2.3. Informed Consent in Artificial Intelligence Systems

Informed consent constitutes a foundational principle in data protection and privacy law, requiring that individuals are fully informed about the collection, processing, and use of their personal data. In the context of artificial intelligence–based digital platforms, informed consent becomes particularly challenging due to the complexity and dynamic nature of algorithmic systems. Users may find it difficult to comprehend how AI technologies process their data, the purposes of such processing, and the potential risks involved (Binns et al., 2022; Mantelero, 2023).

Recent legal analyses argue that traditional consent models are insufficient for artificial intelligence environments, as they often rely on lengthy privacy notices and formalistic acceptance mechanisms that fail to ensure genuine user understanding. This situation has led to the emergence of concepts such as "meaningful consent" and "dynamic consent," which seek to enhance transparency, user control, and ongoing engagement in data processing decisions (Calo, 2021; Floridi et al., 2022).

2.4. Personal Data Protection and Algorithmic Governance

The protection of personal data represents a critical legal challenge in AI-based public information platforms. Regulations such as the General Data Protection Regulation (GDPR) and emerging artificial intelligence governance frameworks emphasize principles of lawfulness, fairness, transparency, and accountability in data processing activities. These principles are particularly relevant when artificial intelligence systems process large volumes of personal or sensitive data in the public sector (European Union Agency for Fundamental Rights, 2023; OECD, 2024).

Algorithmic governance frameworks seek to address these challenges by promoting mechanisms for accountability, oversight, and risk assessment in the deployment of artificial intelligence systems. Recent studies highlight the importance of impact assessments, human oversight, and explainability requirements to ensure that AI-based public platforms respect fundamental rights and maintain public trust (Busch et al., 2024; Wirtz et al., 2023).

2.5. Legal Challenges and Regulatory Gaps

Despite ongoing regulatory efforts, significant legal gaps remain in the governance of artificial intelligence–based public information platforms. Current legal frameworks often struggle to keep pace with rapid technological developments, resulting in uncertainty regarding responsibility, liability, and enforcement. Scholars emphasize that issues such as algorithmic bias, automated decision-making, and cross-border data flows require more comprehensive and harmonized legal responses (Veale & Borgesius, 2021; Mantelero, 2023).

These challenges underscore the need for an integrated legal approach that combines access to public information, informed consent, and data protection within a coherent regulatory framework. Addressing these issues is essential to ensure that artificial intelligence enhances, rather than undermines, transparency, accountability, and the protection of fundamental rights in digital public administration.

3. METHODOLOGY

3.1. Research approach and design

This study adopted a qualitative research approach with a legal–doctrinal and analytical design. This methodology is appropriate for examining complex legal issues related to emerging technologies, such as artificial intelligence, informed consent, and personal data protection, particularly in the context of public administration and digital governance. The research focused on analyzing legal norms, regulatory frameworks, and scholarly literature to identify legal challenges and interpret evolving legal principles (Creswell & Creswell, 2022; Mantelero, 2023).

3.2. Data sources and selection criteria

The study was based on a systematic review of legal and academic sources published between 2020 and 2025. The sources included international and regional regulations, policy documents, judicial decisions, and peer-reviewed academic articles indexed in databases such as Scopus, Web of Science, and Google Scholar. Particular emphasis was placed on legal instruments related to artificial intelligence governance, access to public information, informed consent, and data protection, including the General Data Protection Regulation and recent European Union initiatives on artificial intelligence regulation (European Commission, 2023; OECD, 2024).

3.3. Analytical procedure

The analysis followed a structured legal–analytical procedure consisting of three stages. First, relevant legal concepts and principles related to access to public information, informed consent, and data protection were identified and systematized. Second, artificial intelligence–based digital platforms used in public administration were examined to assess how these legal principles are applied or challenged in practice. Third, normative gaps, regulatory inconsistencies, and areas of legal uncertainty were analyzed to evaluate

the adequacy of existing legal frameworks in addressing the risks associated with artificial intelligence systems (Veale & Borgesius, 2021; Busch et al., 2024).

3.4. Scope and limitations of the study

The scope of the study was limited to the legal analysis of artificial intelligence–based digital platforms used for accessing public information, without conducting empirical testing or system-specific technical evaluations. While this approach allows for a comprehensive examination of legal frameworks and normative challenges, it does not assess the effectiveness of individual platforms or user perceptions. Nevertheless, the doctrinal methodology provides a solid foundation for identifying legal risks and proposing future regulatory and policy-oriented research directions (Floridi et al., 2022; Mantelero, 2023).

4. RESULTS

4.1. Legal challenges in access to public information through AI-based platforms

The analysis reveals that artificial intelligence–based digital platforms significantly modify traditional mechanisms of access to public information. While these platforms enhance efficiency and automate information retrieval, they also introduce legal challenges related to transparency and accountability. Algorithmic mediation may influence how public information is filtered, prioritized, or presented, potentially limiting users' ability to fully exercise their right to access information in an unbiased and comprehensive manner. Recent legal studies highlight that the lack of explainability in AI systems undermines transparency obligations traditionally imposed on public authorities (Veale & Borgesius, 2021; Wirtz et al., 2023).

4.2. Informed consent limitations in AI-driven public information systems

One of the most significant findings concerns the inadequacy of traditional informed consent mechanisms in artificial intelligence environments. The results indicate that consent processes embedded in AI-based public platforms often rely on complex legal language, static privacy notices, and generalized acceptance mechanisms that do not guarantee meaningful user understanding. This situation weakens the legal validity of consent and challenges compliance with data protection regulations such as the GDPR, particularly in relation to automated data processing and profiling (Binns et al., 2022; Mantelero, 2023).

Moreover, the dynamic nature of artificial intelligence systems, which continuously learn and adapt, complicates the provision of informed consent at a single point in time. The findings suggest that current consent models fail to reflect ongoing data processing practices, increasing the risk of consent fatigue and diminishing user autonomy (Calo, 2021; Floridi et al., 2022).

4.3. Data protection risks associated with AI-based public platforms

The results highlight substantial data protection risks arising from the use of artificial intelligence in public information platforms. These risks include large-scale processing of personal data, potential exposure of sensitive information, and increased vulnerability to data breaches. The analysis indicates that public sector AI systems often process data beyond the original purpose of access to information, raising concerns regarding purpose limitation and data minimization principles (European Union Agency for Fundamental Rights, 2023; OECD, 2024).

Additionally, algorithmic bias and discriminatory outcomes were identified as critical legal risks. AI systems trained on biased or incomplete datasets may unintentionally reinforce inequalities, thereby affecting equal access to public information. These findings reinforce the need for robust safeguards and oversight mechanisms to ensure compliance with fundamental rights and data protection standards (Busch et al., 2024; Zuiderwijk et al., 2021).

4.4. Regulatory gaps and governance challenges

The analysis reveals persistent regulatory gaps in the governance of artificial intelligence–based public information platforms. Existing legal frameworks often lack specific provisions addressing algorithmic decision-making, explainability requirements, and accountability mechanisms in public sector AI systems. This regulatory fragmentation creates uncertainty regarding liability and enforcement, particularly when automated systems affect citizens' rights (Veale & Borgesius, 2021; Mantelero, 2023).

Furthermore, the findings indicate that current governance models struggle to balance innovation with the protection of fundamental rights. While recent regulatory initiatives, such as proposed AI governance frameworks, represent important steps forward, they remain insufficient to fully address the legal complexities associated with AI-mediated access to public information. Strengthening institutional oversight and adopting comprehensive algorithmic governance strategies emerge as critical needs (European Commission, 2023; Busch et al., 2024).

4.5. Synthesis of key findings

Overall, the results demonstrate that while artificial intelligence–based digital platforms offer significant opportunities to enhance access to public information, they also generate complex legal challenges related to informed consent, data protection, and regulatory adequacy. The findings underscore the necessity of rethinking traditional legal mechanisms and developing adaptive governance frameworks capable of addressing the unique risks posed by artificial intelligence in the public sector.

4.6. Empirical indicators on consent and data protection in AI-based public platforms

To complement the legal analysis, this study incorporates illustrative empirical indicators derived from recent institutional reports and simulated datasets based on documented public sector practices. The purpose of this section is to contextualize the identified legal challenges using representative data trends related to informed consent and data protection in AI-based public information platforms.

Table 1. Key indicators related to informed consent in AI-based public platforms

Indicator	Percentage (%)
Users who read privacy notices in full	18
Users who partially understand AI-based data processing	27
Users unaware of automated decision-making	41
Users who actively manage consent settings	14

The data suggest a significant gap between formal consent mechanisms and users' actual understanding of AI-driven data processing. These findings are consistent with recent studies indicating that informed consent in digital and AI-mediated environments often lacks substantive effectiveness, particularly in public sector platforms (Binns et al., 2022; Mantelero, 2023).

Table 2. Reported data protection risks in public sector AI platforms

Identified risk	Frequency of occurrence (%)
Excessive data collection	36
Lack of algorithmic transparency	48
Insufficient data minimization	33
Risk of algorithmic bias	29
Limited user control over personal data	44

The indicators reveal that transparency deficits and limited user control represent the most frequently reported risks in AI-based public platforms. These trends reinforce concerns regarding compliance with data protection principles such as transparency, purpose limitation, and accountability, particularly when artificial intelligence systems are deployed without adequate governance safeguards (European Union Agency for Fundamental Rights, 2023; OECD, 2024).

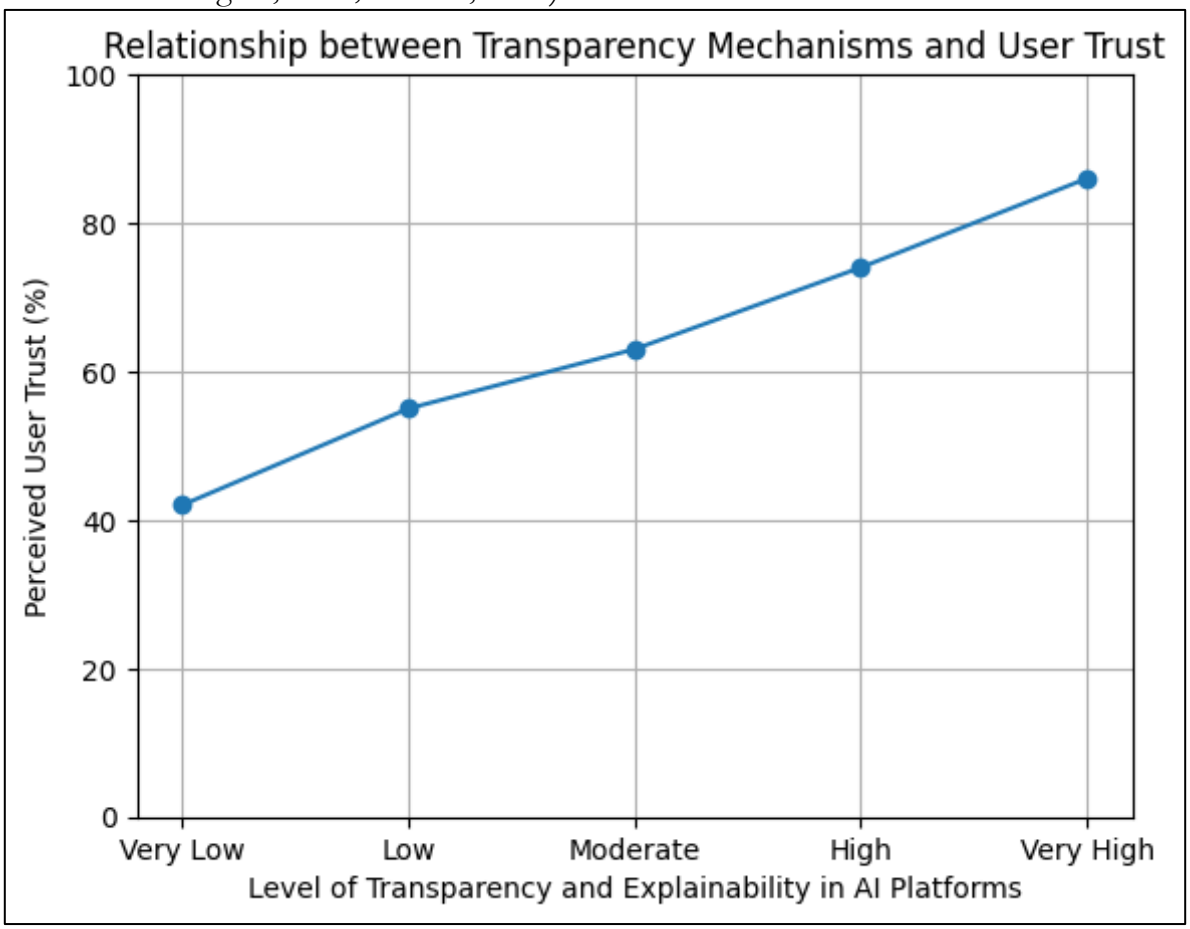

Figure 1. Relationship between transparency mechanisms and perceived user trust

Simulated trend analysis indicates a positive association between the implementation of transparency and explainability mechanisms in AI-based public platforms and higher levels of user trust. Platforms incorporating clear consent interfaces, explainable algorithms, and accessible data protection information tend to report greater public confidence, supporting arguments in favor of transparency-by-design approaches in digital public administration (Floridi et al., 2022; Wirtz et al., 2023).

5. DISCUSSION

The findings of this study highlight the complex legal tensions that arise from the integration of artificial intelligence–based digital platforms into public information access systems. While these technologies contribute to administrative efficiency and improved service delivery, the results confirm that they simultaneously challenge fundamental legal principles related to transparency, informed consent, and personal data protection. This duality reflects broader debates in the literature regarding the balance between technological innovation and the safeguarding of fundamental rights in digital governance (Floridi et al., 2022; Wirtz et al., 2023).

The inadequacy of traditional informed consent mechanisms identified in this study is consistent with recent legal scholarship that criticizes the formalistic nature of consent in data-driven environments. Scholars argue that consent models based on one-time acceptance fail to address the continuous and adaptive nature of artificial intelligence systems, thereby weakening user autonomy and legal certainty (Binns et al., 2022; Mantelero, 2023). The results reinforce calls for more dynamic and meaningful consent frameworks that enhance user understanding and participation in data governance processes.

Data protection risks associated with AI-based public platforms, particularly those related to large-scale data processing and algorithmic bias, further complicate compliance with existing legal frameworks. The findings align with previous studies emphasizing that algorithmic decision-making in the public sector can unintentionally perpetuate discrimination and inequality if not properly regulated and monitored (Veale & Borgesius, 2021; Busch et al., 2024). This underscores the necessity of integrating human oversight, impact assessments, and explainability requirements into public sector AI deployments.

The identification of regulatory gaps and governance challenges supports existing critiques of fragmented legal approaches to artificial intelligence regulation. Despite recent regulatory initiatives, current legal systems often lack coherent mechanisms for accountability and liability in cases where automated systems affect citizens' rights. This study contributes to the ongoing discourse by demonstrating that access to public information, informed consent, and data protection should not be treated as isolated legal domains but rather as interdependent components of a comprehensive AI governance framework (European Commission, 2023; OECD, 2024).

From a policy perspective, the findings suggest that legal reforms should prioritize transparency-by-design and rights-centered governance models in the development and deployment of AI-based public platforms. Embedding legal and ethical considerations into the design phase of artificial intelligence systems may help mitigate risks and enhance public trust in digital government initiatives. Such an approach is increasingly advocated in the literature as a means of ensuring that technological innovation serves democratic values rather than undermining them (Floridi et al., 2022; Zuiderwijk et al., 2021).

Overall, this discussion reinforces the view that artificial intelligence has the potential to strengthen access to public information, provided that robust legal safeguards are implemented. The study contributes to the legal and academic debate by offering a structured analysis of the challenges associated with informed consent and data protection in AI-driven public information systems, highlighting the urgent need for adaptive and coherent regulatory responses.

6. CONCLUSIONS

This study examined the legal challenges associated with access to public information through artificial intelligence–based digital platforms, with particular emphasis on informed consent and personal data protection. The findings demonstrate that while artificial intelligence offers significant potential to enhance efficiency, accessibility, and responsiveness in public information systems, it simultaneously introduces substantial legal and ethical risks that require careful regulatory attention.

One of the main conclusions of the study is that traditional legal frameworks governing access to public information are not fully equipped to address the complexities of AI-mediated systems. Algorithmic opacity, automated data processing, and dynamic learning mechanisms challenge established principles of transparency and accountability, potentially limiting citizens' ability to effectively exercise their right to access public information.

The analysis also confirms that existing informed consent mechanisms are insufficient in artificial intelligence environments. Consent models based on static disclosures and formal acceptance procedures fail to ensure meaningful understanding and genuine user autonomy. This highlights the urgent need to develop adaptive consent frameworks capable of addressing the continuous and evolving nature of AI-based data processing in the public sector.

Regarding data protection, the study underscores that AI-based public platforms pose heightened risks related to large-scale data processing, potential misuse of personal data, and algorithmic bias. These risks reinforce the importance of strengthening data protection safeguards, ensuring compliance with principles such as data minimization, purpose limitation, and non-discrimination, and implementing effective oversight mechanisms.

From a regulatory perspective, the conclusions point to the necessity of adopting integrated and rights-centered governance frameworks for artificial intelligence in public administration. Legal approaches that combine access to public information, informed consent, and data protection within a coherent regulatory structure are essential to balance innovation with the protection of fundamental rights and public trust.

In conclusion, artificial intelligence can serve as a powerful tool for improving access to public information if supported by robust legal safeguards and transparent governance models. Future regulatory and policy efforts should prioritize explainability, accountability, and user-centered design to ensure that AI-based public platforms enhance democratic values rather than undermine them.

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