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Digital citizen participation and organizational transparency in local governments: A systematic review of platforms, impact and barriers

Participación ciudadana digital y transparencia organizacional en gobiernos locales: una revisión sistemática de plataformas, impacto y barreras

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Abstract

Online participation in local governments has become an essential component to promote democratic leadership and encourage citizen involvement in public management. In a context of accelerated technological advances, it is essential to understand how digital platforms are implemented, their real effects and the barriers that limit their effectiveness. This article aims to systematically analyze the scientific evidence on the use of these platforms in citizen participation at the local level, addressing three key dimensions: platform characteristics, impact on effective participation, and frequent obstacles. The PRISMA method was applied to conduct a systematic review, with rigorous inclusion and exclusion criteria. The search was carried out in recognized academic databases (Scopus, Web of Science, SciELO and Google Scholar), obtaining a final corpus of 15 articles published between 2020 and 2025. The studies come from Latin America, Europe and Asia. The findings reveal benefits such as greater transparency, collaboration in decision making and strengthened sense of belonging. However, challenges remain, such as the digital divide, low trust in authorities, low digital literacy and lack of inclusive public policies. It is concluded that it is necessary to design strategies that promote a more equitable and sustainable digital participation.

Keywords: Digital citizen participation, local governments, digital platforms.

Resumen

La participación en línea en los gobiernos locales se ha convertido en un componente esencial para promover el liderazgo democrático y fomentar la implicación ciudadana en la gestión pública. En un contexto de acelerados avances tecnológicos, es fundamental comprender cómo se implementan las plataformas digitales, sus efectos reales y las barreras que limitan su eficacia. Este artículo tiene como objetivo analizar sistemáticamente la evidencia científica sobre el uso de estas plataformas en la participación ciudadana a nivel local, abordando tres dimensiones clave: características de las plataformas, impacto en la participación efectiva y obstáculos frecuentes. Se aplicó el método PRISMA para realizar una revisión sistemática, con criterios de inclusión y exclusión rigurosos. La búsqueda se efectuó en bases de datos académicas reconocidas (Scopus, Web of Science, SciELO y Google Scholar), obteniéndose un corpus final de 15 artículos publicados entre 2020 y 2025. Los estudios proceden de América Latina, Europa y Asia. Los hallazgos revelan beneficios como mayor transparencia, colaboración en la toma de decisiones y fortalecimiento del sentido de pertenencia. No obstante, persisten desafíos como la brecha digital, la baja confianza en las autoridades, la escasa alfabetización digital y la falta de políticas públicas inclusivas. Se concluye que es necesario diseñar estrategias que promuevan una participación digital más equitativa y sostenible.

Palabras clave: Participación ciudadana digital, gobiernos locales, plataformas digitales

Introduction

Currently, citizen participation mediated by digital technologies has become an essential component of contemporary governance forms. The use of digital platforms not only allows citizens to express their opinions and ideas more directly but also redefines the power dynamics between citizens and institutions. However, recent studies indicate that the lack of effective and bidirectional feedback limits the real impact of such participation on political decisions, weakening its democratic legitimacy (Shin et al., 2024).

In this context, digitalization represents both a challenge and an opportunity to reduce structural gaps. Research in rural areas shows that digital and health literacy are key dimensions for inclusive participation. Ji et al. (2024) found that both forms of literacy tend to complement each other, underscoring the need for synergistic approaches and public policies that simultaneously address both competencies.

On the other hand, the development of digital skills among older populations remains limited. Zhao et al. (2023) highlight that macro strategies do not always consider the micro factors that influence technological acceptance, necessitating greater territorial contextualization of digital policies.

Furthermore, Benlahcene et al. (2024) warn about the theoretical and operational weaknesses in the implementation of e-participation platforms. Although there is trust in institutions, the low quality of digital content and the lack of effective interaction hinder its appropriation by citizens. Additionally, digital health literacy, particularly among older adults, presents marked inequalities based on socioeconomic status and geographic context, which calls for specific educational interventions (Shi et al., 2024).

Concurrently, the literature on electronic governance highlights technical advancements but also insufficient consideration of behavioral and perceptual factors of users (Adnan et al., 2022). This gap limits the effectiveness of digital participation initiatives, which require, according to Goñi (2025), civic tools capable of integrating collective intelligence and public deliberation in complex scenarios.

The impact of technologies in sensitive areas such as health, environment, and education is undeniable. Golan et al. (2025) demonstrate that trust in government is key to the adoption of health applications, while Teng et al. (2025) link internet usage to environmentally responsible behaviors, provided that digital and ecological gaps are simultaneously reduced.

In this landscape, challenges also arise regarding digital identity management and data overload on participation platforms. Babel et al. (2025) emphasize the urgency of interoperable identity frameworks, while Bono Rosselló et al. (2025) propose ethical design principles to incorporate socially purposeful artificial intelligence in public decision-making. Finally, the role of institutions such as public libraries is revalued as bridges between citizens and technology, facilitating access to information and fostering informed participation (Charnock et al., 2021).

Thus, the objective of this systematic review is to critically assess the effects of digital citizen participation and organizational transparency in local governments. To this end, three specific objectives are proposed: (i) to characterize and classify the use of digital platforms, (ii) to analyze their impact on local governance processes, and (iii) to identify the most common challenges for their adoption and sustainability. This approach will provide evidence that strengthens the citizen-government link and promotes more effective democratic participation in the digital age.

Methodology

This research was conducted as part of a structured literature review, following the PRISMA protocol. This method facilitated transparency, reproducibility, and rigor in managing the collection, analysis, and synthesis of information. The purpose was to discover and analyze published works on the academic effects of digital citizen participation in local governance, in terms of platforms used, value created, and obstacles in the provision of such platforms. It was a multi-phase procedure.

The inclusion criteria encompassed studies exploring the use of digital platforms in citizen participation at the local level, the impact of these platforms on public management, as well as the barriers and challenges associated. Works published between 2020 and 2025, in Spanish or English, from Latin America, Europe, and Asia, and accessible in recognized databases such as Scopus, Web of Science, SciELO, and Google Scholar were selected, ensuring the relevance and quality of the evidence reviewed.

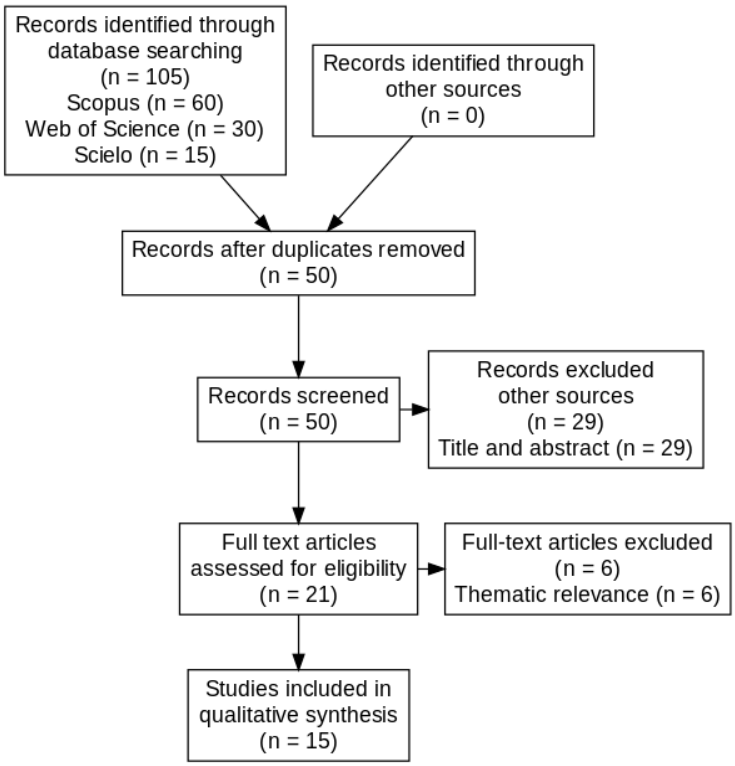
Exclusion criteria were established to ensure the specificity and quality of the included studies. Studies were eliminated if they: (a) were limited in scope to national or international governmental levels without indicating citizen participation; (b) referred to citizen participation in general without specific mention of digital platforms; (c) were written in languages other than Spanish or English; and (d) were not accessible due to closed access. Duplicate studies or those containing data unrelated to the study's objective were also removed. The literature

was searched and retrieved from the academic database Scopus. Combinations of keywords in search equations such as "digital citizen participation" and "local governments" were employed.

The approach was adapted to the criteria of each database to achieve broad and relevant inclusion. The time filter was set for publications between 2020 and 2025, in line with the development of the field of digital citizen participation in municipal governments. After retrieving the articles, duplicates were filtered out, and an initial selection was made based on titles and abstracts to identify clearly unrelated studies. Subsequently, a thorough reading of the remaining articles was conducted to ensure compliance with the inclusion criteria. This selection process was carried out with the assistance of a reviewer. Finally, the included studies were organized in a filling matrix and qualitatively analyzed according to the study's theme.

During the selection process, the search was based on predetermined descriptors in the databases Scopus and Web of Science, which served as primary sources of information. Additionally, to ensure comprehensive coverage, complementary records from other relevant sources were included to enrich the collected data. To optimize the search, a combination of descriptors and keywords was employed, along with the use of Boolean operators such as AND, OR, and NOT. The descriptors and keywords used encompassed the categories of citizen participation in local governments, with the search route in Spanish: ("participación ciudadana") AND ("digital") OR ("gobiernos locales"). Similarly, the search route in English was: ("citizen participation") AND ("digital") OR ("local governments").

Figure 1
PRISMA Diagram



Results and discussion

Table 1
Summary of key findings on digital citizen participation in local governments

No.	Author	Result
1	(Bastos et al., 2022)	Increased interest and implementation allow citizens to report city issues, monitor the environment, and be active participants in decision-making, although aspects such as

		data security, information quality, and experimental design still need improvement in a real-world context.
2	(Adnan et al., 2022)	Academic publications related to electronic participation in e-government initiatives were analyzed using a systematic mapping method to identify factors adversely affecting participation levels. The results highlight technological obstacles, lack of institutional initiative, citizen trust issues, and digital access restrictions, ensuring a comprehensive view of challenges to improve electronic citizen participation.
3	(Benlahcene et al., 2024)	While citizens increasingly use these services, it is challenging for governmental units to receive feedback on the quality and efficiency of their proposals. Additionally, the study reveals that research in this area is still fragmented and lacks a solid theoretical foundation. The authors emphasize that there is ample room to develop analysis and improve current practices aimed at strengthening both efficiency and personal legitimacy in the digital public sector context.
4	(Bayat & Kawalek, 2023)	Emphasizes how data infrastructure is not only a technical resource but also a fundamental component that shapes power dynamics, transparency, and accountability in smart cities. This approach offers a valuable system for future citizen technologies and suggests that any technology implementation must carefully consider its sociopolitical and ethical significance.
5	(Beno et al., 2022)	It is crucial to understand how the introduction of digital governance directly affects citizen engagement in the local context of Peru. Their study shows that, despite many municipalities having basic information funds, the promotion of ICT has a low actual usage level for fostering citizen interaction and control. This relationship confirms that the digital conversion of municipal governments can be understood not only technically but also as a political, structural, and social process. The accepted approach provides a solid foundation for future studies on digital public management and calls for reflection on how political will, institutional education, and components determine the quality of local democracy in the 21st century.
6	(Suárez & Noboa, 2024)	Offers a strong empirical approach that allows us to understand how the institutional design of the digital platform encompasses the actual impact of citizen participation. Their distinction between digital patterns and those migrating from face-to-face to virtual formats provides the development of the article's analytical framework. Moreover, when addressing the digital divide as a structural obstacle to participation capital, the text also provides a solid basis for arguing that technological innovations must be accompanied by social inclusion oriented toward public policies. Thus, this study will serve as critical support to prevent the role of the digital environment in new local governance models.
7	(Bono Rossello et al., 2025)	The proliferation of digital platforms for citizens creates a vast amount of data, compelling users to understand and utilize this information. This information overload restricts active citizen participation and effective interaction with political leaders. Artificial intelligence (AI) emerges as a promising solution for processing and coordinating this data. However, current AI solutions often overlook social influence and do not fully empower citizens. We need design principles that integrate with the social context.
8	(Tejedo-Romero et al., 2022)	Provides compelling evidence that municipality size acts as a significant variable in acceptance, particularly whether larger municipalities adopt more digital channels. However, it can be observed that a quantitative approach based on general indices may ignore quality elements, such as ease of use for citizens, digital availability, or cultural differences among municipalities.
9	(Lim & Yigitcanlar, 2022)	Analyzed electronic art models in Putray and Pauling Jaya in Malaysia and identified four factors influencing their success: readiness, platform quality, participation level, and influence. Although digital tools are available, citizens are hindered by lack of

		interest, limited access, and lack of institutional management. The study concludes that digital capabilities need enhancement, motivating citizens to participate and creating more efficient and inclusive premises.
10	(Shin et al., 2024)	Analyzed the 116 approach of the digital participation platform of the "collective intelligence genome," stating that although these tools allow citizens to effectively convey their ideas and opinions, there is still a lack of feedback on how these viewpoints actually influence political decisions. This lack of dual communication limits the true impact of citizen participation. Feedback channels must be improved not only by making decisions more transparent and inclusive but also by strengthening public trust and enhancing the effectiveness of these instruments to bolster democracy.
11	(Muñoz et al., 2024)	It is important to understand how the management strategies involved can become effective tools for strengthening citizen inclusion in the country's leadership, especially in a context characterized by structural inequalities, such as Peru. Their analysis shows that mechanisms such as involved budgets, dialogue tables, and digital platforms not only contribute to the responsiveness and transparency of CO but also face issues such as the digital divide, accountability, and low citizen education. This approach offers a stable system for considering local governance in a democratic key and suggests that any participation strategy must take into account territorial diversity, equitable access to information, and institutional sustainability to achieve real and transformative effects.
12	(Casillas & Avilés, 2024)	Argues that social media should be considered not only as information channels but also as a legitimate space for active citizenship and political interaction. Their theoretical and legal review of digital human rights, including freedom of expression, equal access, data protection, and protest rights, provides a stable framework to justify the need for digital management based on democratic principles. This article promotes a critical approach, as digital citizen participation also depends on recognizing the normative environment, public infrastructure, and Internet law.
13	(Charnock et al., 2021)	The study makes a significant contribution to analyzing modern city transformations, particularly in developing a smart city model for greater participation, focusing on citizens' rights. Using a critical approach, the authors explore how management has sought to redefine the use of digital technologies to strengthen democracy and ensure technological sovereignty. This analysis emphasizes the need to promote new forms of citizen subjectivity that support the conversion of the real city.
14	(Villafán, 2024)	The analysis is key to understanding how blockchain-backed digital identity can transform the relationship between citizens. The author shows that authenticity, transparency, and accountability will be reduced not only by technological innovations but also by new legal and political architecture. Their approach provides a valuable system for developing reliable digital identity systems and warns that their implementation must carefully consider the associated risks of control, privacy, and digital exclusion.
15	(Sánchez-Hernández, 2024)	The study makes a significant contribution to analyzing local governance and territorial resilience. Using an alternative ordering model that employs structural equation modeling with partial least squares, the author verifies a complex relationship between SRLPA and citizen participation. The results reveal that the impact of SRLPA is indirectly involved in citizen participation due to the bond citizens have with the municipality and the link perceived by local government.

The findings of this review allow for the identification of a series of key approaches and tools to evaluate and strengthen e-governance and digital citizen participation in local governments. In line with this purpose, various authors emphasize the potential benefits of digital citizen participation in local governments, highlighting its capacity to improve communication between citizens and the state. Charnock et al. (2021) note how public administration seeks to redefine the use of digital technologies to strengthen democracy and promote

technological sovereignty. However, they also recognize persistent challenges, particularly the need to foster new forms of citizen subjectivity that support authentic urban transformation.

Complementarily, Van Twist et al. (2023) found that the disconnection between citizens and government, caused by a lack of information, poor connectivity, or inadequate institutional listening, can lead to frustration. They also pointed out that many policies prioritize technological efficiency over social inclusion. Consequently, they propose facilitating access to digital tools and strengthening communication channels with the government to foster trust and effective citizen participation.

In a similar vein, Narrea Laura (2017) reaffirms the relevance of e-governance as part of the contemporary political agenda, emphasizing its utility in improving transparency, optimizing public services, and promoting new forms of accountability. The study provides a comprehensive view of how digitalization can impact the modernization of public leadership and open opportunities for more participatory management.

On another front, Villafán (2024) introduces an innovative approach by exploring the impact of digital identity supported by blockchain technology. The author argues that while this technology can reinforce authenticity, transparency, and institutional accountability, its implementation requires a critical evaluation of associated risks, such as excessive control, privacy concerns, and digital exclusion. Thus, ethical and legally robust design of digital identity systems is proposed to meet citizen needs without violating fundamental rights.

Tejedo-Romero et al. (2022) provide empirical evidence on the influence of municipal size on the adoption of digital governance tools, such as the Award E. Although larger municipalities tend to implement more digital channels, the study warns that quantitative approaches based solely on general indices may overlook relevant qualitative aspects, such as usability, accessibility, and sociocultural differences. In this sense, they suggest incorporating citizen perspectives through user surveys and institutional analyses to better understand the real impact of digital initiatives at the local level.

Similarly, Nam et al. (2022) propose an innovative method to measure e-governance efficiency by combining the Networked Readiness Index (NRI) with Data Envelopment Analysis (DEA), also incorporating environmental indicators. This approach allows for an objective comparison between countries with different levels of technological development, overcoming the limitations of traditional descriptive approaches. The value of this model lies in its diagnostic capacity to identify efficiency gaps and guide national strategies that strengthen public policies regarding digital governance.

On the other hand, Bastos et al. (2022) point to smart cities that can employ digital technologies to address public issues, monitor services, and promote collaborative decision-making. However, the study reveals significant challenges, such as the lack of institutional feedback, insufficient evaluation of the impact of these platforms, and the need for safer and more inclusive digital environments. Emphasis is placed on the necessity for local governments to enhance their technological competencies, establish reliable data management mechanisms, and consolidate a digital infrastructure that facilitates active and secure citizen participation.

In the realm of digital interaction concerning public health, Valentín-Sívico et al. (2022) analyzed the factors influencing information-seeking behavior in early detection programs. They identified a diversity of informational needs conditioned by variables such as risk perception, trust in sources, and emotional or cognitive barriers. These elements limit informed decision-making and reduce active participation. Consequently, the authors propose designing personalized communication strategies and including emotional and cognitive support to enhance citizen engagement in health contexts.

Lim and Yigitcanlar (2022) focus their study on the cities of Putrajaya and Pauling Jaya (Malaysia), highlighting digital citizen participation as a core aspect of smart urban management. They identify four determining elements in the effectiveness of e-participation: technological readiness, platform quality, citizen engagement level, and achieved impact. Although digital tools are available, low participation is observed due to disinterest, access difficulties, and weak institutional management.

Digitalization is also analyzed as part of a broader political agenda. Narrea Laura (2017) highlights the role of e-Government in transforming public management, emphasizing its contribution to transparency, service improvement, and the generation of new forms of accountability. From this perspective, electronic administration positions itself as a tool that not only optimizes administrative processes but also promotes a more engaged citizenry.

In a similar line, Ramos Chávez (2024) argues that digitalization is redefining democracy and mechanisms of citizen participation, especially in Latin America. Despite the ongoing challenges arising from inequality in access to technology, the author recognizes digital governance as a promising pathway toward a more informed and engaged citizenry in public affairs.

Together, these studies reflect a consensus regarding the transformative potential of digital technologies to improve local governance. However, they also underscore the need to overcome structural, cultural, and technological barriers to consolidate a truly participatory, inclusive, and effective digital ecosystem.

Conclusions

The systematic review allowed for the establishment of main trends, significant benefits, and important restrictions regarding digital citizen participation in local authorities. Digital platforms have expanded opportunities for interaction between citizens and governments, fostering better decision-making regarding transparency, inclusion, and cooperation. However, significant obstacles remain, such as the digital divide, low technological skills, and lack of institutional trust, which limit the quantity and effectiveness of these initiatives.

While a positive impact on democratic strengthening and public management efficiency was documented, there is a clear need to guide users in the design, inclusion strategy, and public policies that support the sustainability of these tools. In this regard, municipalities face the challenge of developing a series of engaged management models where technology is not just a channel but also a tool for activating citizenship.

References

Adnan, M., Ghazali, M., & Othman, N. Z. S. (2022). E-participation within the context of e-government initiatives: A comprehensive systematic review. *Telematics and Informatics Reports*, *8*, 100015. https://doi.org/10.1016/j.teler.2022.100015

Babel, M., Willburger, L., Lautenschlager, J., Völter, F., Guggenberger, T., Körner, M. F., Sedlmeir, J., Strüker, J., & Urbach, N. (2025). Self-sovereign identity and digital wallets. *Electronic Markets*, *35*(1). https://doi.org/10.1007/s12525-025-00772-0

Bastos, D., Fernández-Caballero, A., Pereira, A., & Rocha, N. P. (2022). Smart City Applications to Promote Citizen Participation in City Management and Governance: A Systematic Review. *Informatics*, *9*(4), 89. https://doi.org/10.3390/informatics9040089

Bayat, A., & Kawalek, P. (2023). Digitization and urban governance: The city as a reflection of its data infrastructure. *International Review of Administrative Sciences*, *89*(1), 21–38. https://doi.org/10.1177/00208523211033205

Benlahcene, A., Awang, H., Mansor, N. S., Nadzir, M. M., Yamin, F. M., & Haruna, I. U. (2024). Citizens ' E-participation through E-government services : a systematic literature review. *Cogent Social Sciences*, *10*(1). https://doi.org/10.1080/23311886.2024.2415526

Beno, J., Silen, A. ., & Yanti, M. (2022). Gobierno digital y participación ciudadana: percepción de funcionarios públicos sobre el rol de la municipalidad peruana. *Braz Dent J.*, *33*(1), 1–12. https://www.academia.edu/123246336/Gobierno_Digital_y_Participaci%C3%B3n_Ciudadana_Percepci%C3%B3n_De_Funcionarios_P%C3%BAblicos_Sobre_El_Rol_De_La_Municipalidad_Peruana

Bono Rossello, N., Simonofski, A., & Castiaux, A. (2025). Artificial intelligence for digital citizen participation: Design principles for a collective intelligence architecture. *Government Information Quarterly*, *42*(2), 102020. https://doi.org/10.1016/j.giq.2025.102020

Casillas, M. G. A., & Avilés, V. H. V. (2024). Digital social networks and the right to citizen participation; [Redes sociales digitales y derecho a la participación ciudadana]. *Nuevo Derecho*, *20*(35), 1 – 12. https://doi.org/10.25057/2500672X.1630

Charnock, G., March, H., & Ribera-Fumaz, R. (2021). From smart to rebel city? Worlding, provincialising and the Barcelona Model. *Urban Studies*, *58*(3), 581–600. https://doi.org/10.1177/0042098019872119

Golan, O., Satran, C., & Bord, S. (2025). An individual's trust in government is a major determinant in the decision to voluntarily join a public health initiative. *Israel Journal of Health Policy Research*, *14*(1), 9. https://doi.org/10.1186/s13584-025-00671-x

Goñi, J. (2025). Citizen participation and technology: lessons from the fields of deliberative democracy and science and technology studies. *Humanities and Social Sciences Communications*, *12*(1), 1–13. https://doi.org/10.1057/s41599-025-04606-4

Ji, H., Dong, J., Pan, W., & Yu, Y. (2024). Associations between digital literacy, health literacy, and digital health behaviors among rural residents: evidence from Zhejiang, China. *International Journal for Equity in Health*, *23*(1), 1–20. https://doi.org/10.1186/s12939-024-02150-2

Lim, S. B., & Yigitcanlar, T. (2022). Participatory Governance of Smart Cities: Insights from e-Participation of Putrajaya and Petaling Jaya, Malaysia. *Smart Cities*, *5*(1), 71–89. https://doi.org/10.3390/smartcities5010005

Muñoz, A. V., Huaraz, C. B. R., Rosadio, R. J. A., & Cadenas, D. I. V. (2024). Gobernanza participativa. Estrategias para la inclusión ciudadana en la gestión pública. *Revista Venezolana de Gerencia: RVG*, *29*(12), 1544-1557. https://dialnet.unirioja.es/servlet/articulo?codigo=9948344

Nam, H., Nam, T., Oh, M., & Choi, S. (2022). An Efficiency Measurement of E-Government Performance for Network

Readiness: Non-Parametric Frontier Approach. *Journal of Open Innovation: Technology, Market, and Complexity*, *8*(1), 10. https://doi.org/10.3390/joitmc8010010

Narrea Laura, F. M. (2017). *Modelando el e-gov: factores que explican la evolución del diseño de la política de gobierno electrónico del Perú desde inicios del siglo XXI*. [Tesis de Pregrado, Pontificia Universidad Católica del Perú]. http://hdl.handle.net/20.500.12404/9843

Ramos Chávez, A. (2024). La ciudadanía en tiempos de datificación e infocracia. *Revista General de Información y Documentación*, *34*(1). https://dx.doi.org/10.5209/rgid.90150

Sánchez-Hernández, M. I. (2024). Strengthening Resilience: Social Responsibility and Citizen Participation in Local Governance. *Administrative Sciences*, *14*(10), 260. https://doi.org/10.3390/admsci14100260

Shi, Z., Du, X., Li, J., Hou, R., Sun, J., & Marohabutr, T. (2024). Factors influencing digital health literacy among older adults: a scoping review. *Frontiers in Public Health*, *12*, 1–14. https://doi.org/10.3389/fpubh.2024.1447747

Shin, B., Floch, J., Rask, M., Bæck, P., Edgar, C., Berditchevskaia, A., Mesure, P., & Branlat, M. (2024). A systematic analysis of digital tools for citizen participation. *Government Information Quarterly*, *41*(3), 101954. https://doi.org/10.1016/j.giq.2024.101954

Suárez, M., & Noboa, A. (2024). La participación ciudadana online en los gobiernos locales: Un análisis del mecanismo Ideas de Montevideo Decide y los Presupuestos Participativos de San Lorenzo y Vicente López. *Revista Prisma Social*, (44), 274-306. https://revistaprismasocial.es/article/view/5184

Tejedo-Romero, F., Araujo, J. F. F. E., Tejada, Á., & Ramírez, Y. (2022). E-government mechanisms to enhance the participation of citizens and society: Exploratory analysis through the dimension of municipalities. *Technology in Society*, *70*, 101978. https://doi.org/10.1016/j.techsoc.2022.101978

Teng, J., Xiao, X., Zhang, N., & Yang, S. (2025). Impact of internet use on pro-environmental behaviour mediated by environmental concern. *Scientific Reports*, *15*(1), 5899. https://doi.org/10.1038/s41598-025-90445-x

Van Twist, A., Ruijer, E., & Meijer, A. (2023). Smart cities y citizen discontent: A systematic review of the literature. *Government Information Quarterly*, *40*(2), 101799. https://doi.org/10.1016/j.giq.2022.101799

Valentín-Sívico, J., Canfield, C., & Egbue, O. (2022). Push them forward: Challenges in intergovernmental organizations' influence on rural broadband infrastructure expansion. *Government Information Quarterly*, *39*(4), 101752. https://doi.org/10.1016/j.giq.2022.101752

Villafán, C. (2024). Blockchain e identidad. Oportunidades de implementación para la Ley de Ciudadanía Digital de la Ciudad de México. *Estudios En Derecho a La Información*, *18*, 155–177. https://dialnet.unirioja.es/servlet/articulo?codigo=9613484

Zhao, T., Ma, Y., Ding, J., Yang, X., & Sheng, D. (2023). A survey on the digital skill status of rural elderly groups under the digital village strategy: an example from Sichuan, Gansu and Zhejiang provinces. *BCP Business & Management*, *42*, 28–32. https://doi.org/10.54691/bcpbm.v42i.4557