

OPPORTUNITIES AND CHALLENGES OF ARTIFICIAL INTELLIGENCE ADOPTION IN DEMOCRATIZATION AND PUBLIC POLICY: A CASE STUDY OF THE TANGERANG LIVE APPLICATION

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ABSTRACT. This study examines the role of the Tangerang LIVE application in promoting democratization and public policy through digital innovation. The approach used is exploratory qualitative, with literature studies, document analysis, and non-participatory observation of citizen interactions—including user reviews, agency responses, and bold media—from May 2024 to March 2025. Data were analyzed using thematic techniques assisted by NVivo, with validation through source triangulation. The focus of the study encompasses (1) citizen accessibility and participation (e-participation), (2) government transparency and accountability, and (3) digital democracy practices, including evidence-based policy deliberations. The results show that the LAKSA feature in Tangerang LIVE provides a space for citizens to convey their aspirations and complaints, most of which are responded to quickly and transparently by the government. This reflects the application of e-governance principles. However, technical constraints, such as application bugs and login difficulties, remain obstacles. Within the UTAUT theoretical framework, digital citizen participation is greatly influenced by perceptions of the ease and benefits of technology. Complaint data also has the potential to be analyzed with artificial intelligence (AI) to strengthen evidence-based policy research. The study concludes that Tangerang LIVE is a real-life example of digital innovation that promotes inclusive, participatory, and responsive governance. AI integration and technical system enhancements are needed to strengthen digital democracy at the local level.

Keywords: Artificial intelligence (AI); Tangerang LIVE; Democratization; Public Policy

INTRODUCTION

The development of digital technology has created significant changes in the dynamics of democracy and public policy globally. Digital democracy provides a wider space for public participation, increases government transparency, and strengthens accountability through digital platforms (Linders, 2012). Artificial Intelligence (AI) is increasingly recognized as important in improving democratic governance and public policy (Mentxaka et al., 2025; Panditharatne et al., 2023). This engagement with AI is realized through increased civic engagement, innovative governance models, and shifts in the responsibilities of public institutions (Goldsmith & Yang, 2025; Saxena et al., 2025).

Artificial Intelligence (AI) plays a complex role in supporting democratization and public policy, offering opportunities and challenges. It increases citizen participation and engagement through digital government initiatives, potentially leading to a more inclusive democracy (Kenaphoom et al., 2024). However, this integration raises significant concerns, including digital divides, privacy concerns, and the risk of misinformation, which can undermine democratic processes (Novelli & Sandri, 2024). Using AI in public policy decision support systems can improve efficiency and equity in areas such as health and well-being but also face obstacles such as bias and public distrust (Zhang, 2024).

In addition, while AI can facilitate better representation and mobilization of civic action, it simultaneously poses ethical dilemmas regarding manipulation and transparency, necessitating a careful approach to ensure the integration of AI into governance processes can significantly improve the efficiency and responsiveness of public services, thereby enhancing democratic accountability. For example, Maalla (2021) emphasizes that the development of AI allows governments to adapt more quickly to the needs of society, increasing the legitimacy of public sector operations through better governance mechanisms. As it evolves, AI introduces opportunities and challenges that require a comprehensive governance framework to manage effectively, highlighting the need for appropriate decision-making processes involving diverse stakeholders (Wirtz et al., 2022). Zhang (2023) exploration of new social governance models shows that these frameworks can facilitate social stability and development, which is crucial in direct citizen engagement.

Civic engagement is another important area where AI demonstrates potential benefits. A study by Sahab et al. (2024) details how AI mediation in online discussions has significantly increased participant engagement, changing the dynamics of community empowerment and democratic participation. By reducing barriers to participation and promoting inclusivity, AI tools can foster

discussions that accommodate diverse perspectives, thereby improving the quality of public discourse. In addition, findings by Hirvonen et al. (2024) support the statement that AI systems provide new avenues for human interaction and public participation, shaping how citizens engage with information. Such engagement is essential to empower individuals in the democratic process and ensure that public discourse reflects the diverse voices of society (Sieber et al., 2024).

AI presents substantial prospects for improving democratic governance and public participation; its challenges regarding equality and inclusivity must be carefully navigated. An effective and innovative governance framework is essential to harnessing AI's benefits while reducing risk, fostering more engaged and empowered citizens, and driving equitable, democratic outcomes (Claramunt, 2020; Novelli & Sandri, 2024).

In Indonesia, the use of digital technology in democratization and public policy formulation has begun to be implemented by various regions, including Tangerang City, through the Tangerang LIVE application. This application not only serves as a means of public service but also as an instrument of citizen involvement in the democratization process and regional policies. However, using digital applications in the democratic process and public policy still faces various challenges. Digital literacy gaps, limitations of technology infrastructure, and lack of clear deliberation mechanisms in applications are still major obstacles (Aditya et al., 2023). Therefore, an in-depth study is needed on how digital applications such as Tangerang LIVE can effectively support democratization and public policy formulation through increased government participation, transparency, and accountability.

Theoretically, this study uses the perspective of digital democracy and electronic participation (*e-participation*) by utilizing the e-governance theoretical framework that emphasizes the importance of active interaction between governments and citizens through digital platforms (Berg & Hofmann, 2021; Deseriis, 2023). This approach allows researchers to explore the role of Artificial Intelligence (AI) in analyzing public interaction data and how the technology strengthens more responsive and participatory public policy processes (Wirtz et al., 2019; Borchers et al., 2023).

This research explores how the Tangerang LIVE application if integrated with artificial intelligence (AI), can strengthen democratization and public policy formulation at the local level. The study is grounded in the empirical context of Tangerang

City, where the local government has implemented the Tangerang LIVE super app as a one-stop digital platform to enhance public service delivery and civic engagement. Despite the innovation, several issues have emerged—ranging from inconsistent responsiveness in handling citizen complaints and technical bugs affecting accessibility to the untapped potential of AI for policy formulation.

Given these realities, the study addresses the following research questions: (1) How does the Tangerang LIVE application facilitate meaningful public participation in the regional policy process, especially through its LAKSA complaint feature? (2) To what extent does the application increase government transparency and accountability through digital interaction with the public? (3) What technical, institutional, and governance challenges must be addressed to effectively implement AI as a tool to support democratization and evidence-based public policy?

Previous research on the Tangerang LIVE application has mostly focused on evaluating the implementation of smart cities (Aditya, 2022), public needs for digital policies (Aditya et al., 2023), and the use of LAKSA features as public service innovations (Amelia et al., 2023; Isbandi et al., 2022) as well as factors that affect interest in using applications, such as technological usability, ease of access, and quality of service (Basit et al., 2023; Sarasati & Madyatmadja, 2020; Wismansyah, 2023). Some studies also review the role of public communication and city branding through Tangerang LIVE (Subhiat et al., 2021), as well as the implementation of application policies in the context of public service innovation (Salsabila & Gulo, 2024; Yana, 2024).

However, no research has been found that comprehensively analyzes the role of Artificial Intelligence (AI) integration in the Tangerang LIVE application in the context of democratization and *evidence-based policy* formulation. Previous research has focused more on service efficiency, technology acceptance rates, and app feature evaluations—not to mention how AI can strengthen citizens' digital participation, increase transparency of policy processes, and build data-driven deliberation and accountability mechanisms.

This research's main novelty lies in exploring AI integration in supporting the digital democracy process and participatory, transparent, and accountable public policymaking through the Tangerang LIVE application. This research also utilizes the theory of digital democracy, e-participation, and evidence-based policy to analyze in depth the potential of the use of AI not only as a means of service efficiency

but also as an instrument to strengthen inclusive and responsive governance. Thus, this study makes a new contribution in the form of a conceptual framework and strategic recommendations so that the implementation of AI in public service applications can strengthen the process of democratization and evidence-based policymaking at the local level—dimensions that have been minimally discussed in the relevant literature (Aditya et al., 2023; Sulisman & Stiawati, 2024).

This research's scientific contribution is to provide new insights into the role of AI-based applications in strengthening digital democracy and the development of new conceptual models regarding the integration of AI technology in regional public policies. Focusing on the local context in Indonesia, this study also offers practical recommendations for local governments in developing more inclusive and participatory digital applications.

METHOD

This study employs an exploratory qualitative approach with thematic analysis as the primary method, supported by document analysis and non-participatory observation. The analytical framework is informed by the Unified Theory of Acceptance and Use of Technology (UTAUT), which guides the coding and interpretation of key constructs—namely performance expectancy, effort expectancy, social influence, and facilitating conditions—emerging from citizen interaction data within the Tangerang LIVE application, particularly the LAKSA feature.

In line with Creswell (2014) qualitative research procedure, data were collected from two main sources: (1) primary data through systematic observation of user interactions with the Tangerang LIVE application from May 2024 to March 2025 and (2) secondary data from government policy documents (such as the Mayor's Regulation and the Smart City Master Plan Document of Tangerang City) and scientific literature related to digital democracy, e-government, and smart city. The data were analyzed using thematic analysis techniques, assisted by NVivo software, to facilitate coding, categorization, and visualization of emerging themes, particularly those aligned with the UTAUT dimensions. Inclusion criteria for document analysis included official reports, strategic digital policy plans by the Tangerang City Government, and user feedback sourced from public platforms such as Google Play, Instagram, and local media.

RESULTS AND DISCUSSION

The *Tangerang LIVE application* is a digital service portal of the Tangerang City Government that integrates various service features, including electronic citizen participation features such as LAKSA (*Layanan Aspirasi Kotak Saran Anda/Your Sug Box Aspiration Service*). Residents can submit their aspirations, complaints, and reports directly to the city government through LAKSA. The adoption of this application is quite high – reflected in the more than 500 thousand downloads and a rating of 4.6/5 stars based on 14.5 thousand reviews on the Google Play Store, which indicates the public's enthusiasm for the e-participation platform. Theoretically, *e-participation* is a strategic factor in increasing citizen involvement in digital governance (Zolotov et al., 2018). In other words, platforms like Tangerang LIVE have the potential to expand public participation online as long as accessibility and convenience are guaranteed.

In terms of accessibility, field data shows a variety of residents' experiences in using Tangerang LIVE. Some users feel the benefits and convenience of this digital service. For example, one resident said that six years ago, making a child's birth certificate through an application was “*very easy and fast*.” However, he complained that the process now feels “*very difficult*.” However, not a few residents also face technical obstacles when accessing services. Complaints include the application often failing to connect to the server and continuous errors – “*the application is messy, not connected properly; it is a shame that it did not work*,” said one frustrated user. Another user reported a problem opening an app that only shows a black screen, despite trying to restart and reinstall: “*App bug, suddenly cannot enter... admin, please pay more attention*.” These obstacles indicate that the system's ease of use and reliability aspects remain a challenge.

Within the framework of UTAUT theory, it is related to the constructs of effort expectancy (the expectation of ease of use) and performance expectancy (the expectation of performance or benefit), which are known to have a significant effect on the intention to adopt technology (Afrizal & Wallang, 2021). This means that if residents perceive the Tangerang LIVE application as easily accessible, useful, and tailored to their needs, then electronic participation tends to increase. On the contrary, technical constraints and poor user experience will reduce citizens' desire to engage through these digital platforms. These findings align with the principle that new e-participation initiatives are effective in

encouraging participation when users perceive the technology as *user-friendly* and credible in helping to meet their needs (Zolotov et al., 2018).

The dimension of transparency and accountability is reflected in how the government responds to every citizen report through Tangerang LIVE. LAKSA's complaint governance is designed to ensure fast, open, and accountable follow-up. Operators at the Tangerang Live Room (city control center) monitor incoming reports and immediately forward them to the field officers of the relevant agencies for real-time follow-up. Once the issue is addressed, the results of its handling are documented (e.g., through before-and-after photos) and sent back to the reporter as feedback. This procedure reflects the principle of public accountability, where every citizen's complaint is taken seriously, and the complainant is transparently informed about the solution. This kind of accountability is important in e-governance, as it increases citizens' trust that the government is responsible for resolving reported issues.

Evidence in the field shows the Tangerang City government's proactive response to residents' complaints. Throughout 2024 alone, 14,012 reports were recorded through the LAKSA feature; of these, the government completely followed up with 13,421 reports (95.8%). Only a small number are in the process or awaiting follow-up, generally due to the complexity of the problem. This high completion percentage reflects the government's commitment to addressing the community's aspirations. An official from Tangerang City's Diskominfo emphasized that "there are no reports that are neglected" in this system. Residents also noted this; some reviews and comments expressed appreciation for the fact that their report received a response despite expectations for a faster response. The response speed varies depending on the type of problem. As Tangerang LIVE Room acknowledges, the difficulty level of the issue determines the speed or responsiveness of the relevant agency. However, in general, the LAKSA mechanism has established a new standard of transparency: Citizens can monitor the status of their reports through the app, and the government publicly opens access to this information. This transparency aligns with the principle of good governance, where the government must open information and progress in handling problems to the public (Adnan et al., 2021). Thus, public trust can grow when residents see the government as responsive and honest in reporting the performance of handling complaints. This encourages more active participation because citizens feel their voices are truly heard.

Implementing LAKSA through the Tangerang LIVE application provides a concrete example of digital democracy practices at the local government level. Residents are no longer limited to being policy objects but rather participate as co-creators of policy information through field reports they submit. Every citizen complaint that comes in is a form of direct participation in the deliberative process – a kind of "digital deliberation" where the community raises issues, and the government responds with concrete actions. For example, residents' reports about damaged public facilities are immediately followed up by the relevant agencies. Even the Tangerang City government often publishes the results of handling openly, with the concept of "before-and-after" documentation (i.e., the conditions before and after repairs). This practice shows that citizen feedback is heard and translated into action that the public can see. *"We ensure that no reports are ignored, even some handlings are publicly published with the concept of before after..."*, said the Head of the Tangerang Communication and Information Department, emphasizing the commitment to be transparent in responding to residents' voices. This kind of publication of government work strengthens the principle of digital democracy because the public is invited to monitor and assess the government's performance directly. Residents can witness that their complaints are being handled seriously, resulting in a feeling that "our reports are heard and responded to quickly" by the government. This aligns with the idea that digital technology can increase citizen influence in decision-making processes and public policies (Adnan et al., 2021) through transparent and interactive feedback.

From the perspective of AI for Public Policy, artificial intelligence technology plays a role in strengthening digital democracy in Tangerang. The volume and variety of complaints received through LAKSA are quite large, including infrastructure issues (streetlights, damaged roads), environment (garbage, floods), population administration (ID cards, birth certificates), and education. This rich data provides opportunities for *evidence-based policy* formulation. The Tangerang City Government has begun using *data mining* techniques to process citizen complaints. Recent research shows that applying automated classification algorithms to crowdsourced data, such as LAKSA, can help organize unstructured complaints and ensure timely and targeted handling (Madyatmadja et al., 2023).

For example, accuracy tests of several *machine learning* models found that the *Support Vector Machine* algorithm could classify complaints

with an accuracy of ~89%, indicating that it could be relied upon to support officers in prioritizing complaints (Madyatmadja et al., 2023). Applying this type of AI has positive implications for the policy process: structured citizen complaint data can serve as a basis for more objective decision-making. The government stated that the data collected through the Tangerang LIVE/LAKSA application is used to plan and determine more targeted public policies. Thus, the LAKSA platform solves individual citizens' problems and contributes to the government's knowledge base in understanding community issues in real-time. This aligns with the concept of deliberative digital democracy, where the aspirations and empirical evidence of the community support government decisions. Ultimately, integrating digital technology and AI in participation channels such as Tangerang LIVE strengthens government-citizen relations and creates a more responsive, inclusive, and data-based policy ecosystem (Madyatmadja et al., 2023). (Table 1)

The findings of this study demonstrate that the LAKSA feature within the Tangerang LIVE application plays a strategic role in advancing democratic governance and participatory public policy. By applying the UTAUT framework to thematic analysis, we identified four major dimensions that shape citizen interaction: performance expectancy, effort expectancy, social influence, and facilitating conditions. These elements help explain the underlying motivations and barriers to technology adoption in the context of local digital governance.

The accessibility of the application determines the level of citizen participation (according to the UTAUT model), a transparent and accountable government response increases public trust, and the use of AI and data makes the policy process more deliberative based on evidence. The combination of these factors shows the great potential of e-government in realizing participatory, responsive, and sustainable city governance in the digital era.

The study results show that the Tangerang LIVE application can increase citizen participation in the local democratization process by providing an open digital aspiration channel through the LAKSA feature. However, this participation is not optimal due to the limited interactive dialogue mechanism and the government's quick response. The biggest challenge lies in the community's low digital literacy and the government's unmaximized technological capacity.

In terms of transparency and accountability, this application provides benefits with open digital documentation for handling citizens' complaints. However, the absence of AI-based automated responses means the process has not been effective enough to create full transparency. The study confirms the importance of chatbot or AI integration's importance in accelerating responses, increasing policy transparency, and strengthening government accountability. Theoretically, these findings underscore the relevance of digital democracy theory in local contexts, particularly on how AI can effectively support public engagement in policy. This study shows that AI-based applications have great potential in helping governments make data-driven policy decisions more transparently and participatory.

Table 1. UTAUT-Based Thematic Analysis of Tangerang LIVE User Experience

UTAUT Construct	Theme Findings	Findings	Interpretation
Performance Expectancy	The expectation is that the app helps resolve administrative needs and issue reporting effectively.	"Six years ago, the process of making a child's birth certificate through an application was <i>very easy and fast</i> ..."	Citizens find the app useful when system performance supports service efficiency and speed.
	Decreased expectations due to inconsistent system performance.	"It is harder now than it was before."	Declining system performance lowers the perception of benefits and drives citizens to leave the platform.
Effort Expectancy	The ease of use of the application is a crucial factor in ensuring the sustainability of citizen participation.	"The application is chaotic, not connected properly... Always Error", "application bug, suddenly cannot log in..."	Expectations of ease are not met, leading to frustration and resistance to digital participation.
Social Influence	Support or influence of the surrounding environment and media on the application's use.	Although it does not explicitly emerge from the data, the general enthusiasm is evident from over 500,000 downloads and high ratings on the Play Store (4.6/5 from 14,500+ reviews).	This suggests that other users have a positive indirect influence on the adoption of the app.
Facilitating Conditions	Availability of infrastructure and technical support from the government to users.	"The government's quick response to 95.8% of complaints", "every report is given a before-after photo," "follow-up is monitored from the command center in real-time"	High technical and institutional support encourages the use and maintains public trust.

Source: Processed Researcher (2025)

Public interaction with the Tangerang LIVE application shows a combination of appreciation and criticism. On the one hand, residents feel helped by digital features such as LAKSA, population document services, and job registration. On the other hand, technical complaints are prevalent, including login difficulties, document upload issues, ID card camera malfunctions, and systems that often malfunction on their own.

Government responses vary: On the Play Store, some comments are responded to manually by administrators, but many are also left unanswered. Meanwhile, on Instagram, the Tangerang LIVE Room team is quite active in handling complaints through field follow-ups, which are then publicly documented. As of 2025, more than 95% of complaints via LAKSA have been addressed, demonstrating the high commitment of the Tangerang City Government. However, challenges related to application stability and service speed still need to be addressed.

Accessibility and Citizen Participation (e-participation)

In the framework of digital democracy, citizen participation through electronic platforms (e-participation) is a key element in strengthening the democratic process. Research shows that increasing citizen participation by utilizing information technology can contribute to transparency, increase policy acceptability, and foster public trust in government decisions. The Tangerang LIVE application is a concrete example of e-participation at the local level, where features such as LAKSA allow the public to convey their aspirations and complaints directly. AI integration has the potential to strengthen this kind of digital participation. A recent study found that the application of AI in digital governance can improve the efficiency of public services and citizen participation, resulting in a more responsive and inclusive government in a democratic manner. As technology advances, AI opens up opportunities to increase public engagement, democratize decision-making, and increase transparency. Of course, its use must be accompanied by efforts to overcome obstacles such as digital divides, privacy, and concentration of power to guarantee inclusivity.

Cutting-edge AI technology can even expand the space of online political discourse and facilitate citizen contributions in policy formulation. Tsai et al. (2024) show how generative AI can be used on pro-democracy platforms to encourage healthy political discussion and capture public input on policy issues, supporting the democratization process and making

public policy more responsive. In e-participation, AI can also be used to increase the reach and effectiveness of electoral political participation. For example, AI can help personalize campaigns and mobilize voters more on target. This can potentially increase the political involvement of young people or community groups that were previously less affordable.

However, it should be noted that using AI for public participation also poses risks. There are concerns regarding *information manipulation* or algorithmic bias that could unfairly influence public opinion. The study warns that while AI can enhance political advertising and campaigns, ethical issues such as accountability, transparency, and potential data manipulation must be addressed in order for AI to strengthen democratic processes and inclusivity rather than weaken them truly. Therefore, in encouraging AI-assisted public participation, the government must ensure ethics and regulations that protect citizens' rights and the integrity of the democratic process. Furthermore, the study by Sieber et al. (2024) shows that implementing collaborative e-governance can increase public ownership of public policies and strengthen public trust in local government digital innovations, especially in the context of smart city development.

Transparency, Accountability and Fairness

Transparency is one of the key principles in e-governance that must be maintained as AI is adopted in the public sector. AI technology has a great opportunity to increase the transparency of government processes if designed and implemented appropriately. For example, Parashar et al. (2023) and Berman et al. (2024) research shows that integrating trusted AI systems can improve transparency, accountability, and fairness in the government's decision-making process. With AI, large amounts of data can be openly processed to support policy so the public can gain clearer information about the basis for decision-making. This, in turn, can foster citizens' trust in the government as long as the policies generated through AI respect the rights of individuals and the community's needs. On the other hand, the lack of openness in AI algorithms or data can raise public suspicion. Therefore, algorithmic openness and explainability (the ability to explain the logic of AI decisions) are crucial. Papadakis et al. (2024) emphasized that transparent and explainable AI is an important prerequisite for data-driven decisions to be accepted in the public policy process. By explaining how AI makes decisions (e.g., through auditable algorithms), governments demonstrate accountability and avoid the impression of closed "black boxes."

Accountability is a key pillar of good governance, and this should not be diminished by the presence of AI – on the contrary, AI should be a tool that strengthens government accountability to the public. In e-governance, accountability means that the government remains responsible for every decision, including those made with the assistance of AI or automation. For this reason, accountability mechanisms must be embedded into the life cycle of the AI system used. One way to ensure this is to implement an audit trail and explainability in the AI algorithm: any recommendation or decision made by AI must be able to explain the reasons to the public and independent auditors.

Shin (2020) and Zhang (2024) proposed a policy framework that emphasizes the aspects of fairness, accountability, transparency, and explainability (FATE) for the use of AI in public institutions, ensuring that the decision-making process by AI remains accountable and supports democratization. With this principle, for example, if AI Tangerang City LIVE recommends priority infrastructure improvements based on the analysis of citizen complaints, the government must be able to explain the basis of the recommendation and ensure that no bias harms some residents.

Additionally, policy and regulatory frameworks must be updated to ensure transparency is maintained in the AI era. One recommendation is to apply FATE principles (Fairness, Accountability, Transparency, and Explainability) in every use of AI by public institutions. This approach encourages fairness (fairness without bias), clear accountability (who is responsible for AI decisions), process transparency, and the ability to explain AI outcomes. Thus, algorithmic governance can be in line with democratic values. Another step that is no less important is to utilize AI to strengthen information transparency for the public. For example, AI can fight disinformation by verifying content and presenting accurate official information.

The challenge of accountability also involves assigning responsibilities. AI is a tool, so when something goes wrong (e.g., an erroneous prediction or an ill-targeted public service due to AI advice), it should be clear who is responsible: the policymaker, the system developer, or the algorithm. Regulations need to be in place to ensure that there is no void of responsibility. The literature review confirms that AI integration requires a regulatory framework that ensures algorithmic accountability is maintained in addition to its benefits. Badrul Hisham et al. (2024) highlight the need for cross-disciplinary collaboration and strong ethical standards to address accountability

and ethical issues in AI implementation to improve public trust and policy effectiveness. This means that policy experts, technologists, and other stakeholders must be involved from the design stage to implementation to ensure that AI systems operate responsibly. These efforts include creating AI ethics guidelines in government, independent oversight committees, and periodic evaluations of the impact of AI.

If accountability is not regulated, it is feared that AI will be misused and erode public trust. Some criticism has emerged about the potential for AI to be used for public decisions without adequate control. Kouroupis (2024) for example, questions whether AI supports democracy or threatens it, highlighting that the use of AI in politics can help politicians' communication and strategies, but simultaneously triggers legal and ethical concerns related to the fundamental rights of citizens. When AI algorithms make decisions that affect public rights (e.g., determining the eligibility of social assistance or moderating the content of citizens' aspirations), mistakes or injustices occur without accountability, which harms the legitimacy of the government.

Therefore, legal accountability for AI implementation needs to be formulated. Who will answer in front of parliament or the public if the AI system makes a mistake? These questions are still under review in many countries. However, the initial consensus suggests 1) maintaining a human-in-the-loop role – i.e., officials continue to monitor and correct AI decisions, 2) applying auditing and certification standards to the algorithms used by governments, and 3) ensuring that there is an appeal or correction process if AI-based decisions harm citizens.

With these measures, AI can increase accountability (e.g., with a digital track record that is easier to trace than manual processes) rather than reducing it. Even in AI development research, experts generally agree that the principles of fairness, accountability, transparency, and equality should be established as foundations. Parashar et al. (2023) argue that efforts to advance AI must be accompanied by mechanisms to ensure that this technology is always subject to democratic values and does not cause uncontrollable negative impacts. This kind of commitment at the research and policy level will help align AI with the public interest so that the public can account for every AI innovation in government.

Research shows that AI can increase the credibility of public information and help create more informed citizens, thus effectively supporting democracy and public policy, especially amid the

rampant threat of disinformation. This effort is important so that the public gets correct and complete information and can participate in supervising the running of the government intelligently. Overall, AI should be a tool to open access to information and encourage open government, not the other way around. Increased transparency through AI will contribute to a more trusting relationship between government and society, provided it is accompanied by regulations that ensure data protection and citizens' privacy.

Data-Driven Policy Deliberation

Integrating AI in policy deliberations opens up opportunities for implementing evidence-based policies, which are the practice of policy-making based on data and empirical evidence. In contrast to traditional decision-making that often relies on intuition or purely political considerations, data-driven approaches allow policy arguments to be tested more objectively. AI's ability to analyze data at scale, recognize hidden patterns, and provide evidence-based insights can improve the quality of the deliberative process.

Arora et al. (2022) noted that AI could identify trends from vast datasets and present evidence-based recommendations that were previously difficult to process manually. This helps policymakers formulate more informed and rational choices. Recent systematic reviews show AI can support evidence-based policymaking by facilitating real-time data analysis and scenario modeling while increasing public participation. This means that AI not only presents data for the decision-making elite but can also be used to involve the public in providing fact-based input. In other words, AI-assisted policy deliberations can become more inclusive and weighty, as strong data and citizens support the arguments exchanged can monitor and contribute.

Konya et al. (2023) research demonstrates an AI-assisted democratic policy formulation process in which AI platforms gather collective dialogue and find consensus automatically. As a result, the public can effectively engage in cross-group policy discussions, and AI systems help synthesize shared preferences that gain strong support across different walks of life. These findings suggest that AI can be used as a facilitator in large-scale public deliberations – which is difficult to do manually. With AI, tens of thousands of citizen feedback can be summarized into meaningful information for policymakers while also revealing which areas of consensus and disagreement need to be acted upon.

However, the use of AI in policy deliberations also presents its challenges. Algorithmic bias is one of the main concerns: if the training data or AI algorithms contain bias, the resulting policy recommendations can be biased and detrimental to certain groups. Parashar (2024) highlights that constraints such as limitations of data infrastructure, inherent bias in AI models, and public mistrust of automated systems can hinder the acceptance of AI-based policy outcomes.

In other words, data-driven deliberation can be rejected if the public does not trust the process or results of AI analysis. To address this, experts emphasize the importance of ethical transparency and oversight. The AI must be auditable, and the data used must guarantee quality and security. AI implementation strategies must be carefully designed, prioritizing procedural clarity and data security to maintain public trust and ensure the policy results are fair and inclusive.

In addition, keep in mind that healthy policy deliberation requires room for dissent and debate. Legal experts note that AI systems tend to optimize *the efficiency of information* – for example, by filtering content – but this has the potential to reduce the “friction” that is precisely needed in democratic discourse. Elkin-Koren & Perel (2023) argue that the overly smooth flow of information due to AI algorithms (e.g., displaying only majority consensus) can hinder the emergence of dissent or minority voices that are important in public deliberation. Therefore, they advocate that AI systems be designed with democratic principles in mind so that instead of eliminating dissent, AI helps to accommodate and organize them constructively. This can be achieved, for example, by ensuring that algorithms are not biased towards the majority opinion alone and by allowing citizens to see different points of view. This approach will blend artificial intelligence with the collective wisdom of society, ensuring that data-driven deliberation retains its democratic characteristics: participatory, inclusive, and respectful of diversity of opinion.

The Potential, Challenges, and Strategies for AI Implementation in Local E-Governance

In line with findings in European countries, Hirvonen et al. (2024) identified that AI adoption in the public sector requires digital infrastructure readiness, increased technological literacy, and clarity of ethical regulations to ensure the effective application of AI in improving the quality of public services and reducing potential policy bias. Previous discussions have shown that AI for democracy and

public policy is like a double-edged sword: it offers tremendous potential to strengthen democratic processes while bringing new challenges that must be managed. In this final subsection, the study focuses on the long-term potential of AI integration in public governance, particularly in relation to the *Tangerang LIVE* application as a smart city platform.

In general, the literature highlights that the impact of AI on democracy is dual, presenting both opportunities and risks. On the one hand, AI can be a positive catalyst for democracy. Brkan (2019) describes the dual role of AI: This technology can help counteract disinformation and improve the integrity of the electoral process (for example, through detecting election fraud or hoax monitoring). Summerfield et al. (2024) similarly found that advanced AI systems can expand citizen deliberative engagement, facilitate more in-depth public discussions, and help individuals or groups find common views, strengthening collective decision-making. The hope is that AI can help citizens get accurate information, verify claims (as an automated fact-checker), and even bridge differences of opinion by presenting diverse perspectives. This kind of innovation offers opportunities for a more participatory and knowledge-based democracy.

On the other hand, the potential for AI abuse poses a serious threat if not anticipated. The same AI can be leveraged for manipulative purposes: micro-targeting political messages based on citizens' psychographic data, the automatic spread of disinformation campaigns (using social media bots), or mass surveillance that violates privacy. These practices threaten the integrity of democracy, as they can shape public opinion fraudulently or intimidate the opposition. Therefore, the integration of AI into democratic systems must be accompanied by the principle of high prudence. Klarić (2024) emphasize the need for careful management and regulation of AI in public administration, given the economic, social, and political risks it can pose. Without clear game rules, AI can exacerbate the gap (for example, AI-based services are easier to access for tech-savvy than vulnerable groups) or concentrate power on a handful of technologically savvy parties. Because of this, many experts are calling for establishing an AI regulatory framework in government that balances innovation and oversight. This regulation includes privacy protection, data security, government supervision of the use of AI, and coordination between institutions in handling AI ethical issues. The focus is on ensuring AI is used responsibly, fairly, and transparently to maximize its benefits while minimizing its negative impacts.

If the potential of AI is managed properly, this technology can be a lever for more effective and responsive public policy transformation. Summerfield et al. (2024) is optimistic that advanced AI systems will increase citizens' access to valid information, facilitate real-time feedback loops between the public and the government, and help reduce the rate of misinformation and polarization through more targeted discourse. For example, imagine an AI dashboard in *Tangerang LIVE* that automatically collects residents' proposals, analyzes their sentiments and priorities, and provides data-driven input to the city government. This will make the public deliberation process run continuously and adaptively, where policies can be quickly adjusted to real needs on the ground. In addition, AI can play a role in policy simulation – governments can virtually test the impact of a program with an AI model before it is implemented so that decisions are made more maturely. A systematic study by Badrul Hisham et al. (2024) noted that AI can support scenario modeling and predictive analysis for various policy scenarios, which helps policymakers understand the consequences of decisions more comprehensively. Thus, the resulting policies are more evidence-based and proactive, not just reactive.

As for the context of *Tangerang LIVE*, the research findings indicate that the current level of AI adoption is still limited, but its potential for future development is very significant. With AI, existing interactive features – such as online complaints, service information, and more – can be enhanced in intelligence. For example, integrating intelligent Indonesian-language chatbots to respond quickly to citizens' questions or automatic prioritization algorithms to follow up on the most urgent citizen reports will greatly improve the user experience and the performance of public services. The *Tangerang City Government* needs to be proactive and innovative in seeing this opportunity, considering that AI and digital technology will increasingly influence how the world works (Wismansyah, 2023).

Strategic steps are needed so that technological developments align with local communities' needs. Local research suggests that *Tangerang LIVE* has the opportunity to become a pilot model for similar initiatives in other cities in Indonesia, provided it can synergize technology, policies, and community participation sustainably (Amelia et al., 2023). This means that collaboration between technology developers, bureaucrats, and citizens must continue to be fostered. By addressing the challenges that exist today and utilizing AI advances ethically, *Tangerang LIVE* has the potential to evolve into an intelligent,

efficient, and accountable public service platform. This is in line with the vision of the aspired smart city, where cities can utilize advanced technology to improve the quality of life of their people without sacrificing democratic values and social justice. Proper AI integration efforts will make AI a positive catalyst for democratization and strengthening public policy, not just technical innovation. To achieve this goal, there needs to be a sustained commitment to learning from global best practices, setting adaptive regulations, and putting citizens' interests at the center of technology development. Thus, the dream of a participatory, transparent, deliberative, and accountable digital democracy can be realized locally through the wise use of AI.

CONCLUSION

This study concludes that the Tangerang LIVE application, especially through the LAKSA feature, has real potential in supporting the democratization process and evidence-based public policy formulation at the local level. By facilitating citizen participation, increasing transparency, and enabling real-time government response, the platform represents the key principles of *e-governance* and digital democracy. However, technical limitations, digital literacy inequality, and suboptimal automation systems are still obstacles that need to be overcome immediately. This study also confirms the relevance of the UTAUT theoretical model and the *e-participation* framework, where perceptions of ease of use, system credibility, and public trust greatly influence citizen involvement in digital governance.

Artificial Intelligence (AI) offers strategic solutions to improve the efficiency, responsiveness, and inclusivity of digital public services. The integration of AI in the policy deliberation process, through automated complaint classification and predictive analytics, opens up huge opportunities towards *evidence-based governance*. However, the application of AI must always be based on the principles of justice, accountability, transparency, and clarity (FATE), so that technological innovation is in line with democratic values and protects the rights of citizens.

Practical recommendations and policies for strengthening the use of AI in the Tangerang LIVE application include five strategic things. First, it is necessary to improve infrastructure and technology, especially in application systems and interface design to be more stable, responsive, and user-friendly across segments of society. Second, the integration of AI-based features such as *intelligent*

chatbots and automated classification systems for public complaints need to be developed to accelerate service response while supporting data-driven policy formulation. Third, the government needs to implement a community-based inclusive digital literacy program that targets vulnerable groups and citizens with low levels of technological literacy. Fourth, the drafting of ethical and legal regulatory frameworks is essential to ensure the accountable and transparent use of AI, especially in terms of algorithm openness and protection of citizens' rights. Fifth, citizen involvement in the development and supervision of AI features must be institutionalized through a participatory policy co-creation model, in order to strengthen social legitimacy and public trust in digital innovations in governance.

REFERENCES

- Aditya, T. (2022). Implementasi Smart City: Analisis perilaku warga melalui pemanfaatan aplikasi mobile "Tangerang-LIVE" untuk meningkatkan pelayanan publik pada masa pandemi Covid-19 di Kota Tangerang. *Jurnal Pembangunan Kota Tangerang*, 1(1), 44–66. <https://jurnal.tangerangkota.go.id/new/index.php/JPKT/article/view/14>
- Aditya, T., Ningrum, S., Nurasa, H., & Irawati, I. (2023). Community needs for the digital divide on the smart city policy. *Heliyon*, 9(8), e18932. <https://doi.org/10.1016/j.heliyon.2023.e18932>
- Adnan, H. R., Hidayanto, A. N., & Kurnia, S. (2021). Citizens' or Government's Will? Exploration of Why Indonesia's Local Governments Adopt Technologies for Open Government. *Sustainability*, 13(20), 11197. <https://doi.org/10.3390/su132011197>
- Afrizal, D., & Wallang, Mu. (2021). Attitude on intention to use e-government in Indonesia. *Indonesian Journal of Electrical Engineering and Computer Science*, 22(1), 435. <https://doi.org/10.11591/ijeecs.v22.i1.pp435-441>
- Sulisman, A. N., & Stiawati, T. (2024). Analisis Pemanfaatan Artificial Intelligence sebagai Sarana Efisiensi Komunikasi Publik di Era BANI. *Konstitusi: Jurnal Hukum, Administrasi Publik, Dan Ilmu Komunikasi*, 1(4), 170–177. <https://doi.org/10.62383/konstitusi.v1i4.183>
- Amelia, R., Cahaya Ningrum, A., Maharani Setyadana, A., Fitri Kamila, D., & Arif Kurniawan, I.

- (2023). Penerapan Sistem Informasi Pelayanan Publik Pada Fitur LAKSA Di Kota Tangerang. *Jurnal Studia Administrasi*, 5(2), 73–86. <https://doi.org/10.47995/jian.v5i2.101>
- Badrul Hisham, A. 'Aisha, Mohamed Yusof, N. A., Salleh, S. H., & Abas, H. (2024). Transforming Governance: A Systematic Review of AI Applications in Policymaking. *Journal of Science, Technology and Innovation Policy*, 10(1), 7–15. <https://doi.org/10.11113/jostip.v10n1.148>
- Basit, A., Setiansyah, R., Nurvitasari, D., Santi, F., & Yustianah, Y. (2023). Teknologi Komunikasi: Kegunaan dan Kemudahan pada Minat Penggunaan Tangerang LIVE. *Jurnal Pembangunan Kota Tangerang*, 1(1), 1–17.
- Berg, S., & Hofmann, J. (2021). Digital democracy. *Internet Policy Review*, 10(4). <https://doi.org/10.14763/2021.4.1612>
- Berman, A., de Fine Licht, K., & Carlsson, V. (2024). Trustworthy AI in the public sector: An empirical analysis of a Swedish labor market decision-support system. *Technology in Society*, 76, 102471. <https://doi.org/10.1016/j.techsoc.2024.102471>
- Borchers, M., Tavanapour, N., & Bittner, E. (2023). Exploring AI supported Citizen Argumentation on Urban Participation Platforms. In T. X. Bui (Ed.), *Proceedings of the 56th Annual Hawaii International Conference on System Sciences* (pp. 1643–1652). University of Hawai'i at Mānoa. <https://doi.org/10.24251/HICSS.2023.207>
- Brkan, M. (2019). Artificial Intelligence and Democracy: The Impact of Disinformation, Social Bots and Political Targeting. *Delphi - Interdisciplinary Review of Emerging Technologies*, 2(2), 66–71. <https://doi.org/10.21552/delphi/2019/2/4>
- Claramunt, J. C. (2020). Democracy, public administration and artificial intelligence from a political and legal perspective. *Revista Catalana de Dret Public*, 2020(60), 137–147. <https://doi.org/10.2436/rcdp.i60.2020.3344>
- Creswell, J. W. (2014). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. In *SAGE Publications, Inc.* (4th ed.). Sage Publications.
- Elkin-Koren, N., & Perel, M. (2023). Democratic friction in speech governance by AI. In *Handbook of Critical Studies of Artificial Intelligence* (pp. 643–655). Edward Elgar Publishing. <https://doi.org/10.4337/9781803928562.00066>
- Goldsmith, S., & Yang, J. (2025). AI and the Transformation of Accountability and Discretion in Urban Governance. *ArXiv Preprint ArXiv:2502.13101*. <https://doi.org/http://dx.doi.org/10.48550/arXiv.2502.13101>
- Hirvonen, N., Jylhä, V., Lao, Y., & Larsson, S. (2024). Artificial intelligence in the information ecosystem: Affordances for everyday information seeking. *Journal of the Association for Information Science and Technology*, 75(10), 1152–1165. <https://doi.org/10.1002/asi.24860>
- Isbandi, F. S. S., Sagiyo, A., Rahma, A., Apriani, W., Utomo, A. S., & Dasini, D. (2022). Implementasi Fitur Laksa Pada Aplikasi Tangerang Live Sebagai Layanan Aspirasi Masyarakat Tangerang. *Jurnal Komunikasi*, 16(1), 87–100. <https://doi.org/10.21107/ilkom.v16i1.13218>
- Kenaphoom, S., Supsin, J., Suktam, W., & Lapchit, S. (2024). Digital Government and AI: Empowering Citizen Participation for a More Inclusive Democracy. In K. Wongmahesak, I. S. Wekke, & P. Suanpang (Eds.), *Sustainable Development, Humanities, and Social Sciences for Society 5.0* (pp. 125–142). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-7989-9.ch007>
- Klarić, M. (2024). Regulation of AI Technology Implementation in Public Administration. *2024 47th MIPRO ICT and Electronics Convention (MIPRO)*, 1450–1456. <https://doi.org/10.1109/MIPRO60963.2024.10569836>
- Konya, A., Schirch, L., Irwin, C., & Ovadya, A. (2023). Democratic Policy Development using Collective Dialogues and AI. *ArXiv Preprint*. <http://arxiv.org/abs/2311.02242>
- Kouroupis, K. (2024). AI and politics: ensuring or threatening democracy? *Juridical Tribune*, 13(4), 575–587. <https://doi.org/10.24818/TBJ/2023/13/4.05>
- Linders, D. (2012). From e-government to we-government: Defining a typology for citizen coproduction in the age of social media. *Government Information Quarterly*, 29(4), 446–454. <https://doi.org/10.1016/j.giq.2012.06.003>

- Maalla, H. A. (2021). Artificial Intelligence in Public Sector: A Review for Government Leaders about AI Integration into Government Administrations. *International Journal of Academic Research in Economics and Management Sciences*, 10(4). <https://doi.org/10.6007/IJAREMS/v10-i4/11911>
- Madyatmadja, E. D., Sianipar, C. P. M., Wijaya, C., & Sembiring, D. J. M. (2023). Classifying Crowdsourced Citizen Complaints through Data Mining: Accuracy Testing of k-Nearest Neighbors, Random Forest, Support Vector Machine, and AdaBoost. *Informatics*, 10(4), 84. <https://doi.org/10.3390/informatics10040084>
- Mentxaka, O., Díaz-Rodríguez, N., Coeckelbergh, M., de Prado, M. L., Gómez, E., Llorca, D. F., Herrera-Viedma, E., & Herrera, F. (2025). Aligning Trustworthy AI with Democracy: A Dual Taxonomy of Opportunities and Risks. *ArXiv Preprint ArXiv:2505.13565*, 1–26. <https://doi.org/https://doi.org/10.48550/arXiv.2505.13565>
- Novelli, C., & Sandri, G. (2024). Digital Democracy in the Age of Artificial Intelligence. *ArXiv Preprint ArXiv:2412.07791*. <https://doi.org/https://doi.org/10.48550/arXiv.2412.07791>
- Panditharatne, M., Weiner, D. I., & Kriner, D. (2023, November 3). *Artificial Intelligence, Participatory Democracy, and Responsive Government*. <https://www.brennancenter.org/our-work/research-reports/artificial-intelligence-participatory-democracy-and-responsive-government>
- Papadakis, T., Christou, I. T., Ipektsidis, C., Soldatos, J., & Amicone, A. (2024). Explainable and transparent artificial intelligence for public policymaking. *Data & Policy*, 6(e10), e10-e10-22. <https://doi.org/10.1017/dap.2024.3>
- Parashar, M. (2024). Enabling Responsible Artificial Intelligence Research and Development Through the Democratization of Advanced Cyberinfrastructure. *Harvard Data Science Review, Special Issue 4*. <https://doi.org/10.1162/99608f92.9469c089>
- Parashar, M., DeBlanc-Knowles, T., Gianchandani, E., & Parker, L. E. (2023). Strengthening and Democratizing Artificial Intelligence Research and Development. *Computer*, 56(11), 85–90. <https://doi.org/10.1109/MC.2023.3284568>
- Sahab, S., Haqbeen, J., & Ito, T. (2024). Conversational AI as a Facilitator Improves Participant Engagement and Problem-Solving in Online Discussion: Sharing Evidence from Five Cities in Afghanistan. *IEICE Transactions on Information and Systems*, E107.D(4), 2023IHP0014. <https://doi.org/10.1587/transinf.2023IHP0014>
- Salsabila, N., & Gulo, E. K. (2024). Implementasi Kebijakan Pemerintah pada Aplikasi Tangerang Live sebagai Bentuk Inovasi Pelayanan Publik di Kota Tangerang. *Jurnal Inovasi Global*, 2(8), 938–943. <https://doi.org/10.58344/jig.v2i8.135>
- Sarasati, R., & Madyatmadja, E. D. (2020). Evaluation of e-government LAKSA services to improve the interest of use of applications using Technology Acceptance Model (TAM). *IOP Conference Series: Earth and Environmental Science*, 426(1), 012165. <https://doi.org/10.1088/1755-1315/426/1/012165>
- Saxena, D., Kahn, Z., Moon, E. S.-Y., Chambers, L. M., Jackson, C., Lee, M. K., Eslami, M., Guha, S., Erete, S., Irani, L., Mulligan, D., & Zimmerman, J. (2025). Emerging Practices in Participatory AI Design in Public Sector Innovation. *Proceedings of the Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*, 1–7. <https://doi.org/10.1145/3706599.3706727>
- Shin, D. (2020). User Perceptions of Algorithmic Decisions in the Personalized AI System: Perceptual Evaluation of Fairness, Accountability, Transparency, and Explainability. *Journal of Broadcasting & Electronic Media*, 64(4), 541–565. <https://doi.org/10.1080/08838151.2020.1843357>
- Sieber, R., Brandusescu, A., Sangiambut, S., & Adu-Daako, A. (2024). What is civic participation in artificial intelligence? *Environment and Planning B: Urban Analytics and City Science*. <https://doi.org/10.1177/23998083241296200>
- Subhiat, A. P., Aras, M., & Siswantini. (2021). Public Relations of Tangerang City Government to Realize the City Branding Through Tangerang Live Program. In S. Abdi (Ed.), *Proceedings of the 2nd Southeast Asian Academic Forum on Sustainable Development (SEA-AFSID 2018)* (pp. 146–151). Atlantis Press. <https://doi.org/10.2991/aebmr.k.210305.027>

- Summerfield, C., Argyle, L., Bakker, M., Collins, T., Durmus, E., Eloundou, T., Gabriel, I., Ganguli, D., Hackenburg, K., Hadfield, G., Hewitt, L., Huang, S., Landemore, H., Marchal, N., Ovadya, A., Procaccia, A., Risse, M., Schneier, B., Seger, E., ... Botvinick, M. (2024). How will advanced AI systems impact democracy? *ArXiv Preprint ArXiv:2409.06729*. <https://doi.org/https://doi.org/10.48550/arXiv.2409.06729>
- Tsai, L. L., Pentland, A., Braley, A., Chen, N., Enríquez, J. R., & Reuel, A. (2024). Generative AI for Pro-Democracy Platforms. *An MIT Exploration of Generative AI*. <https://doi.org/10.21428/e4baedd9.5aaf489a>
- Wirtz, B. W., Weyerer, J. C., & Geyer, C. (2019). Artificial Intelligence and the Public Sector—Applications and Challenges. *International Journal of Public Administration*, 42(7), 596–615. <https://doi.org/10.1080/01900692.2018.1498103>
- Wirtz, B. W., Weyerer, J. C., & Kehl, I. (2022). Governance of artificial intelligence: A risk and guideline-based integrative framework. *Government Information Quarterly*, 39(4), 101685. <https://doi.org/10.1016/j.giq.2022.101685>
- Wismansyah, A. R. (2023). Assessing the Success of the E-Government System in Terms of the Quality of Public Services: A Case Study in the Regional Government of the City of Tangerang. In M. I. Ferdiansyah, D. C. Sampepajung, I. F. Nurqamar, & R. P. Nugraha (Eds.), *Proceedings of the 7th International Conference on Accounting, Management and Economics (ICAME-7 2022)* (pp. 367–374). Universitas Hasanudin. https://doi.org/10.2991/978-94-6463-146-3_37
- Yana, K. El. (2024). Peran Artificial Intelligence dalam Peningkatan Efisiensi Pelayanan Publik di Era Digital: Studi Pada Kota Tangerang. *Jurnal Pembangunan Kota Tangerang*, 2(2), 127–144. <https://jurnal.tangerangkota.go.id/new/index.php/JPKT/article/view/238/64>
- Zhang, H. (2023). Research and Practical Exploration of New Models of Social Governance in the Age of Artificial Intelligence. *SHS Web of Conferences*, 179, 01017. <https://doi.org/10.1051/shsconf/202317901017>
- Zhang, X. (2024). The Integration of Artificial Intelligence in Public Policy Decision Support Systems: Applications and Challenges. *Applied and Computational Engineering*, 115(1), 29–34. <https://doi.org/10.54254/2755-2721/2025.18471>
- Zolotov, M. N., Oliveira, T., & Casteleyn, S. (2018). E-participation adoption models research in the last 17 years: A weight and meta-analytical review. *Computers in Human Behavior*, 81, 350–365. <https://doi.org/10.1016/j.chb.2017.12.031>