

Public Participation in Crowdsourcing Policy Making through Digital Platforms: *Enhancing Participation, Trust, and Transparency*

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Abstract

This study explores public participation in crowdsourced policymaking through digital platforms to enhance inclusiveness, transparency, and accountability in governance. Using a mixed-methods approach, it integrates quantitative survey data with qualitative insights from interviews and focus group discussions. Quantitative analysis examined digital literacy, perceived benefits, ease of use, and participation experiences, while qualitative analysis explored motivations, barriers, and expectations. Results show that respondents generally have high digital literacy and internet access, with positive perceptions of crowdsourcing's benefits, especially in improving communication with government and promoting transparency. However, trust in the effectiveness of online participation remains moderate due to concerns over data security, inclusivity, and government responsiveness. Although ease of use and willingness to adopt digital platforms are high, participation is still limited by socio-technical and psychological barriers. The study recommends the development of user-friendly and secure platforms with transparent feedback mechanisms, multi-channel accessibility, and strong privacy protections. It emphasizes that successful implementation requires not only technological readiness but also supportive regulations, continuous public outreach, and trust-building efforts. Overall, the research offers both conceptual and practical insights for developing inclusive digital crowdsourcing models suited to the socio-political context of developing countries.

Keywords: *crowdsourcing; digital participation; e-governance; policy making; public value.*

INTRODUCTION

The development of digital technology has revolutionized interactions between governments and citizens, particularly in the process of formulating public policy. One important innovation that has emerged is crowdsourcing policy making, which is the process of openly gathering ideas, input, and solutions from the public through digital platforms to support more inclusive and evidence-based decision making [1], [2]. In this framework, *public participation* is not only positioned as a democratic obligation, but also as a strategic resource that can improve the quality of policies through the mobilization of distributed knowledge [3], [4], [5].

Crowdsourcing policy making leverages the collective power of the public to participate in various stages of the policy cycle, from *agenda setting*, policy formulation, to evaluation [2], [3], [6], [7]. This participation is facilitated by digital platforms that allow for quick interactions, wide access, and online collaboration mechanisms. Various models have been used, including *Open Collaboration* (OC) which relies on voluntary participation, *Virtual Labour Markets* (VLM)

which leverages paid online labour for specific tasks, and *Tournament Crowdsourcing* (TC) which uses competition to capture the best solutions [8]. Each model has its own potential and challenges, as well as different relevance depending on the stage of policy and participation objectives [9].

Public participation in crowdsourcing policy making through digital platforms is a new development in participatory democracy driven by advances in information technology [7], [10]. The concept of crowdsourcing, as popularized by Howe [11] and further developed by Brabham [12], [13], refers to the use of collective contributions from the public to solve problems, generate ideas, or provide services. In the context of public policy, this approach utilizes distributed knowledge in society to enrich the policy formulation process, increase transparency, and strengthen citizen empowerment [2], [12], [13].

The literature distinguishes crowdsourcing into three main models relevant to public participation, namely Open Collaboration (OC), Virtual Labor Markets (VLM), and Tournament Crowdsourcing (TC) [2], [8]. Open Collaboration relies on voluntary contributions without financial compensation, usually through social media, online forums, or wiki platforms. Virtual Labor Markets connect task givers with online workers who complete microtasks in exchange for financial compensation. Meanwhile, Tournament Crowdsourcing involves open competitions to find the best solutions to specific problems, with prizes as the main incentive. Each model has distinct characteristics regarding accessibility, participant scope, and relevance to the policy cycle stage [8], [2].

From a policy instrument perspective, crowdsourcing can be mapped through the NATO model framework developed by Hood in 1986, which classifies instruments based on nodality (information), authority (legal authority), treasure (financial resources), and organization (organizational capacity) resources. Open Collaboration tends to act as a nodality and organization instrument to gather information and build community networks. Tournament Crowdsourcing is often associated with treasure because it requires monetary incentives, while Virtual Labor Markets combine elements of organization and treasure to mobilize online labor [14], [15].

The success of public participation in crowdsourced policy making depends heavily on the design and management of the digital platform used. Research by Tocchetti et al. [16] shows that a user-friendly interface, transparency of participation mechanisms, and clear feedback can increase citizens' emotional and cognitive engagement. An effective digital platform is not only a one-way communication medium, but also a collaborative arena that enables the co-production of public value, namely the joint creation of public value between the government and the community [17].

International case studies provide concrete examples of the potential of this model. The MyVoice platform in Latvia allows citizens to propose and vote on draft legislation, which is then considered by parliament, demonstrating how OC can directly connect citizens' aspirations with the legislative process [18], [19]. In the United States, Challenge.gov uses TC to gather innovative solutions from the public to various policy challenges [20]. Meanwhile, a geocrowdsourcing initiative in Spain leverages public participation through VLM to collect spatial data related to environmental quality, which is used in public facility planning [21].

From these various studies, it is clear that public participation in crowdsourcing policy making through digital platforms has great potential to expand the space for participation, increase inclusiveness, and strengthen policy legitimacy. However, its success depends on the suitability of the crowdsourcing model chosen, the readiness of digital infrastructure, public literacy, regulatory support, and the government's capacity to manage public participation in a transparent and accountable manner.

The advantage of public participation through crowdsourcing is its ability to reach diverse segments of society, strengthen transparency, and accelerate the policy innovation process. International case studies such as MyVoice in Latvia show how the OC model can directly connect citizens' aspirations with the legislative process [18], [19]. In the United States, Challenge.gov has successfully gathered innovative solutions through online competitions [20], meanwhile, a geocrowdsourcing initiative in Spain is leveraging public participation to collect spatial data relevant to urban planning [21].

However, the implementation of public participation in crowdsourcing policy making through digital platforms is not without challenges. Issues of inclusivity, representation of vulnerable groups, data security, and potential manipulation of policy agendas are important concerns. In addition, the effectiveness of participation is greatly influenced by factors such as digital literacy, open leadership, regulatory support, and user-friendly and transparent platform design.

Despite global progress in digital crowdsourcing, systematic use in Indonesia remains limited. This study addresses this gap by analyzing public perceptions, motivations, and barriers to crowdsourced policymaking, while offering design principles for inclusive and trust-based digital platforms. In the Indonesian context, although public participation through digital platforms has begun to gain ground through initiatives such as Lapor.go.id, public consultation forums, and official government social media channels, the systematic use of crowdsourcing in policy-making remains minimal. However, with high internet penetration, Indonesia has a great opportunity to develop a digital crowdsourcing policy-making model that is relevant to local socio-political conditions.

METHOD

This study uses a research method designed with a mixed methods approach, combining quantitative and qualitative analysis in an integrated manner. This approach was chosen because the data generated includes numerical information, such as average scores for digital literacy indicators, perceptions of benefits, and ease of use of the platform, as well as narrative data from respondents' open-ended answers describing their motivations, obstacles, and expectations in digital participation [22]. The initial stage of the research involved the development of a Likert scale-based survey instrument to measure dimensions such as digital literacy, internet access, perceptions of the benefits of crowdsourcing, ease of use, participation experience, and supportive social and regulatory environments [23]. This instrument was developed based on literature studies and initial findings in the exploratory stage, then tested on a limited basis to ensure its reliability and validity before being distributed to respondents.

Quantitative data collection was conducted through an online survey distributed to the public, with respondents covering various age groups, educational levels, occupations, and geographical

areas. Respondents were selected purposively, taking into account the representation of relevant groups in the context of digital participation in the research area [24]. Quantitative data was processed using descriptive statistical analysis to describe the distribution of respondent profiles and response trends, as well as inferential analysis to examine the relationship between variables, such as digital literacy and interest in participation, or perceived benefits and level of trust in the government. This analysis aimed to identify factors that influence public participation through digital platforms.

Meanwhile, qualitative data was collected through open-ended questions on questionnaires, in-depth interviews, and Focus Group Discussions (FGD) with selected groups representing key stakeholders, including community representatives, local government officials, and digital platform managers. This approach allowed researchers to gain a richer understanding of experiences, obstacles, and proposed strategies for increasing participation. Qualitative data was analyzed using thematic coding to group responses based on key themes, such as security and privacy, the effectiveness of government follow-up, ease of access, and the value of digital democracy. Triangulation was conducted by comparing the results of quantitative and qualitative analyses, thereby increasing the validity of the findings [24].

Based on the integration of these two types of data, this study also conducted an evaluation of the design of the crowdsourcing digital platform that was developed. This design was tested on a limited basis through simulations or pilot projects in pilot areas to see the extent to which the platform was able to meet user needs and overcome the obstacles encountered. Measurements were taken on several aspects, such as user experience (UX), government response speed, data security, and ease of use. Feedback obtained from users was analyzed to refine the design and functionality of the platform to make it more inclusive, transparent, and responsive [25].

The entire research process was conducted systematically and continuously, starting from literature review, data collection, analysis, to model development and policy recommendations. Research ethics were upheld by ensuring the confidentiality of respondents' identities, obtaining voluntary participation consent, and avoiding potential bias in data collection and processing. With this research method that combines the strengths of quantitative and qualitative data, the results obtained are expected to not only describe the current state of public participation but also provide a practical and conceptual foundation for the development of digital-based crowdsourcing policy making in Indonesia.

RESULTS AND DISCUSSION

1. Respondent Profile

An analysis of respondent identities shows that the majority of survey participants were women, accounting for 71.15% of respondents, while men accounted for only 28.85%. The dominance of female respondents has the potential to influence perspectives on participation in digital platforms, given the differences in communication styles and preferences for digital media use based on gender [26]. In terms of age, the majority of respondents were in the 16–30 age group (45.19%), followed by the 31–40 age group (26.92%) and those over 50 (22.12%). This composition indicates the dominance of the younger generation as the primary users of digital platforms to convey their aspirations to the government, consistent with literature stating that the younger generation has a higher level of technological adaptation [27].

The respondents' level of education was also relatively high, with bachelor's degree (S1) graduates dominating at 50.96%, followed by high school (SMA) graduates (30.77%) and master's degree (S2) graduates at 12.50%. This shows that the respondents generally have sufficient literacy to understand public policy issues and digital participation mechanisms. In terms of occupation, most respondents came from the education sector (32.69%) and civil service (30.77%), which are directly or indirectly related to public services. This could influence respondents' perceptions of the effectiveness of digital platforms in conveying public aspirations.

Geographical distribution shows that the majority of respondents are from East Java Province (65.38%), particularly Malang Regency/City, which is the main research area. However, there is also participation from other provinces, providing diversity in perspectives. Overall, the respondent profile, which is dominated by young people with relatively high educational levels and professional backgrounds in public service and education, provides a strong foundation for examining digital literacy and participation in digital platforms.

2. Digital Literacy and Access

The results of digital literacy and internet access measurements show an average score above 4 on all indicators, reflecting a high level of digital literacy and access among respondents. Most respondents (mean = 4.53) have regular internet access, are accustomed to using digital platforms (mean = 4.34), understand the mechanisms of online feedback (mean = 4.16), and are able to operate applications without assistance (mean = 4.11).

Table 1. Results of digital literacy measurement and internet access

Statement	Mean	Interpretation
I have regular access to the internet	4,53	Very high – the majority of respondents have regular access to the internet, which is an important asset for digital participation.
I am accustomed to using digital platforms such as applications or websites.	4,34	High – indicates that respondents are quite familiar with digital platforms.
I understand how to provide feedback online through forums, apps, or social media.	4,16	High – respondents' understanding of online participation mechanisms is good, although there is still room for improvement.
I am able to operate digital applications without assistance from others.	4,11	High – most respondents are independent in operating digital applications.
The internet connection in my neighborhood is stable enough to access participatory digital platforms.	4,17	High – the majority feel that the internet connection is adequate, although some areas may still experience problems.

Source: Author's processed results 2025

The respondents' internet connection was also considered to be quite stable (mean = 4.17), despite variations in conditions in the field. However, qualitative findings revealed several

significant barriers to digital participation. These barriers include a digital literacy gap, especially among older age groups who are less familiar with technology, limited internet access due to unstable signals and expensive data packages, and a lack of adequate devices. Additionally, psychological factors such as apathy and a lack of confidence that their aspirations will be heard also pose challenges. The lack of awareness about digital platforms further exacerbates low community participation.

To overcome these obstacles, respondents proposed various strategic needs, including improving digital literacy through training and education, providing more equitable and affordable internet access, device assistance, and massive ongoing socialization regarding the existence and benefits of digital platforms. In addition, user-friendly platform design and data security guarantees and transparency in follow-up are important aspects for building public trust. These findings indicate that despite relatively high levels of digital literacy and internet access among respondents, technical and non-technical challenges continue to hinder inclusive participation in digital platforms for public opinion expression. Therefore, a holistic approach is needed that not only focuses on technical aspects such as infrastructure and devices but also on social-psychological, educational, and policy aspects that encourage active community engagement. Strengthening digital capacity and ensuring government transparency are key to the success of inclusive and effective crowdsourced policy making.

3. Perceptions of the Benefits of Crowdsourcing in Public Policy Making

Data analysis shows that respondents have a positive perception of the benefits of community involvement through digital platforms in the public policy-making process. The average scores of the indicators show a fairly high level of agreement, with the highest score on the statement that the use of digital platforms facilitates communication between the community and the government (mean = 4.12), followed by the perception that digital participation promotes government accountability (mean = 4.07), and increases the transparency of public policy (mean = 4.05). However, the belief that online input can actually bring about policy change has the lowest score (mean = 3.88), indicating lingering doubts about the effectiveness of implementing public input through digital platforms.

These findings are consistent with the literature stating that ease of access and communication are key factors in encouraging digital participation, while confidence in the effectiveness of the process requires further reinforcement [28], [29]. The following table 2 summarizes respondents' open-ended answers regarding their willingness to participate in the government's provision of digital platforms to support decision-making and policy-making.

Table 2. the willingness of the community to participate in the provision of digital platforms

Theme Code	Respondents' Open Answers
K1: General Availability	“Willing”, “Very willing”, “Yes, willing”, “Agree”
K2: Security and Privacy	“As long as my security is guaranteed”, “Data is followed up”, “Transparent”
K3: Expectations for Effectiveness	“Input received and analyzed”, “Quick government response”, “Concrete follow-up”
K4: Convenience and Accessibility	“Facilitates communication”, “No need for face-to-face meetings”, “Practical and fast”
K5: Participation and Democracy	“Expressing free opinions”, “Strengthening digital democracy”, “Consultative deliberation”
K6: Skepticism and Dependence on Policy	“Depends on policy,” “Not necessarily read,” “Previously had a bad experience”
K7: Criticism of Conventional Media	“Media is wrong in its interactions”, “Digital platforms are more targeted”
K8: Dampak Kebijakan Lebih Baik	“More relevant policies”, “More targeted”, “Supporting rural development”

Source: Author's processed results 2025

In terms of motivation for using the platform, a thematic analysis of respondents' answers, as shown in the table 2, identified several main themes, namely general willingness to use the application (K1), the need for data security and privacy guarantees (K2), expectations regarding the effectiveness of government follow-up on input (K3), ease of access and practicality (K4), and the value of digital democracy strengthened through broad and free participation (K5). Some respondents also expressed skepticism (K6) regarding the effectiveness and responsiveness of the government, illustrating a trust gap that must be bridged through transparency and concrete government action. Criticism of conventional communication media, which are perceived as unresponsive (K7), underscores the importance of digital platforms as a more targeted communication alternative. The primary expectation is for policies to be more responsive, relevant, and targeted in line with public aspirations (K8).

Furthermore, the results of coding the main benefits of crowdsourcing in policy making confirm that transparency and accountability (M1) are the most significant benefits, which also strengthen the legitimacy of public policy. Increased inclusive public participation (M2), efficiency and speed of decision making (M3), and improved quality of more aspirational policies (M4) are also added values of using digital platforms. Other important benefits include the ease of disseminating information and educating the public (M5), increased sense of ownership of policies (M6), and more effective social oversight and control (M7).

Table 3. Coding results the main benefits of crowdsourcing in policymaking

Theme Code	Respondents' Open Answers
M1: Transparency and Accountability	“Open transparency”, “Improving public transparency”, “Accountability”
M2: Increased Participation	“Increasing community participation”, “Broad public participation”, “Inclusive”
M3: Efficiency and Speed	“Fast,” “Accelerate decision-making,” “Faster bureaucracy”
M4: Better Policy Quality	“More aspirational and targeted policies”, “Accommodating aspirations”, “Relevant”
M5: Information Dissemination and Education	“Facilitating access to information”, “Educating the public”, “The public is more informed”
M6: Increased Sense of Ownership	“Enhancing a sense of ownership of policies”, “The community is valued”
M7: Supervision and Control	“Reducing conflict”, “More transparent policy monitoring”
M8: Openness and Freedom of Expression	“The public is free to express ideas, criticism, and suggestions.”
M9: Innovation and New Insights	“Inspiration for young people”, “Gaining many perspectives”
M10: Easy Access and Practicality	“No need to wait in long lines,” “One app can connect”

Source: Author's processed results 2025

Respondents also assessed the openness of digital space (M8) as an opportunity for the public to freely express their opinions and enrich policies with various perspectives (M9). The ease of access to digital technology (M10) has become a practical solution to overcome geographical and bureaucratic obstacles that have limited public participation.

Overall, the findings of this study indicate that digital platform-based crowdsourcing has the potential to enhance the quality of participatory democracy through increased transparency, participation, and efficiency in government governance. However, the success of its implementation depends on the government's ability to build trust through data security guarantees, transparent processes, and responsiveness to public input. Therefore, the development and management of digital platforms must be supported by comprehensive policies and a participatory approach in order to meet public expectations and strengthen public trust.

4. Perception of Ease of Use of Participatory Digital Platforms

Analysis of data on perceptions of the ease of use of participatory digital platforms shows that the majority of respondents consider these platforms to be fairly easy to operate, with an average score close to 4 on a 1–5 Likert scale.

Table 4. Perception of the Ease of Use of Participatory Digital Platforms

Statement	Mean	General Interpretation
Easy-to-use participatory digital platform	3,96	Respondents found the platform fairly easy to use.
The instructions for using the platform are very clear and easy to understand.	3,88	The instructions are clear enough, but there is room for improvement.
I had no trouble filling out the online form.	4,04	Most respondents did not experience any technical difficulties.
I don't need help from others to participate.	3,88	Respondents feel independent, but some may still need assistance.
If available, I am willing to try the platform.	4,21	The level of readiness and willingness to try digital platforms is very high.

Source: Author's processed results 2025

Statements related to ease of use received an average score of 3.96, indicating that users found the platform interface to be intuitive and user-friendly for the general public. Instructions for using the platform were also considered to be clear (score of 3.88), although there is room for improvement so that instructions can be more easily understood by all users.

In addition, most respondents reported no technical difficulties in filling out the online form (score of 4.04), which indicates that the technical aspects of the platform already accommodate the basic needs of digital interaction. Independence in using the platform is also quite high (score of 3.88), although there are still some users who need additional assistance or guidance, especially those who are less familiar with digital technology. This shows the need for ongoing education and assistance strategies to ensure inclusive participation.

The level of readiness and willingness to try and use the participatory platform is also very high, with an average score of 4.21. This finding shows that the public has a positive and open attitude toward technological innovation as a means of public participation. This fact is in line with previous studies that mention that technology acceptance is an important factor in expanding the reach and inclusiveness of digital participation (Davis, 1989; Venkatesh et al., 2003).

Overall, the perception of ease of use of this digital platform is a key asset in supporting the successful implementation of technology-based public participation mechanisms. Therefore, the government and platform managers need to focus on improving the user experience through simplifying the interface, refining technical instructions, and providing assistance and education services for users who still face obstacles. As a result, the digital platform can be accessed by all segments of society without significant barriers, while also enhancing effective and inclusive participation in the public policy-making process.

5. Experience and Interest in Community Participation in the Public Policy Process

Quantitative data on public participation experiences and interests in the public policy-making process indicate that active involvement through discussion forums or public consultations remains relatively low, with an average score of only 3.19. However, the experience of providing suggestions or reports through social media and government applications is slightly

higher (score of 3.27), indicating that digital channels are beginning to become a more accessible alternative for the public to convey their aspirations. Public interest in digital participation is quite high, reflected in a score of 3.69, indicating significant potential for increased engagement through digital platforms. However, the perception that their opinions will be valued by the government only received a moderate score of 3.43, indicating that trust in the government's responsiveness is not yet fully established.

Table 5. Experience and Interest of Community Participation in the Public Policy Process

Statement	Mean	General Interpretation
I have participated in public discussion/consultation forums.	3,19	Active participation is still relatively low.
I have provided suggestions/reports via social media.	3,27	A little more experience using social media/government applications.
I am interested in being involved in the formulation of digital policy.	3,69	Interest in digital participation is quite high, above average.
I feel that my opinion will be valued by the government.	3,43	Respondents felt moderately that their opinions were valued.
Citizen participation in public policy is a shared responsibility	4,19	There is a high level of collective awareness about the responsibility of participation.

Source: Author's processed results 2025

This is a major obstacle to encouraging broader and more intensive participation. On the other hand, collective awareness of citizens' responsibility in the policy process is very high, with a score of 4.19, indicating that the public recognizes the importance of their active role in public governance. This finding confirms that although internal motivation to participate is already strong, access, trust, and transparency are key factors that must be strengthened by the government in order to optimize digital-based public participation.

Qualitative data analysis related to the use of public complaint platforms such as LAPOR!, change.org, and official local government forums reveals that the majority of respondents are aware of the existence of these platforms, but active use is still limited (around 15–20%). Most respondents (60–70%) are aware but have never used them, while the rest are unfamiliar with them or have never used them. Some barriers to use include a lack of urgent need, a preference for face-to-face communication, and doubts about the effectiveness of the platforms. Additionally, technical issues such as slow applications, server disruptions, and a lack of satisfactory follow-up contribute to apathy and low interest in further participation.

Meanwhile, public perceptions of local government involvement in public decision-making show mixed views. Around 30–35% believe that local governments already involve the community sufficiently, particularly through joint deliberations and social media activities. However, the majority (50–55%) believe that involvement is still suboptimal and tends to be formalistic, with participation limited to certain groups. The main obstacles identified include

uneven digital access, a lack of transparent follow-up, and insufficient socialization. Other criticisms touch on inequality in the space for participation, where marginalized groups often do not have adequate access.

Overall, these findings underscore the need for strategies to improve the quality and quantity of public participation through digital platforms, including technical improvements, education, more intensive outreach, and strengthening government response and transparency mechanisms. An inclusive and systematic approach will be crucial to the success of developing a dynamic and democratic participation ecosystem, which will ultimately enhance the quality and legitimacy of public policy.

6. Social Environment and Supporting Regulations in Digital Participation

The analysis results show that the public is quite familiar with and beginning to get used to using digital technology to access public services, with an average score of 3.48 on a scale of 1–5. These findings indicate that the digital ecosystem as a medium for public participation has begun to become part of the social life of the community at the local level, although the level of adoption still has the potential to be improved.

Table 6. Social Environment and Supporting Regulations in Digital Participation

Statement	Mean
People around me are accustomed to using public service technology.	3,48
I feel safe expressing my opinions digitally without fear of consequences.	3,46
The government provides a digital space to accommodate public aspirations	3,53
I am aware of the existence of public complaint and consultation applications/platforms.	3,44
The government actively follows up on reports or feedback from the public.	3,37

Source: Author's processed results 2025

However, perceptions regarding safety in expressing opinions digitally are at a moderate level, with a score of 3.46. This reveals the public's concerns about the risks or negative consequences that may arise from using digital platforms to express aspirations or criticism. Thus, security and personal data protection are crucial factors that must be considered in order to encourage broader and more comfortable participation for users.

Additionally, the government's provision of digital spaces as a platform for public aspirations received a satisfactory score (3.53), indicating that the existence of participatory platforms is beginning to be felt by the public, although their scope and quality are not yet optimal. Public awareness of the existence of public complaint and consultation applications or platforms is also fairly widespread (3.44), but this does not automatically guarantee active participation due to the limited dissemination of information and awareness campaigns.

The main concern is the public's perception of the government's follow-up on reports or feedback submitted through digital platforms, which received the lowest score of 3.37. This figure reflects the public's doubts about the effectiveness of the government's response, which is a significant obstacle to building trust and motivation for continued participation.

Overall, these findings underscore the importance of strengthening regulations and policies that support digital security, transparency, and clarity in government follow-up mechanisms. Efforts to improve outreach and the quality of digital platform services are needed so that the social environment and supporting regulations can strengthen public participation in technology-based public policy processes.

CONCLUSION

Data analysis shows that the public is becoming quite familiar and accustomed to using public service technology as a medium for participation, with an average score of 3.48. This indicates that the digital ecosystem is beginning to become part of social life at the local level. However, perceptions regarding security in expressing opinions digitally are still moderate (3.46), reflecting public concerns about the risks or negative consequences that may arise. Security and personal data protection aspects are priorities that must be considered in the development of digital participation spaces.

The existence of digital spaces provided by the government to accommodate public aspirations and public knowledge of complaint and consultation applications has also begun to be felt, although the level of active participation still needs to be improved. Perceptions of the effectiveness of government follow-up on public input are relatively low (3.37), which is a major obstacle in building trust and motivation for sustainable digital participation.

In this context, the ideal digital platform design should emphasize ease of access and use for all groups, including those who are less familiar with technology. A simple interface, clear and inclusive language, and essential features that are not excessive are very important to ensure that the platform can be operated easily. The use of various access media such as mobile applications, websites, and social media or WhatsApp integration will expand the reach of users.

In addition to ease of access, security and privacy aspects are also critical. The platform must guarantee the confidentiality of user data and identity to create a sense of security in expressing opinions. Transparency in data management and clear follow-up mechanisms are also important for building and maintaining public trust. Interactive features such as easy-to-understand usage guides, real-time tracking of suggestion status, and support for various submission formats (text, images, videos, voice notes) also increase inclusivity and user engagement.

Intensive and continuous socialization regarding the use and benefits of digital platforms is also necessary in order to significantly increase community participation. Special attention to accessibility in areas with limited network coverage should be a priority, for example by providing a lightweight version of the app or an offline mode. Finally, transparent and accountable management of the platform by the government, along with direct communication between citizens' aspirations and authorized officials, will accelerate follow-up actions and strengthen public trust in the resulting policies.

In conclusion, the success of implementing digital platforms for public participation depends not only on the provision of technology, but also on a supportive social environment, regulatory protection, and platform design that is responsive to the needs and limitations of users. This holistic approach will increase public participation, strengthen government transparency and accountability, and promote more inclusive and responsive policy governance.

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REFERENCES

- [1] V. Lehdonvirta and J. Bright, “Crowdsourcing for Public Policy and Government,” *Policy Internet*, vol. 7, no. 3, pp. 263–267, Sep. 2015, doi: 10.1002/poi3.103.
- [2] A. Taeihagh, “Crowdsourcing: a new tool for policy-making?,” *Policy Sci*, vol. 50, no. 4, pp. 629–647, Dec. 2017, doi: 10.1007/s11077-017-9303-3.
- [3] J. Prpić, A. Taeihagh, and J. Melton, “The Fundamentals of Policy Crowdsourcing,” *Policy Internet*, vol. 7, no. 3, pp. 340–361, Sep. 2015, doi: 10.1002/poi3.102.
- [4] T. Aitamurto and H. Landemore, “Crowdsourced deliberation: The case of the law on off-road traffic in Finland,” *Policy Internet*, vol. 8, no. 2, pp. 174–196, 2016.
- [5] T. Nam, “Suggesting frameworks of citizen-sourcing via Government,” *Gov Inf Q*, vol. 29, no. 1, pp. 12–20, 2012.
- [6] A. R. Vargas-Murillo, I. N. M. De La Asuncion Pari-Bedoya, C. A. Delgado-Chávez, E. Menacho Taipei, C. K. Reyes Cuba, and L. C. Polo Chavarri, “The Role of ICT in Collaborative Creation of Public Policies: Crowdsourcing Policymaking,” in *2024 International Conference on Inventive Computation Technologies (ICICT)*, IEEE, Apr. 2024, pp. 1704–1708. doi: 10.1109/ICICT60155.2024.10544427.
- [7] K. M. Rest, “The Public Policymaking Process and the Power of Participation,” in *Climate Change and Public Health*, Oxford University Press New York, 2024, pp. 225–250. doi: 10.1093/oso/9780197683293.003.0011.
- [8] T. D. LaToza, “Crowdsourcing in Software Engineering: Models, Motivations, and Challenges,” in *2019 IEEE/ACM 41st International Conference on Software Engineering: Software Engineering in Practice (ICSE-SEIP)*, IEEE, May 2019, pp. 301–301. doi: 10.1109/ICSE-SEIP.2019.00043.
- [9] Y. Oubaydallah, K. Ibrahim, and Y. Larabi, “Crowdsourcing: Modeling Techniques and Comprehensive Studies,” in *2024 7th International Conference on Advanced Communication Technologies and Networking (CommNet)*, IEEE, Dec. 2024, pp. 1–7. doi: 10.1109/CommNet63022.2024.10793353.
- [10] T. B. Dewantoro, L. Edi Nugroho, and A. E. Permanasari, “Implementing Crowdsourcing in Smart Government: An IT Perspective Review,” in *2024 International Electronics Symposium (IES)*, IEEE, Aug. 2024, pp. 329–334. doi: 10.1109/IES63037.2024.10665848.
- [11] J. Howe, “The rise of crowdsourcing,” *Wired Magazine*, vol. 14, no. 6, pp. 1–4, 2006.
- [12] D. C. Brabham, *Crowdsourcing*. MIT Press, 2013.
- [13] D. C. Brabham, “Crowdsourcing the public participation process for planning projects,” *Planning Theory*, vol. 8, pp. 242–262, 2009.
- [14] K. Pešek, J. Vojtek, and L. Kutěj, “Crowdsourcing as an Element of Strategic-Operational Intelligence. How NATO Used it and Changed the Game,” *Vojenské rozhledy*, vol. 33, no. 1, pp. 84–104, Mar. 2024, doi: 10.3849/2336-2995.33.2024.01.084-104.
- [15] D. Stead, “Conceptualizing the Policy Tools of Spatial Planning,” *J Plan Lit*, vol. 36, no. 3, pp. 297–311, Aug. 2021, doi: 10.1177/0885412221992283.
- [16] A. Mauri, A. Tocchetti, L. Corti, Y. C. Hsu, H. Verma, and M. Brambilla, “COCTEAU: an Empathy-Based Tool for Decision-Making,” in *WWW 2022 - Companion Proceedings of the Web Conference 2022*, Association for Computing Machinery, Inc, Aug. 2022, pp. 219–222. doi:

- 10.1145/3487553.3524233.
- [17] S. P. Osborne, *Public Service Logic*. Routledge, 2020. doi: 10.4324/9781003009153.
- [18] O. V. Shcherbaniuk, “‘Democracy of participation’ of the people in legislative processes: international experience,” *Legal Novels*, no. 20, pp. 172–176, 2023, doi: 10.32782/ln.2023.20.24.
- [19] V. Valtenbergs, “From online participation to policy making: Exploring the success behind Latvian legislative crowdsourcing platform MyVoice,” in *Engaging Citizens in Policy Making*, Edward Elgar Publishing, 2022. doi: 10.4337/9781800374362.00015.
- [20] I. Mergel, “Open innovation in the public sector: drivers and barriers for the adoption of Challenge.gov,” *Public Management Review*, vol. 20, no. 5, pp. 726–745, May 2018, doi: 10.1080/14719037.2017.1320044.
- [21] I. Santé, A. Fernández-Ríos, J. M. Tubío, F. García-Fernández, E. Farkova, and D. Miranda, “The Landscape Inventory of Galicia (NW Spain): GIS-web and public participation for landscape planning,” *Landsc Res*, vol. 44, no. 2, pp. 212–240, Feb. 2019, doi: 10.1080/01426397.2018.1444155.
- [22] T. Yildirim and D. Öztürk, “A Mixed-Method Research on Digital Literacy of Middle School Students,” *International Journal of Education and Literacy Studies*, vol. 11, no. 2, pp. 70–86, Apr. 2023, doi: 10.7575/aiac.ijels.v.11n.2p.70.
- [23] T. A. Malapane and N. K. Ndlovu, “Assessing the Reliability of Likert Scale Statements in an E-Commerce Quantitative Study: A Cronbach Alpha Analysis Using SPSS Statistics,” in *2024 Systems and Information Engineering Design Symposium (SIEDS)*, IEEE, May 2024, pp. 90–95. doi: 10.1109/SIEDS61124.2024.10534753.
- [24] J. W. Creswell and J. D. Creswell, *Research Design : Qualitative, Quantitative and Mix Methods Approaches*, 5th ed. California: Sage Publications, 2018.
- [25] R. Huang, C. Wang, X. Zhang, D. Wu, and Q. Xie, “Design, develop and evaluate an open government data platform: a user-centred approach,” *The Electronic Library*, vol. 37, no. 3, pp. 550–562, Jun. 2019, doi: 10.1108/EL-02-2019-0037.
- [26] A. Barker, “Navigating Life: A Taxonomy of Wayfinding Behaviours,” *Journal of Navigation*, vol. 72, no. 3, pp. 539–554, May 2019, doi: 10.1017/S0373463319000043.
- [27] M. Prensky, “Digital Natives, Digital Immigrants Part 1,” *On the Horizon*, vol. 9, no. 5, pp. 1–6, Sep. 2001, doi: 10.1108/10748120110424816.
- [28] A. Fung, “Varieties of Participation in Complex Governance,” *Public Adm Rev*, vol. 66, no. s1, pp. 66–75, Dec. 2006, doi: 10.1111/j.1540-6210.2006.00667.x.
- [29] S. Chadwick, “From outside lane to inside track: sport management research in the twenty-first century,” *Management Decision*, vol. 47, no. 1, pp. 191–203, Feb. 2009, doi: 10.1108/00251740910929786.