WEB-BASED PLATFORM AS A TECHNOLOGY TO SUPPORT POLITICAL PARTICIPATION

VINI AGUSTIANI HADIAN, KARIM SURYADI*, CECEP DARMAWAN, ENDANG DANIAL, SARAH RAUDLATUL AULIA

> Universitas Pendidikan Indonesia, Bandung, Indonesia Corresponding Author: karimsuryadi@upi.edu

Abstract

This study developed a web-based platform to enhance political participation. We used the Design-Based Research (DBR) method, followed by four stages: analysis, design, development, and evaluation. Through this process, the web was developed to provide accessible political education and facilitate interactive discussions. The findings demonstrated that digital platforms significantly enhance political engagement because they improve access to political information, foster community discussions, and promote civic awareness. This increased participation contributes to the formation of a more informed and active society. The study provides valuable insights into inclusive, technology-driven strategies for fostering political involvement through digital platforms.

Keywords: Civic tech, Digital technology, Political education, Political participation, Web-based platform.

1.Introduction

In the digital era, technology expands access to education [1-6], including political information and fosters public discussions [7-9]. Web-based platforms enhance political education and discourse, offering interactive tools for civic engagement [10, 11]. The web was developed to improve political participation by integrating educational resources with real-time discussions via WhatsApp, creating a more informed and engaged community.

Many reports regarding political information have been well-developed [12-15]. Digital platforms improve political literacy and public involvement [16-19]. Interactive features, such as discussion forums and social media integration, further enhance citizen engagement [20-22]. However, challenges like digital literacy gaps and misinformation remain [23].

This study assessed the web using Design-Based Research (DBR) through four stages: analysis, design, development, and evaluation. The novelties of this research lay in (i) integrating structured political education with real-time discussions, (ii) developing a comprehensive digital participation model, and (iii) strengthening the Civic Tech Model to enhance engagement. Findings contribute to inclusive, technology-driven strategies that support democracy and active civic participation.

2. Literature Review

Figure 1 illustrates the conceptual framework of web, designed to enhance political participation. The platform addresses low political awareness through three key features: Learning Material, which simplifies political concepts, Discussion Groups, fostering idea exchange, and Feedback, enabling user input for platform improvement. Together, these features promote political literacy and active engagement in decision-making. The Web-based platforms enhance political participation by providing accessible information and interactive discussions [24-26]. The Civic Tech Model underscores technology's role in informed discourse [27], yet challenges like misinformation and digital literacy gaps must be addressed [28]. Partisipasi Kita Id integrates learning, discussion, and feedback to strengthen political awareness and civic involvement.

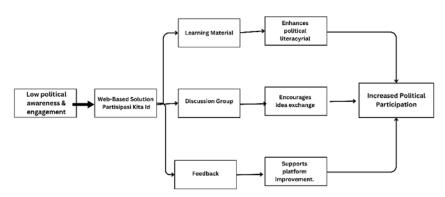


Fig. 1. Workflow of Partisipasi Kita Id platform in enhancing political participation.

3. Method

This study followed the Design-Based Research (DBR) method through analysis, design, development, and evaluation stages. The platform's validity and reliability were tested on 30 participants, while 120 users underwent a normality test for data distribution. Simple linear regression analysis assessed its effectiveness in enhancing political participation.

4. Results and Discussion

Figure 2 illustrates the workflow of web, integrating digital technology with civic engagement under the Civic Tech Model. The platform enhances political participation through three key features: (i) Learning Material – Provides political readings to build foundational knowledge; (ii) Discussion Group – Facilitates interactive discussions and opinion exchanges; and (iii) Evaluation – Allows user feedback for platform improvement.

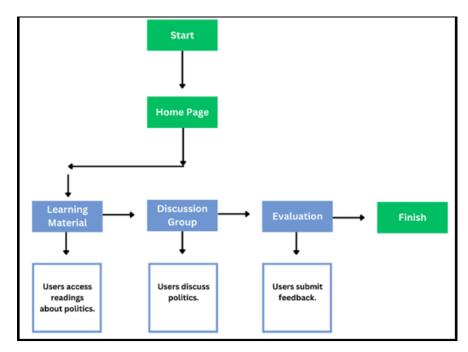


Fig. 2. Flowchart of Partisipasi Kita Id platform.

Digital platforms enhance political discourse and deliberative engagement [29-31]. User participation improves platform quality and sustainability [32-34], fostering political awareness and active civic involvement [35, 36]. Tables 1 and 2 show analysis of the statistical data. Detailed information on how to analyse statistical data is explained elsewhere [37-39].

Table 1 summarizes the platform's features, emphasizing their role in political literacy, community interaction, and feedback-driven improvements. Well-designed platforms bridge the gap between political awareness and civic action [40].

Table 1. Feature of Partisipasi Kita Id.

Partisipasi Kita Id Partispasi Kita Id WhatsApp Group Invite Join Chat Diskusi Partispasi Kita Id Partispasi Kita Id WhatsApp Group Invite Join Chat Diskusi

Function

As the main homepage, it provides quick access to various important information, including a summary of recent activities and navigation of key features.

As a central access point for reading materials to support the user's learning process.

It is an interactive forum that allows users to discuss, share insights, ask questions, and collaborate with the community on specific learning topics.

As an assessment tool used to measure users' understanding through quizzes, tests, or other evaluation tasks, allowing learning progress to be systematically monitored.

Table 2 presents preliminary test results, confirming platform reliability. The validity test (n=30) showed values above 0.361, while composite reliability values (0.933 for X, and 0.843 for Y) exceeded the 0.70 threshold [41, 42]. We also analysed simple regression analysis results: (i) Kolmogorov-Smirnov normality test: 0.200 > 0.05 (data normally distributed) [43], (ii) R-value: 0.791 (strong correlation between variables), (iii) $R^2=0.625$ (62.5% of dependent variable explained by independent variable), (iv) F-

> Pre-Test

 ≥ 0.7

Reliable

test (196.633, p < 0.05) confirms regression model validity, and (v) T - value (14.023 > 1.980) confirms significant influence of independent variable (X) on dependent variable (Y). These results demonstrate that Partisipasi Kita Id effectively enhances political participation through structured education, discussion, and feedback mechanisms.

Test Type Result Threshold Description No. Validity Test Passed (>0.361) Valid 1 ≥ 0.361 **Reliability Test** 2 0.933 ≥ 0.7 Reliable (Variable X) **Reliability Test**

0.843

Table 2. SPSS test results.

5. Conclusion

3

(Variable Y)

This study highlights the effectiveness of Partisipasi Kita Id as a web-based platform for enhancing political participation through structured education, interactive discussions, and real-time feedback. The platform demonstrated high validity and reliability, with statistical analysis confirming a strong correlation between platform use and increased political awareness. By integrating Civic Tech principles, this research contributes to technology-driven political engagement, making political education more accessible, inclusive, and participatory. These findings underscore the platform's potential in bridging digital tools with civic participation, fostering a more informed and active democratic society.

References

- 1. Susilawati, A.; Al-Obaidi, A.S.M.; Abduh, A.; Irwansyah, F.S.; and Nandiyanto, A.B.D. (2025). How to do research methodology: From literature review, bibliometric, step-by-step research stages, to practical examples in science and engineering education. *Indonesian Journal of Science and Technology*, 10(1), 1-40.
- 2. Al Husaeni, D.F.; Al Husaeni, D.N.; Nandiyanto, A.B.D.; Rokhman, M; Chalim, S.; Chano, J.; Al-Obaidi, A.S.M.; and Roestamy, M. (2024). How technology can change educational research? Definition, factors for improving quality of education and computational bibliometric analysis. *ASEAN Journal of Science and Engineering*, 4(2), 127-166.
- 3. Suherman, I. (2023). How to improve student understanding in learning science by regulating strategy in language education? Definition, factors for enhancing students comprehension, and computational bibliometric review analysis. *International Journal of Language Education*, 7(3), 527-562.
- Fauziah, S.P.; Suherman, I.; Sya, M.F.; Roestamy, M.; Abduh, A.; and Nandiyanto, A.B.D. (2021). Strategies in language education to improve science student understanding during practicum in laboratory: Review and computational bibliometric analysis. *International Journal of Language Education*, 5(4), 409-425.
- 5. Al Husaeni, D.F.; Al Husaeni, D.N.; Ragadhita, R.; Bilad, M.R.; Al-Obaidi, A.S.M.; Abduh, A.; and Nandiyanto, A.B.D. (2022). How language and

- technology can improve student learning quality in engineering? Definition, factors for enhancing students comprehension, and computational bibliometric analysis. *International Journal of Language Education*, 6(4), 445-476.
- Anggraeni, L.; Darmawan, C.; Tanshzil, S.W.; and Jubaedah, E. (2021). Promoting Ksatria Bela Negara comic through the Webtoon for the prevention and control Covid-19. *Jurnal Civics: Media Kajian Kewarganegaraan*, 18(1), 138-147.
- 7. Tarsidi, D.Z.; Suryadi, K.; Budimansyah, D.; and Rahmat, R. (2023). Unlocking civic participation: The power of digital literacy for Indonesian digital natives. *European Online Journal of Natural and Social Sciences*, 12(3), 292.
- 8. Asimakopoulos, G.; Antonopoulou, H.; Giotopoulos, K.; and Halkiopoulos, C. (2025). Impact of information and communication technologies on democratic processes and citizen participation. *Societies*, 15(2), 40.
- 9. Sanusi, B.O.; Ifedolapo, A.S.; and Ayinde, L.O. (2025). The role of social media in development communication: Opportunities and challenges. *Lead City International Journal of Library, Information and Communication Sciences*, 2(1), 217-231.
- 10. Pang, H. (2018). Is mobile app a new political discussion platform? An empirical study of the effect of WeChat use on college students' political discussion and political efficacy. *PLoS one*, 13(8), 1-16.
- 11. Schlaufer, C. (2021). Why do nondemocratic regimes promote e-participation? The case of Moscow's active citizen online voting platform. *Governance*, 34(3), 821-836.
- 12. Adeoye, M.A; and Dauda, M.A. (2023). Biblical injunction why Christians need to participate in politics: An exegetical interpretation of Matthew 5:14-16. *ASEAN Journal of Religion, Education, and Society*, 2(1), 19-28.
- 13. Pranathi, O.; and Kamraju, M. (2024). Exploring the influence of gender in political campaigns: A comparative study from community service perspective. *ASEAN Journal of Community Service and Education*, 3(1), 1-10.
- 14. Ali, M.A.; and Kamraju, M. (2024). Money talks, but what about freebies? Understanding the influence of material benefits in politics. *ASEAN Journal of Economic and Economic Education*, 3(2), 117-142.
- 15. Daanoy, L.F.D.; Cruz, E.H.D.D.; Hitalia, P.A.C.; Sumpo, W.J.P.; and Besa, A.S. (2021). Unveiling the formation of political identities of the Filipino youth in Tacurong city, the Philippines. *Indonesian Journal of Teaching in Science*, 1(1), 9-12.
- 16. Ali, S.; Habes, M.; and Qamar, A. (2020). Accessing the political information through new media: A review study. *Journal of Research and Reviews in Social Sciences Pakistan*, 3(2), 894-915.
- 17. Hendrik, A.; and Danial, E. (2021). Strategi pembinaan kader politik melalui literasi politik. *Jurnal Ilmiah Mimbar Demokrasi*, 21(1), 42-47.
- 18. Hermawan, D.; Darmawan, C.; and Bestari, P. (2024). Transforming citizenship education in the digital era: Challenges and opportunities for the Indonesian millennial generation. *Unnes Political Science Journal*, 8(1), 39-43.
- 19. Samosir, F.L.; and Saifudin, W. (2025). The perception of first-time voters towards the "Bijak Memilih" website as a source of information for the 2024

- election. Hulondalo Jurnal Ilmu Pemerintahan dan Ilmu Komunikasi, 4(1), 183-202.
- 20. Stieglitz, S.; and Dang-Xuan, L. (2013). Social media and political communication: A social media analytics framework. *Social Network Analysis and Mining*, 3, 1277-1291.
- 21. Haro-de-Rosario, A.; Sáez-Martín, A.; and del Carmen Caba-Pérez, M. (2018). Using social media to enhance citizen engagement with local government: Twitter or Facebook? *New Media and Society*, 20(1), 29-49.
- 22. Irum, S.; Khan, S.A.; Abbas, S.; Tabasum, T.; and Jabeen, M. (2025). Exploring the relationship between social media usage and civic engagement in the digital era: A mediation moderation analysis. *The Critical Review of Social Sciences Studies*, 3(1), 1272-1286.
- 23. Kozyreva, A.; Lewandowsky, S.; and Hertwig, R. (2020). Citizens versus the internet: Confronting digital challenges with cognitive tools. *Psychological Science in the Public Interest*, 21(3), 103-156.
- 24. Bani-Hani, N.; and Alhathloul, H. (2022). Youth political engagement: Legal barriers and opportunities for participation. *Interdisciplinary Studies in Society*, *Law*, *and Politics*, 1(1), 23-30.
- 25. Sebunya, J.; and Gichuki, A. (2024). Digital tools and platforms for enhancing community participation: A review of global practices. *International Journal of Scholarly Practice*, 4(2), 54-67.
- 26. Narapong, N.; and Kulachai, W. (2024). Unlocking the drivers of political participation: A comprehensive review of influential factors. *Ramkhamhaeng Journal of Public Administration*, 7(3), 59-99.
- 27. Saldivar, J.; Parra, C.; Alcaraz, M.; Arteta, R.; and Cernuzzi, L. (2019). Civic technology for social innovation: A systematic literature review. *Computer Supported Cooperative Work (CSCW)*, 28, 169-207.
- 28. Yu, J.; Bekerian, D.A.; and Osback, C. (2024). Navigating the digital landscape: Challenges and barriers to effective information use on the internet. *Encyclopedia*, 4(4), 1665-1680.
- 29. Kahne, J.; Hodgin, E.; and Eidman-Aadahl, E. (2016). Redesigning civic education for the digital age: Participatory politics and the pursuit of democratic engagement. *Theory and Research in Social Education*, 44(1), 1-35.
- 30. Friess, D.; and Eilders, C. (2015). A systematic review of online deliberation research. *Policy and Internet*, 7(3), 319-339.
- 31. Esau, K.; Friess, D.; and Eilders, C. (2017). Design matters! An empirical analysis of online deliberation on different news platforms. *Policy and Internet*, 9(3), 321-342.
- 32. Krancher, O.; Luther, P.; and Jost, M. (2018). Key affordances of platform-as-a-service: Self-organization and continuous feedback. *Journal of Management Information Systems*, 35(3), 776-812.
- 33. Steur, A.J.; and Seiter, M. (2021). Properties of feedback mechanisms on digital platforms: An exploratory study. *Journal of Business Economics*, 91(4), 479-526.
- 34. Talib, N.R.A.; and Sari, M.N. (2024). Analisis efektivitas penggunaan media sosial dalam peningkatan brand awareness pada UMKM kota Tangerang Selatan di era digital. *Jurnal Ekonomi Akuntansi Manajemen Agribisnis*, 2(2), 87-96.

- 35. Smith, G.; John, P.; and Sturgis, P. (2013). Taking political engagement online: An experimental analysis of asynchronous discussion forums. *Political Studies*, 61(4), 709-730.
- 36. Shugars, S.; and Beauchamp, N. (2019). Why keep arguing? Predicting engagement in political conversations online. *Sage Open*, 9(1), 1-13.
- 37. Fiandini, M.; Nandiyanto, A.B.D.; Al Husaeni, D.F.; Al Husaeni, D.N.; and Mushiban, M. (2024). How to calculate statistics for significant difference test using SPSS: Understanding students comprehension on the concept of steam engines as power plant. *Indonesian Journal of Science and Technology*, 9(1), 45-108.
- 38. Rahayu, N.I.; Muktiarni, M.; and Hidayat, Y. (2024). An application of statistical testing: A guide to basic parametric statistics in educational research using SPSS. *ASEAN Journal of Science and Engineering*, 4(3), 569-582.
- 39. Afifah, S.; Mudzakir, A.; and Nandiyanto, A.B.D. (2022). How to calculate paired sample t-test using SPSS software: From step-by-step processing for users to the practical examples in the analysis of the effect of application antifire bamboo teaching materials on student learning outcomes. *Indonesian Journal of Teaching in Science*, 2(1), 81-92.
- 40. Matlala, L.S. (2024). Improving citizen-based monitoring in South Africa: A social media model. *African Evaluation Journal*, 12(1), 719.
- 41. Scholtes, V.A.; Terwee, C.B.; and Poolman, R.W. (2011). What makes a measurement instrument valid and reliable? *Injury*, 42(3), 236-240.
- 42. Godfrey, J.; Hamman, R.; Lowenstein, S.; Briggs, K.; and Kocher, M. (2007). Reliability, validity, and responsiveness of the simple shoulder test: Psychometric properties by age and injury type. *Journal of Shoulder and Elbow Surgery*, 16(3), 260-267.
- 43. Drezner, Z.; Turel, O.; and Zerom, D. (2010). A modified Kolmogorov-Smirnov test for normality. *Communications in Statistics-Simulation and Computation*, 39(4), 693-704.