



The Asia-Pacific Regional Support
for Elections and Political Transitions
(RESPECT) Program



EXECUTIVE SUMMARY

Enabling Civic Tech Ecosystems and Open Election Data Readiness to Improve the Integrity of Elections in Indonesia

In collaboration with





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Jakarta, August 2021

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This Research is made possible by the support of the American People through the United States Agency for International Development (USAID.) The contents of this research publication are the sole responsibility of Perludem and do not necessarily reflect the views of USAID or the United States Government.

INTRODUCTION

Civic Tech, Open Data, and Public Participation in Democratic Processes

Civic Tech, by definition, is the technology of information and communication that enables greater public participation, engagement in government, or otherwise assists the government in delivering citizen services and strengthening ties with the public. Sometimes, the term is used to explain all technologies related to the public sector and civic life. Civic tech is where the public helps the government do a better job by lending its talents, usually voluntarily (Wood, 2016). Civic tech also provides examples of public participation and good governance. Public activism is facilitated in the policy processes to promote government effectiveness in producing relevant and contextual policies in Indonesia.

Increasing civic tech initiatives are also possible due to the enabling ecosystem, one of which is the open data initiatives that have been increasingly embarked on by organisations and government agencies around the world. Open data initiatives are also crucial to pursue greater transparency and multi-stakeholder collaboration to strengthen democracy. In 2011, government leaders and civil society advocates created a unique partnership to start the Open Government Initiative, including Indonesia and the Philippines as Asia and Pacific representatives.

Data is considered open when it is free to use, reuse, or redistribute. There are two dimensions of data openness: the data must be legally and technically available. They must be placed in the public domain or under liberal terms of use with minimal restrictions. The data must also be published in electronic formats that are machine-readable and non-proprietary so that anyone can access and use the data using standard and freely available software tools without password or firewall restrictions. Open data can be understood as a step toward public data disclosure that maximises information and communication technology. In the digital and internet era, where information is increasingly inclusive, open data offers a more profound openness that emphasises the dissemination of raw information materials (Soegiono, 2017).

Open data itself can be seen as an essential part of strengthening citizens' rights. With open data, it is easier to access the information needed because it is available online and is free. In addition, data collected is often the basis for decision making as well as implementation. By sharing that data, a public institution demonstrates its intent to be transparent about its decision making and implementation processes. Citizens and organisations can also use that data to hold public institutions accountable. There are some positive sides when election data is "opened up", such as increasing transparency of individual election process; improving the effectiveness of an Election Management Body; increasing voter participation and engagement with the results; improving the inclusiveness of traditionally marginalised groups; reducing tensions of elections, and generating new insights when citizen organisations combine results data with information on the location or political violence (NDI-OEDI, 2015).

Open data improves transparency by providing all citizens unrestricted access to electoral data, allowing for timely and detailed analyses, and by not discriminating against any individuals or groups. Open data can contribute to enabling greater transparency and

by helping build data infrastructure that enables the multiple actors involved in elections to carry out their work. The ultimate goal of open data in elections is to increase electoral integrity and accountability through more transparent elections.

Research Objectives

This research aims to assess and assist in planning what actions should be considered to promote viable election civic tech programs that will include functionality to enable open data using specific mechanisms, such as APIs or exported files.

The research involved a rapid diagnostic of dimensions considered essential for the success of program development. From the analysis of those dimensions, the study provides recommendations on how best to support sustainable strategies, with which partners, using what appropriate and viable technology and making the best use of what data, to enable which priority election services and most important of all empower citizens through this process.

This research also provides a holistic assessment of the availability of key datasets. The assessment considers whether and which key datasets are available, what would need to be done to make critical public data that are not yet available, and how best to leverage those data sets already made public.

Research Methodology

Systems thinking, or a systems approach, is particularly relevant in designing sustainable development strategies and has therefore been chosen as a core approach underlying this proposed research on civic tech for elections.

Systems thinking is based on the premise that: “achieving and sustaining any development outcome depends on the contributions of multiple and interconnected actors. Building the capacity of a single actor or strengthening a single relationship is insufficient. Rather, the focus must be on the system as a whole: the actors, their interrelationships and the incentives that guide them” (Shah, 2018).

Under this approach, external support is considered more likely to contribute to sustainable processes when it supports local ownership—including the local definition of priorities—as well as sustainable local systems, including civic tech ecosystems.

Inclusive systems recognise the value of a range of actors, from the government to the private sector, social enterprises, civil society, universities and individuals. Each of these is recognised to have valuable resources (human and financial). Innovation ecosystems are companies, people and relationships and not organisations or investments. They work to the extent that their individual components productively interact (Thomas, 2018).

The use of an ecosystem approach will promote more sustainable and high impact open data as well as civic tech programs. The ecosystem approach in this context means that open data programs are not simply about the supply of data and launch of open data via online portals or other means, but also about addressing the policy/legal framework, institutional readiness, capacity building (for government and intermediaries), citizen engagement, innovation financing, and technology infrastructure.

Furthermore, there are eight critical elements in mapping and developing a successful

election civic tech program. Those eight key elements are leadership and political commitment; policy and legal framework; institutional structures, responsibilities, and capabilities; data availability, management policies and procedures; demand; civic engagement and capabilities; funding; and national technology and skills infrastructure (World Bank, 2015).

To assess data availability and openness, this research defines critical election data and assesses whether Indonesia complies with open data standards concerning these essential election data. A comprehensive definition of data sets that can be considered for publication as open election data has been established by the Open Election Data Initiative. The Open Election Data Initiative’s definition includes tabular and spatial data, as well as textual data. With this definition, open-data principles can be applied in all phases of the electoral cycle.

GENERAL FINDINGS

Indonesia’s Civic Tech Ecosystem is Flourishing

Based on the findings of this research, it can be concluded that the civic tech ecosystem and open election data in Indonesia are moderately good with existing vibrant civil society and civic election tech and the commitment of the EMBs to provide open election data. We highlight our analysis of the findings and ratings in general regarding the civic tech ecosystem in Indonesia in the table below.

Table 1 General Findings, Analysis, and Ratings on Civic Tech Ecosystem in Indonesia

ELEMENTS OF SUCCESSFUL CIVIC TECH ECOSYSTEM	ANALYSIS	RATINGS
Leadership and Political Commitment	There is an official political commitment from the EMB and policymakers on using technology in elections, the openness of election data, and access to information. There is an open election data commitment in the 2018-2020 and the 2020-2022 Indonesia OGP Action Plan. However, in practice, not all parties follow the procedures and principles in providing open election data.	Green
Policy and Legal Framework	Election data disclosure regulations so far have been based on the regulation of Public Information Disclosure (UU KIP) and the election law. Meanwhile, the one data rule has just been adopted at the KPU. On KIP Law, there are provisions on the classification of public information, one of which is exempt/excluded information that can not be disclosed to the public. The implementation of banning information sometimes hinders information disclosure. Nevertheless, more detailed and more technical provision mentioning the principle of open election data is needed. Another related regulation is also required to ensure privacy and data protection and protect voters from the risks of digital political campaigning.	Yellow
Institutional Structures, Responsibilities, and Capabilities within Government	KPU, as a leading stakeholder, already has a particular unit regarding data and information named Pusdatin (Data and Information Center). Pusdatin is a unit that manages data and information related to the implementation of the general election. In terms of human resources, the KPU conducted frequent training to improve its human resources. However, the EMB should keep up with the times and learn from other countries about innovations on problem-solving in the use of technology, for example, in management--which still seems inadequate at the KPU.	Yellow
Data Availability, Management Policies, and Procedures	The EMB has a fair understanding of its data assets, data management, and data release in response to requests under the KIP Law. Election data, such as candidates’ profiles, election results, and electoral boundaries, is published online. However, those election data do not yet fully comply with open data principles.	Yellow

ELEMENTS OF SUCCESSFUL CIVIC TECH ECOSYSTEM	ANALYSIS	RATINGS
Civic Engagement and Capabilities	A few years ago, the issue of open election data began to be discussed among civil society groups. There are civic tech initiatives to help translate open data into meaningful election information for the public. The KPU cooperates with related parties in encouraging civic tech using open election data. However, some of these initiatives face challenges in terms of sustainability. There should be multi-actor actions, including from the private sector, to solve this problem so that emerging initiatives can provide continuous benefits for Indonesian voters to promote the integrity of elections.	Green
Budget Support	In terms of budget, resources are already identified by the KPU. But the question is whether the budget allocation for the development of civic tech (ICT infrastructure, technical training for staff, etc.) is effective or not. The problem of budget shortages is not an excuse for not implementing open election data. The budget promotes open election data, and civic tech is also scattered and provided by various donor agencies and non-profit institutions that have full attention to the transparency of elections and electoral data in general. Ideally, participatory budgeting is needed to mobilise multiple stakeholders in developing technology for election data.	Green
Demand for Open Data	There is data demand by civil society, the private sector, researchers, and media who are interested in and can analyse this data. On average, these groups have the relevant infrastructure and have sufficient knowledge and expertise. However, the EMB does not consider the demand for data in planning their collection, maintenance, and publications.	Yellow
National Technology and Skills Infrastructure	There are two aspects of technology infrastructure, namely internal and external. For internal to the KPU, this relates to the readiness of existing infrastructure in the data centre, such as the availability of servers, routers, and so forth. Currently, existing infrastructure conditions in the KPU are sufficient. However, the 2024 Pileg, Pilpres, and Pilkada elections will be carried out simultaneously. This will require significant infrastructure. Furthermore, the external infrastructure problem is the network problem. The national internet network does not provide 100 percent coverage. The Ministry of Communication and Information Technology targets that by 2023 all areas of the Republic of Indonesia will be covered by the internet network.	Red

Indonesia Election Data is Partially Open

EMBs release election data in various categories and that are available for free on the internet, even though not easy to locate. This study looks at data availability using 15 datasets from 16 possible datasets and is associated with nine open data principles from OEDI - NDI mentioned previously. The one dataset we did not observe was e-voting, because Indonesia has not used e-voting in its elections. In general, the majority of election data are open in Indonesia, as observed through the KPU website. There are seven types of data that are considered open. In addition, there are six types of data that are considered partially open.

Table 2 General Findings on Open Election Data in Indonesia

NO.	KEY ELECTION DATASET	RATING
1.	Legal Frameworks	Mostly Open
2.	Election Management Body and Administration	Mostly Open
3.	Election Management Body Processes	Mostly Open
4.	Electoral Boundaries	Mostly Open
5.	Election Security	Not Open
6.	Political Party Registration	Partially Open
7.	Ballot Qualification	Mostly Open
8.	Election Campaign	Mostly Open

NO.	KEY ELECTION DATASET	RATING
9.	Campaign Finance	Partially Open
10.	Voter Registration	Partially Open
11.	Voter Lists	Partially Open
12.	Voter Education	Mostly Open
13.	Polling Stations	Partially Open
14.	Election Results	Not Open
15.	Electoral Complaints and Disputes	Partially Open
16.	E-voting and Counting	Not Available

An important concern in this study is the two data types that are rated “red” or “not open.” These two data are not because the data does not exist. Rather, they are not displayed and do not meet the principles of open data. The first is election security. In this data, there is no data related to personnel present at polling stations on election day. In addition, data related to Information on incidents of electoral violence was not disclosed. In fact, in the 2019 general election in Indonesia, many KPU officers died during the counting process. The non-disclosure of the data makes the KPU run the risk of being accused of trying (purposefully) with hiding information that was not included. The election result is the second type of data that is judged to be “red” or not disclosed. The election result data is the most critical data that the KPU should reveal. The data relating to voters that participated, spoiled ballots, invalid votes, and blank votes cast make judgments related to the election result becoming “red”.

Although open election data is considered “red”, the KPU has always been on time in calculating election results and according to the stages of the election, which means that it has fulfilled the timely principle. Two principles have not been fulfilled from the whole data; the first is the principle of completeness in one bulk. That complete in one bulk means data that can be accessed or downloaded in its entirety. For example, although data users only need 1999 election data, when accessed or downloaded, the user will get the general election data and not just the 1999 election. The goal is for data users to get complete data and enrich the data obtained. In addition, if the EMB does not display complete data, it runs the risk of being accused of trying (purposefully) with hiding information that was not included. The data currently available at the KPU is not under the complete in one bulk principle. The second principle is analysable. This principle states that data should be readable by machines, not humans. KPU data is still in PDF or Excel format, not yet following the analysable principle, namely CSV, JSON and XML.

RECOMMENDATIONS

Enabling Civic Tech Ecosystem

1. Leadership and Political Commitment

Political leadership and commitment are the main pillars in successfully implementing open data and enabling the election civic tech ecosystem. Indonesia has joined the Open Government Partnership (OGP) and continued with Open Government Indonesia (OGI) with an action plan. The KPU has also created several information system services that represent each stage, such as the Voter Registration Information System (SIDALIH); Political Party Registration Information System (SIPOL); Nomination Information System (SILON); Logistics Information System (SILOG); Electoral District Information System (SIDAPIL); Information System of Voting Results (SITUNG); Information System of Results Recapitulation (SIREKAP).

As a follow-up to the political commitment in providing open data, the KPU needs to cooperate with various parties, including civil society organisations and the private sector. This collaboration can be based on written regulations made by the government. The goal is to create a civic technology ecosystem and improve the quality of open election data in various fields. For example, regarding providing data for persons with disabilities, the KPU should establish partnerships with civil society organisations that focus on persons with disabilities, such as Mata Netra, Ragam Institute, PPUA Disabilitas. This can be done by mapping each organisation at both the local and national levels. Currently, several organisations at the local level also have the potential to become partners so that the KPU does not only work with organisations at the national level.

Leadership and political commitment should also be reflected by EMBs, whether within the KPU or in KPU relations (through synergy, coordination, and collaboration) with other related institutions, including Bawaslu. The EMBs need to have a similar understanding of the importance of open election data, including providing public information about the candidates' track records, which is valuable and crucial for voter education. Furthermore, the EMBs should also show their commitment to open election data and encourage public participation by collaborating with related stakeholders.

2. Policy and Legal Framework

The EMBs should refer to related policies on open data to improve their performance in providing open data and facilitating the civic tech community to promote the integrity of elections. In this case, the KPU needs to have and implement a Decree on One Data. KPU policies related to open election data should also have clearly stated open data terms to ensure consistent implementation. The KPU should disseminate programs to introduce and institutionalise KPU policies related to open election data within its institution and personnel at all levels.

The KPU needs to improve its performance in acting as a one-stop centre of information, legitimated by a set of regulations regarding the urgency to disseminate

voters-oriented information. Dissemination can be done through a specific portal or official website. The information included in the portal will range from the track record of candidates who run in the election to the in-between data that record elected candidates' work during their tenure. This effort is vital to improve the quality of the elections. For that, the KPU needs to have relevant regulations related to creating a one-stop voters' information centre.

3. Institutional Structures, Responsibilities, and Capabilities within Government

One big challenge for this element is that the operationalisation of Pusdatin within the KPU is still lacking a focal point in arranging activities related to election data. Another finding is that the KPU is still using third parties to execute its data processing and management. Those challenges must be addressed. The KPU can overcome this issue by enhancing its human resources who have an IT background. In this case, capacity building programs for KPU personnel, such as on open election data and related technical expertise are needed, including training on public data demand and management. Training should also involve KPU Commissioners and other personnel to understand the importance of open election data and the civic tech ecosystem in promoting accountable EMBs and the integrity of elections.

Ego-sectoral or silo mentality issues should be addressed accordingly to improve EMB performance in providing open election data. The KPU leadership should enforce synergy and better coordination within its institutions through related PKPUs. For example, Pusdatin can also perform optimally in acting as a data provider of the KPU.

4. Data Availability, Management Policies, and Procedures

The KPU can collaborate with the IT community so that the availability of current election data upholds the principles of open data. Managing the data, routine maintenance, and data back-up is urgently required. Data maintenance efforts are significant in protecting various existing data. In short, improving data management by improving the quality of data management human resources is necessary. Furthermore, the KPU needs more infrastructure related to data storage, especially for the 2024 Elections, with the legislative elections, presidential elections, and regional head elections to be held simultaneously.

Furthermore, it is essential to prioritise these key categories of election data:

1. Voter education data consists of all pertinent information about the electoral contests, the candidates and parties running, and any ballot initiatives up for a vote;
2. Campaign finance data consist of all funds raised and spent in order to promote candidates, political parties, or policies in elections;
3. Election results data consist of voter turnout, voting-age population turnout, invalid vote, and tabulation for each contestant;
4. Electoral boundaries data;
5. Electoral complaints, disputes, and resolutions data.

The data will be helpful for the development of programs related to election issues, such as political party finance research, development of monitoring tools, development of a portal for election violations, and voter education and boundary delimitation tool.

5. Civic Engagement and Capabilities

Community involvement in strengthening the civil technology ecosystem has helped to translate election data to the public. However, a significant challenge that needs to be considered is how to optimise the principles of inclusiveness in the process, both in the technology used and the human resources involved. In addition, another challenge is the sustainability of these community involvement activities in communicating election data so that they not only focus on certain political momentum but also continuous improvement. This requires efforts to map community initiatives, strengthen capacity, and encourage innovation that considers open data and inclusion principles for persons with disabilities. Potential programs to undertake are CSOs and EMBs forums, including with the civic tech community; capacity building or other related programs on open election data and civic tech as well as digital literacy; and joint programming.

Concerning the open election data forum, such a “data and information forum” could also be considered a strategy in increasing the quantity and quality of KPU data. This could be a forum for disseminating the importance of the government’s role in collecting and managing data. The government can also obtain information about the data and report of elections that the public need. Furthermore, it can become a forum for coordination and collaboration in data collection and improving the quality of data management, human resources and elections monitoring and evaluation to promote the integrity of elections and accountability of EMBs.

This study recommends programs or projects related to elections and open election data to collaborate with tech communities at national and local levels (Google Developer Group, Open Data Lab, Data Science Indonesia). Furthermore, this study also suggests those programs or projects engage with democracy CSOs focusing on electoral issues (Perludem, Netgrit, Cakra Wikara, Sindikasi Pemilu Demokrasi, PPUA Disabilitas).

As elaborated previously, tech communities can provide user-friendly election data (data visualisation and mapping). They can also share their knowledge and expertise on IT matters and open data. Whereas democracy CSOs can use the data to expand their public outreach and support their work, including on open election data and civic tech issues in Indonesia. Therefore, the involvement of tech communities and democracy CSOs in electoral-related projects or programs will be helpful and strategic in promoting open election data and the integrity of the election in Indonesia.

6. Budget Support

The main challenge in funding for civic tech and open election data in Indonesia is strengthening multi-stakeholder roles to encourage active civil technology

community involvement. This role is needed to support the efforts that have been made by the government and reduce the gaps that occur, such as providing relevant technology infrastructure for the community and strengthening the capacity of technological resources by sustainable budget support. In addition to the government, many parties can support this issue, such as donor agencies, the private sector and the wider community.

Regarding collaboration with donor agencies and the private sector, there should be clear and transparent MoUs, covering issues such as scope, types of support, and legal enforcement. Moreover, the private sector can also encourage civic tech initiatives through incubation and acceleration programs by taking into account good business models in their initiatives. The wider community can contribute funding through crowdfunding supported by, for example, social agents and influencers, to promote awareness of open election data on social media.

The challenge going forward is that there needs to be a mapping of relevant stakeholders to build a sustainable funding ecosystem for civic tech and open election data. The stakeholder mapping is expected to describe the type of funding provided, funding flows, and possible collaboration schemes. These stakeholders include the government, civic technology community, donors, universities/research institutes, CSOs, and the private sector actors who are interested in the above issues and strengthening the civic tech ecosystem in Indonesia.

7. Demand for Open Data

Currently, open data is demanded mainly by CSOs dealing specifically with elections, democracy, and transparency issues, as well as the media and political parties. To encourage people to request open data, three strategies need to be considered by the EMBs. First, the presentation of data can be accessed by ensuring that information can be found easily. Second, the presentation of data is easy to understand through a user-friendly interface and easy-to-understand language. Lastly, to make sure those open data can be reprocessed through machine-readable formats.

Ease of accessing data can be done by providing integrated data so that users do not have to visit several different information sources to fulfil their information search needs. Meanwhile, data that is easy to find will be better if presented in a form that is not confusing. For instance, when voters are trying to find track records of legislative candidates, the information found from data sources must be displayed as simple as possible besides being easy to find. What is no less important is how the available data is reusable, meaning that it can be directly used for other processing purposes. A practical example is to replace the data in PDF format with excel or CSV format.

8. National Technology and Skills Infrastructure

The utilisation of technology as a medium to disseminate information is facing the ultimate challenge of inequality of IT infrastructure and capacities. What can be

done is to ensure that the election technology infrastructure is easily accessible by the public, such as via user-friendly websites and applications, involving storytelling agents or influencers and creating content on social media, and using manual methods suitable to the geographical context. For websites and applications, these must be accessible and readable by considering inclusion for persons with disabilities. This effort can also be encouraged by collaborating with potential partners, both CSOs and software developers. For areas that have limited access to infrastructure, manual methods can be used, such as dissemination via SMS and brochures/leaflets.

In response to the lack of IT capacities, strategies include building IT capacity for election administrators by collaborating with NGOs and civic tech communities and building sustainable networks with the private sector in the IT industry to share good practices, expertise and standards for managing open election data. The first can be done by collaborating with training institutions and study centres in the form of capacity building programs. For instance, the Digital Talent Program by the Ministry of Information and Communication has built partnerships with training providers.

The research suggests maintaining internet-based technology for civic tech regarding the election. With the trend of internet users in Indonesia increasing year by year, the use of internet-based technology for elections civic tech is still relevant. However, persistent challenges in unequal access and digital literacy must be addressed simultaneously. This study underlines civic tech communities' importance in bridging the gap of unequal access and digital literacy by providing digital and non-digital support related to election data. Furthermore, this effort should also be supported by the government's development of related IT infrastructure, particularly on internet access in all areas in Indonesia.

Enabling Open Election Data

With regards to open election data, this research has highlighted several key issues, as elaborated below.

Based on our observation and analysis of the open election data in Indonesia, we suggest several recommendations. First, the preparation of a system for implementing open election data in the 2024 Election. For example, by making the 2024 Election roadmap and undertaking early preparation. One example is the use of QR codes as an instrument to identify voters.

Second, improving the quality of the KPU's IT human resources and awareness of inclusiveness. In this case, the KPU must start mainstreaming inclusion in each of its policies, including enabling the civic tech ecosystem and providing open election data accordingly, including data that marginalised groups, including people with disabilities, can access and use. Enforcing and mainstreaming gender and inclusivity are crucial to assist the KPU to be inclusive and responsive to the public demand for data.

Third, building an open election data culture within the EMBs. This can be done by internalising the principles of open election data within the election management apparatus. As a result, EMBs and their personnel should have a comprehensive

understanding and better commitment, not only on the technical terms but also on important aspects of open election data, public participation, the civic tech ecosystem, accountable EMBs and integrity of elections, and synergy within EMBs and amongst related election stakeholders.

Fourth, providing ICT infrastructure that can reach all levels of society, including people with disabilities. ICT infrastructure includes complex factors, for example, connectivity, data management, skills, and so forth. This can be started by strengthening the institutional capacity of the KPU, accompanied by supporting the role of the IT community. Efforts to encourage innovation incentives that pay attention to the principle of inclusivity and mapping of innovation clusters for broader synergies also need to be carried out. This can be done through programs such as hackathons, which involve civic tech communities, the KPU, CSOs, donors, and the private sector. Programs or projects related to elections should involve CSOs concerned with public participation and inclusion and marginalised groups to engage with EMBs and share their ideas to make EMBs, including the KPU, more inclusive.

Fifth, apart from encouraging open election data, several categories of data need to be disclosed other than those described in Table 6. For example, KPU needs to disclose data on ballot initiatives up for the vote in the voter education section. In the campaign finance section, KPU should open data on all funds raised and spent to promote candidates, political parties, or policies in the election. The KPU needs to open the voting age population turnout, invalid vote, and tabulation for each contestant data in the election result section. In addition, it is necessary to display data on electoral complaints, disputes, and resolutions. If opened and displayed, these data will be helpful for the EMBs, the public, and other related stakeholders to promote the integrity of the election in Indonesia.

In this case, the five crucial and prioritised categories of election data mentioned previously in data availability, management policies, and procedures' element of successful civic tech above can be utilised for voter education programs in the pre-electoral period until the voting day and election monitoring program in electoral boundary draw stage, election campaign stage, result tabulation stage, and electoral dispute stage.

In conclusion, civic engagement, and therefore civic election tech as part of civic engagement, is needed to create public confidence in the electoral process and promote the integrity of elections. Particularly on the need to enable the electorate to make informed decisions, it is crucial to ensure the readiness of open election data, which adheres to the principles of open data. The preparedness of open election data is expected to support civic engagement, particularly via civic tech, to participate in the electoral process, including promoting election integrity. Civic technology can improve the relationship between the public and the government with software for communication, decision making, service delivery, and through more transparent and participatory political processes.