

Diffusion of Innovation on Electronic Voting Technology Used for Village Head Election in Sambu, Sambu Sub District, Boyolali Regency, Central Java, Indonesia

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Abstract: The village head election in Sambu done with electronic voting has become an interesting topic for various local and national media. Nineteen days after the election, there was a lawsuit in Boyolali District Court and Semarang Administrative Court. This qualitative research considered as case study aims to find out the diffusion of innovation on electronic voting technology process used for village head election in Sambu. The data were validated by triangulation, the use of different sources of data. Data analysis technique used was interactive analysis method by integrating the written data, interview, and documentation from agents of change, community leader, and citizens who involved in the election process. The obtained data then were analyzed by using Rogers' diffusion of innovation theory. The results of the research showed that the diffusion of innovation on electronic voting technology process used for village head election in Sambu was originated from Boyolali government that handles village government division, the election committees, and community leader that have a role as agents of change who initiate innovation such as e-voting technology for Sambu social system. E-voting acceptance was decided by regent of Boyolali, village head, and village consultative board. The citizens in Sambu, however, were not all of the citizens open to innovation. They only knew e-voting as a voting method. Because of dirty voter e-card and dirty screen used in the voting process, the citizens assumed that the election result was manipulated, so that there were ten citizens and one village head candidate sued in the court.

1 INTRODUCTION

Regulation of The Government on Lieu Law of the Republic of Indonesia Number 1 Year 2014 About Election of the Governor, Regent, And Mayor Section 85 Local Leader Election System has governed that the Local Leader in Indonesia is elected directly by people and can use vote, tick, or e-voting system (Peraturan Pemerintah Pengganti Undang-Undang Republik Indonesia Nomor 1, 2014). In addition, based on the Constitution Court's Verdict No. 147/PUU-VII/2009 dated March 30, 2010 vote or tick can be defined as using e-voting with cumulative requirement of not breaking the direct, public, free, secret, honest and just principles the local areas applying e-voting method have been ready viewed from technology, financing, human resource and software, society aspects, and other requirements necessary (Amar Putusan Mahkamah Konstitusi Republik Indonesia, 2009). It is confirmed with

Article 5 of the Republic of Indonesia's Law Number 11 of 2008 about Electronic Information and Transaction stating that "Electronic information and/or electronic document and/or its printed result are legitimate legal evidence" (Undang-Undang Republik Indonesia Nomor 11, 2008).

This policy is applied because the organization of General Election using manual system often results in problems, ranging from electorate data validity, ballot printing, ballot distribution, number of illegitimate ballots because the electorates put sign on the ballot, to vote calculating process, the problems in vote calculating process, the process of time taken in the calculation process gradually, and size of budget to be spent for general election cost (Bakhri, 2012). Thus, e-voting use should be considered as the solution to the problem.

Before Indonesia applies e-voting, this system has been applied in Estonia, Venezuela, Bahrain, Brazil, Netherlands, Philippine, Ireland, India, United State of America, Germany, and United Kingdom, but

some of them are successful and some others face some problems, with Brazil being the country to apply e-voting most successfully (International IDEA, 2011). The problems arising are society's low confidence in the result of election or suspicion on the manipulation of result, the partiality of election organizer, danger to ballot secrecy, government's inadequate skill as the general election organizer dependent on vendor, unconstitutional, and not improving electorate participation (International IDEA, 2011; Zucco and Nicolau, 2016).

Diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread. Rogers (1983) argues that diffusion is the process by which an innovation is communicated over time among the participants in a social system. *E-voting* in Indonesia is developed by Technology Researching and Application Board (BPPT). BPPT becomes an agent of disseminating e-voting innovation to the wide society. BPPT often conducts socialization, simulation, and try-out of this system application in some occasions. One of which is in national dialogue about Electronic General Election (E-Voting) in 2012 attended by the Indonesian local leaders.

This innovation distribution is responded to positively by Boyolali regency government that in cooperation with BPPT of Boyolali Government agrees to organize Village Head Election using e-voting. The release of Boyolali Regent's Regulation Number 55 of 2012 about "Procedure of Village Head Nomination, Election, Inauguration, and Termination" becomes an early step of disseminating this innovation to Boyolali community (Peraturan Bupati Boyolali Nomor 55, 2012). The Regent Regulation states that Village Head Election in Boyolali Regency may use e-voting and the utilization of information technology as the attempt of improving public participation, improving effectiveness and efficiency of Village Head election organization.

Therefore, since 2013, some Village Head Election in Boyolali have been conducted using e-voting method. Overall, the implementation of Village Head Election in Boyolali in 2013 has run well. It is very interesting because of the characteristics of villagers who rarely interact with technology, largely have elementary school education, and have been old. Villagers are willing to adopt and can implement Village Head Election using e-voting system. Central Statistic Bureau's data shows that majority or 258,202 (32%) Boyolali people have elementary school education and 75,302

(7.9%) people have been 65 years old or more (Badan Pusat Statistik Boyolali, 2008).

This case is also proportional inversely to the social system of village people that is traditional and not innovative in general. Traditional social system, according to Rogers and Schoemaker (1981), can be characterized with less change-oriented; less advance in technology or still simple; having relatively low literacy, education and understanding on scientific method; interpersonal is still very effective, thereby facilitating the society's restraint to keep maintaining status quo in social system. Very limited communication is conducted by social system members with outsiders so that they can position and see themselves inadequately into others' role, particularly outsiders'.

In addition, Heterophily level or different education level, social status, habit (elders rarely use technology) will result in ineffectiveness communication interaction occurring between the agent of change and society, and innovation adoption will occur difficultly. However, it does not occur in e-voting innovation in Boyolali. Even the participation of 8 villages becoming the locus of Pilot Project in the implementation of e-voting Village Head Election in Boyolali is higher than 70% (Darmawan, 2014).

However, behind the successful implementation of e-voting in Boyolali, there are still some constraints and problems: unfamiliar e-voting Village Head Election system, the executor's low knowledge on technology e-voting, some people suspicious of manipulated data, and lawsuit to State Administrative Court related to vote calculation result filed by one nominee of Sambu Village Head requiring the result of print out to be calculated like manual election. This research studies the process of e-voting innovation diffusion in Village Head Election Sambu in 2013.

2 METHODS

This research was taken place in Sambu Village of Sambu Sub District of Boyolali Regency of Central Java Province from July 2016 – to January 2017. Data and information used in this qualitative research with case study is a meaningful subjective experience from the agent of change, related stakeholders, society leader, and villagers following the entire process of Village Head Election Sambu using electronic voting method in 2013. Data collection was conducted through in-depth interview and documentation, while data validation was conducted using data source triangulation. Technique of analyzing data used was

case study analysis method by integrating written data, interview result and documentation of agent of reform, related stakeholders, society leader, and villagers following the entire process of Village Head Election Sambu and then analyzing them using Rogers Diffusion of innovation. Case study Analysis started with following the theoretical proposition and using pattern matching logic. Theoretical proposition was made to help focusing the author's attention on the data corresponding to theoretical proposition and ignoring others, helping organize entire case study, and determining the alternative explanation to be tested. Meanwhile, the use of matching logic pattern is used to compare the empirical-based pattern (description of case existing in the field) and the one predicted by author or some alternative predictions (Yin, 2013).

3 RESULTS AND DISCUSSION

Village Head Election Sambu in 2013 was followed by two nominees of Village Head: Hasto Purnomo in the first order and Waluyo in the second. From the result of voting, it could be found that Hasto Purnomo obtained 1,299 votes, Waluyo 1,380 votes and 13 abstain. The total electorate number was 2,692 and 623 citizens absent.

The structure of Village Head Election organizer using e-voting method in Sambu Village consists of seven Committee Structures: firstly, Village Head Election Committee; secondly, observing team; thirdly, controlling team; fourthly, technical team; fifthly, verifying team; sixthly, monitoring team; and seventhly, facilitator team.

The process of electronic voting technology innovation diffusion in Sambu Village passed through four stages just like Rogers' innovation diffusion theory: innovation source, message, communication, and innovation receiver (Rogers, 1983). The source of e-voting innovation existing in Sambu village comes from the agent of change including Village Government Division of Boyolali's Local Secretariat, Technical Team, Village Head Election Committee and Sambu Community Leader (neighborhood association) Chief/opinion leader. The message emphasized on in the socialization and diffusion of e-voting innovation in Sambu village aims to make the Village Head Election run efficiently and effectively and to deal with the problems occurring in manual Village Head Election and to implement the more democratic Village Head Election.

Communication channel used in diffusing e-voting innovation includes: firstly, through formal

social structure: e-voting Socialization and Simulation conducted by village government, Village Head Election Committee, and neighborhood association monthly meeting. Secondly, non-formal social structure: family and neighbor, and thirdly, through announcement media in strategic places (village office, intersection and village security post). Innovation recipient includes Sambu Village people. The process of diffusing Village Head Election using e-voting method is done largely through social contact and communication between citizen, between one individual and another (fellow friends, neighbors, and families). In addition to socialization and simulation conducted by Village Head Election committee and Boyolali Government.

Boyolali Government recognized Village Head Election using e-voting during work visit to Bali Government. In the work visit, one theme discussed was Village Head Election Jembrana Bali has applied e-voting method. As the follow-up of information in the work visit, Boyolali Regent wanted the application of e-voting in Village Head Election. Thus, Boyolali Government in cooperation with Technology Studying and Application Board held Village Head Election using e-voting method in Village Head Election Boyolali.

Boyolali Government in cooperation with Technology Studying and Application Board (BPPT) introduced electronic voting system since October 2012, aiming to improve community participation, effectiveness and efficiency of Village Head Election in Boyolali. So, the source of e-voting technology innovation in Village Head Election Sambu come from the socialization conducted by Boyolali Regency to village in 2013 that will conduct Village Head election, one of which is Sambu Village. The knowledge on e-voting in Sambu Village is distributed by Village Government Division of Boyolali Government, e-voting technical Team of Boyolali, Pilkades Committee, and neighborhood association Chief.

The process of diffusing e-voting system innovation in Boyolali started with the release of Boyolali Regent's Regulation Number 55 of 2012 about "Procedure of Village Head Nomination, Election, Inauguration, and Termination" (Peraturan Bupati Boyolali Nomor 55, 2012). The message the Boyolali Government wants to deliver to society is that the use of e-voting method is expected to improve the participation in Village Head election; the voting will run more efficiently and effectively so that its result can be seen in few minutes or even seconds; the vote calculation is more accurate than the manual calculation; no ballot is damaged, so that the

competition is more fair; it gives political education to the society through utilizing information technology use.

To provide knowledge comprehensively about e-voting, Boyolali Government Conducts Workshop at regency level, socialization, and simulation in the villages selected to be Village Head election e-voting model village, one of which is Sambu Village. Socialization is also given to Controlling Team at Regency Level, Observing Team at Sub District Level, and Village Head Election Organizing Committee. In addition, for the Village Head election using e-voting not to break the direct, public, free, secret, honest, and just principles, Boyolali Regency Conducts Training of Trainers for e-voting Technical and Verification Teams established by the Regent as the facilitator of Village Head Election Organizing Committee.

Sambu Village is the one where the election was conducted most lately in the pilot project of e-voting technology use in Village Head election in Boyolali. Socialization and Simulation in Sambu Village was also conducted in two stages. In the first stage, socialization and simulation were held on October 22, 2013 by inviting all neighborhood association chiefs and representatives of 10 members of each RT to come to Village Office. In the second stage, socialization and simulation were held on November 11, 2013 by inviting the representatives of 10 citizens different from those present in the first stage to come to Village Office.

A harmonious social relation between citizens of Sambu Village highly determines the successful diffusion process of e-voting technology. Religion and social status difference does not limit the relationship between its members. The process of diffusing Village Head election employing e-voting is done largely through social contact and communication between its citizens, between one individual and another (fellow friends, neighbors, and families). In addition to socialization and simulation conducted by Village Head election committee and Boyolali Government.

Through a positive social relation, the society acquire knowledge and technology diffusion quickly thereby Sambu community members think advance; the common activity such as neighborhood association is held monthly to strengthen the friendship between citizens, and to encourage the good democratic process because the people's aspiration can be accommodated well.

The process of adopting electronic-voting technology innovation passed through four stages just like Rogers' innovation diffusion theory (1983)

including: Introduction, Persuasion, Decision, and Confirmation. The citizens find out the innovation and acquire some understanding about how innovation functions through socialization, friend, and neighbor. Some citizens treat it simply (accept it the way it is), and some other accept it reluctantly (questioning the positive and negative effect of it on e-voting).

The decision of adopting e-voting technology innovation in Sambu Village is the one made by the authority of Regency Government and designates Sambu Village as the model village in Sambu Sub District. The citizen looks for innovation decision made by Boyolali Regency. After the Village Head election implementation using e-voting method, some citizens filed action to Boyolali District Court and one nominee filed lawsuit to Semarang Court. All citizen previously agrees and believe in e-voting, but some of them changed their decision after obtaining contradictory information and considered that e-voting Village Head election process encountered some disruption thereby the process is not democratic.

The preparation and implementation stages of Village Head election Sambu ran smoothly; there were only two disruptions when the citizen would vote, due to dirty screen and smart card. Until the voting stage has been completed and 3 days after election or the due time of lawsuit filing against the implementation of Village Head election, there was no lawsuit filed as the two nominees and their proponents accept the result of Village Head election.

However, 19 days after voting, exactly on December 2013, ten Sambu citizens initialled W, EW, N, SP, S, S, SR, MYP, and W filed lawsuit to Boyolali District Court related to Village Head election Sambu in 2013. On December 11, 2013, some citizens send objection letter to Boyolali Regency, the content of which stated that Boyolali Regent should not do any action related to the process of village head election in Sambu, but there was no reply. It is because the objection was delivered more than 3 days after the voting, while according to Village Head election Sambu regulation in Article 24 clause (4) "*the nominee can file objection to the Regent against the result of voting using e-voting as lately as 3 (three) days after the implementation*". In addition, non-objection letter was delivered against the result of e-voting informing the Regent that some unlawful deeds had been done in Boyolali District Court (case of plaintiff vs. Village Head election Sambu committee).

The material of lawsuit was related to unlawful deed in Village Head election Sambu process in

Boyolali District Court, such as electronic ballot not functioning maximally in Pilkades held using e-voting and vote summary not printed out and only in display form. Declining the result of voting in Village Head election Sambu on November 21, 2013, asking the Village Head election committee to conduct more voting in Village Head election Sambu corresponding to the provision of legislation enacted, asking the prosecuted to pay immaterial compensation of IDR 1,000,000,000,- (one billion rupiahs). The lawsuit was addressed to Village Head election Sambu Committee and Sambu Village Representative Council. However, on July 7, 2014, the result of Boyolali District Court's session stated that the lawsuit is not acceptable.

On February 24, 2014, one nominee of Sambu Village Head initialled HP filed lawsuit against Boyolali Regent's Decree Number 141/565 of 2013 about the ratification of village head hiring throughout Boyolali until December 2013 dated December 13, 2013 on behalf of initialled W, the second order of nominee to be hired as Sambu village head. This lawsuit was filed according to the copy of lawsuit from the Supreme Court (2014) because: Firstly, during voting, some sabotage was made on the computer system. Secondly, the electronic equipment verifying team was coming into and existing from the chamber without accompanied by witnesses. Thirdly, in vote calculation process after voting using e-voting, the number of electronic card used by electorate was not calculated. However, all of those lawsuits were declined, as the procedure of Village Head election implementation conducted by Village Head election committee and the Decree of Recruitment of Sambu Village Head in 2013 by Boyolali Regent had been consistent with the enacted provision.

4 CONCLUSIONS

The diffusion of electronic voting technology innovation in Village Head election Sambu originated from Village Government division of Boyolali Regency, Village Head election committee, and society leader serving as the agent of reform in introducing e-voting technology innovation into social system of Sambu Village. The decision making process of accepting e-voting technology innovation was determined by decision of Boyolali Regent, Village Head, and Village Representative Council. Not all Sambu villagers are opened to new things and the citizen's knowledge on e-voting is limited to the way of voting using e-voting. Thus, when some

disruption occurs in voting process due to dirty electronic electorate card and dirty screen, they are suspicious of the manipulation of voting result. As a result, ten citizens and one nominee of Village Head do not believe in the result of voting and then file lawsuit to the Court.

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