Stakeholder Trust in the Use of E-Voting: Organizing the Election of Simultaneous Village Heads in Sleman Regency 2020

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Abstract
One of the technological developments in politics is the use of E-Voting technology in elections. E-Voting has done to improve the quality of election results and reduce votes after the election. This paper discusses explaining the purpose of E-Voting in the holding of simultaneous village head elections in Sleman Regency using descriptive qualitative methods. This type of data consists of content from web sites, local government, web sites, online news with analysis using the Nvivo 12 Software plus using the explore crosstab query feature and the cluster analysis feature. This paper reveals the level of trust in the use of technology in E-Voting from the Regional Government of Sleman Regency of 29.23% will affect the effectiveness of 32.31%, efficiency 21.54%, and transparency of the election results of 10.77%. To realizing agreement and energy in the election of village heads based on E-Voting in Sleman Regency, a ballot replacement will carry out with a "smart card." The readiness of human resources from the organizers carried out with workshops and technical guidance against the primary professional staff (TTU) and field technical staff (TTL). To support the readiness of the community, the Regional Government conducts socialization and simulation in advance about the use of E-Voting tools.

INTRODUCTION

In the modern era, the implementation of the election of Village Heads by starting to utilize electronic voting technology (E-Voting) is essential to do. Voting based on E-Voting can reduce the use of paper as a ballot, calculate the automatic vote acquisition, send and display the results of the purchase of automatic vote recapitulation, maintain and produce an audit trail to reduce the obstacles in the process of carrying out the election conventional (Amanda & Wibawani, 2019). According to (Purwanto, 2019), E-Voting is essential to be applied in village head elections to support the creation of more transparent elections. The results of conducting transparent elections backed by a touch of the use of E-Voting technology in village head elections can also increase community participation as voters. The use of E-

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Voting can have a positive impact on increasing voter participation in elections (Mardoni, 2016).

The use of ICT in politics in organizing the electoral process is a policy that needs to be considered by all parties to implement in the future. An understanding of E-Voting is more focused on the process of utilizing electronic devices in streamlining the process of conducting elections as well as the electoral system automation process that can suppress individual interference in all implementation of the electoral stage (Wijaya, 2017).

According to the Agency for Research and Application of Technology (BPPT), E-Voting is a system for making ballots, giving, counting, airing votes, and producing and maintaining audit tracks electronically and digitally. The use of technology in this case (E-Voting), which will be implemented by both central and regional governments with an orientation for the public interest, must undoubtedly be balanced with the ability of the region to build knowledge from all walks of life. Increased understanding of the Sleman community can see from the development of the human development index.

Based on data from BPS in Sleman Regency 2019, from 2016-2018 the graph of social development index in Sleman Regency is increasing from 82.15 in 2016, 82.85 in 2017 and to 83.42 in 2018 where the index value is at above the number 80 with a very high category (HDI ≥ 80). With the high knowledge capital of the people and supported by the increasing value of the human development index, certainly makes the Sleman community easier and ready to accept innovations in the use of technology carried out by the local government, one of which is the use of E-Voting for simultaneous village head elections. Encourages the Sleman Regency regional government to participate in implementing E-Voting in the village head election, which will go on in 2020.

There have been many studies on E-Voting in the implementation of village head elections. Research (Anistiawati, 2019), with a focus on finding out the effects and obstacles that occur from the use of E-Voting in village head elections. Then the research (S. Mahardika, Yuwono, & Herawati, 2017) has a research focus to find out the factors that influence the implementation of E-Voting policies in village head elections in terms of the following aspects: 1) Standards and Policy Targets; 2) Resources; 3) communication; 4) Characteristics of Implementing Agencies; 5) Disposition; and 6) Environmental conditions (social, economic, political). While the study (Dwi Amarta Putra & Niswah, 2018) with a focus on research to find out the use of electronics in the election of

village heads, the hardware, software, human resources, data and information, organizational structure, communication, and attitude of implementers, Research by Juliman (2016) with a focus on research on the implementation of village head elections with E-Voting is seen in the legal aspects of the judicial enforcement of village head elections electronically, a comprehensive legal review of E-Voting in village head elections, and the legal process for handling the results of election disputes in village head elections with E-Voting.

Then the research (B. Firmansyah & Yuwanto, 2018) focuses on the implementation of the E-Voting policy in the selection of village heads to find out the inhibiting factors for the implementation of E-Voting in the election of village heads. Research (Simangunsong & Rasak, 2016) with a focus on the performance of village head election organizers simultaneously, knowing the success factors and inhibiting factors in the implementation of village head elections by E-Voting.

Although the performance of the election implementation by e-voting in the village head election can run well, sometimes obstacles are still found that become a problem in using E-Voting.

The inhibiting factors of the adoption of E-Voting technology in the implementation of village head elections are classified into internal factors in the form of a lack of employee competence serving as the election committee in operating the E-Voting device and external factors, namely in the form of errors or disturbances from the E-Voting tools used, which often occur when the selection process is running and the quality of education of the community is still low (Simangunsong & Rasak, 2016). Meanwhile, according to (Nisa, 2019), the application of E-Voting in the holding of village head elections has not been able to run effectively due to inadequate resources, both in human resource capacity and budgetary support, and the lack of communication between the committee as the organizer and the community as the object or target of implementing the E-Voting policy on village head elections.

In the context of the use of E-Voting in the village head election, which will be carried out by the Sleman Regency Government, how can E-Voting influence the level of trust in the use of technology for the village head election process? What is the level of confidence in the use of E-Voting on the results of holding village head elections? This paper is structured to explain the effect on the level of trust in the adoption of E-Voting in the election of village heads in Sleman Regency, which examined scientific articles, local government

websites, and online news websites as sources of research information.

THEORETICAL PERSPECTIVES

Research Method

The approach used in this study is a descriptive qualitative approach that illustrates the level of trust in the use of E-Voting in the election of village heads to be carried out in the Sleman Regency.

The population in this study is the source of information as in table 1, while the sample in this study is several articles posted related to E-Voting that will use in organizing village head elections in Sleman Regency on the following website:

Table 1. Address of Online Media Website Research Information Sources

Information Sources	Online Media Website
Website Pemerintah Sleman	www.slemankab.go.id www.dprd.slemankab.go.id
Website media masa lokal	**Error! Hyperlink reference not valid.** www.krjogja.com www.harianmerapi.com
Website media masa nasional	www.republika.co.id www.antaranews.com www.sindonews.com www.suaramerdeka.com

Source: Researcher Data, 2019

Then for the sampling technique with purposive sampling, which was chosen to find out the specific research objectives, namely to determine the effect of the use of E-Voting in village head elections to be held in Sleman Regency based on information sources from the Sleman Regency government website, mass media websites, and local and national mass media websites. This research was conducted for one month, from October 2–October 31, 2019.

Data sources for this study include primary data and secondary data. Primary research data includes websites, both local government websites, and online media news websites, as in table 1. Secondary data is data taken from the literature review and previous research literature related to E-Voting in the implementation of village head elections. Steps taken to collect research information data with documentation and study of writing include copying and storing article posts to support research objectives. (Kusuma & Azizah, 2018),

The analysis in this study uses the Nvivo 12 plus software with the Ncapture feature, explore crosstab queries, and cluster analysis. The Ncapture feature is a web browser extension that developed to capture web content in the form of the website content, social media, and other document content such as scientific articles related to E-Voting in village head elections. The explore crosstab

query feature used to find out how much confidence the use of E-Voting has on the effectiveness, efficiency, and transparency of the election results with research information sources from website content. The cluster analysis feature used to determine the relationship pattern of the level of trust in the use of E-Voting on the effectiveness, efficiency, and transparency of results in the implementation of village head elections.

Literature Review: E-Government
The government needs to determine ICT policies appropriately to support the achievement of better public services by starting to socialize E-Government with the public and government institutions to achieve the level of effectiveness and efficiency desired in the public sector (Nurdin, 2018). E-Government, which has become a decision at the central level, becomes the basis of the administration of government at the regional level by prioritizing aspects of openness, transparency, and efficiency of government (Kurnia, Rauta, & Siswanto, 2017).

The success of an E-Government application can be seen from the level of satisfaction and the level of benefits felt by the users of the system while still regularly making innovations to improve the quality of the system in the future (Rahman, 2016). Demonstrating

the achievement of successes regarding changes that have been carried out in running the government through E-Government can help the government reduce the risk of failure in the project being run (Napitupulu, 2015). Matters that need attention in implementing E-Government in Indonesia are the quality of human resources, infrastructure, and regulations for E-Gov development standards for all organizers (Sosiawan, 2015).

Effectivity from the implementation a and management of E-Government can more easily achieve when stakeholders already have the readiness to use ICT supported by a serious commitment by the government itself and the preparedness of the community to support the success of E-Government in its function to provide maximum public service (C. Ulum, 2018). To support E-Government that can provide an increase in service performance to the community, the government needs to build a standard and integrated information system and database (Handiwidjojo & Oetomo, 2015). The relationship between the high level of awareness of openness of government with the readiness of E-Government at the central and regional levels in developing countries such as Indonesia has a positive potential with a high index of human development (Yamin, Darmawan, Zayzda, & Ash-

Shafikh, 2018). The public will readily accept an application of information technology if it has clear, useful value and can provide ease of use (Aprudi & Saputra, 2018).

E-Voting and the General Election
In organizing elections, an electronic-based electoral system is the right solution to accelerate the election implementation process because of the workings of all computer-based systems (Azis & Tarwoto, 2019). Voters frequently have reservations about exercising their right to vote in the electoral process because of several factors, including administrative, political, and economic factors, but it is the political factors that have the greatest influence on the low level of political participation in the election (Prabowo & Astuti, 2018).

To reduce things like that, it is necessary to build a valid database where the election commission, which acts as the organizer, can conduct partnerships with stakeholders who play an essential role in the process of data input and data collection of voters, which will later be used as a database for elections (B. Ulum, 2018). Also, according to Alam and Sultan, the knowledge, attitudes, and behavior of the people in the election implementation process are influenced by public information disclosure (Alam & Sultan, 2017).

With the impetus for accelerating the use of information technology in the electoral process from updating voter data, compiling voter lists and counting of votes can create accurate election results that can encourage voter participation and increase the confidence of the general public (Cahyaningsih, Wijayadi, & Kautsar, 2019). However, the Government has so far paid less attention to the intention and willingness of the public to use electoral technology using e-voting where the community's plan to use e-voting is demonstrated by the increasing Trust of Technology (TOT) which will affect the amount of public trust in the use of technology. Encourage the level of willingness and desire of the community to use e-voting (Azizah, 2018). According to Munir & Utari (2016), e-voting can support the smooth running of elections both at the central and regional levels, which can increase public participation, increase closeness between potential contestants and voters, and certainly make it easier for the election organizers in the process of counting votes.

The e-voting system makes it easy in the voting process because it does not need to vote and put the paper into the ballot box (Abas, Mohidin, & Mariani, 2018; Drehem, 2016). Organizing elections by E-Voting according to

(Nuriyana, 2018) can reduce human error, electoral fraud, as well as further, save the budget of the election process. The use of online-based e-voting saves more money because the process can be done simultaneously with just one application (Saputra & Yanto, 2015). On the other hand, the use of E-Voting by the public in conducting elections is considered to be more comfortable and more practical, cost-effective and time-consuming, and the results of the election can be justified clearly, which makes this a solution for the wider community (Afifah, Kolopaking, & Barlan, 2019).

Application of E-Voting in the Election of Village Heads

The current election for village heads needs to be improved through the use of information technology with E-Voting so that it is more transparent and able to provide understanding to all parties related to the implementation of village head elections (Purwanto, 2019). The application of village head elections using E-Voting can have a positive impact on the community by reducing disputes in the vote-counting process, increasing understanding of the use of E-Voting technology in the village head election process, and encouraging voter participation (Mardoni, 2016). With the encouragement of voters, according to Leita (2019), public trust in the process of
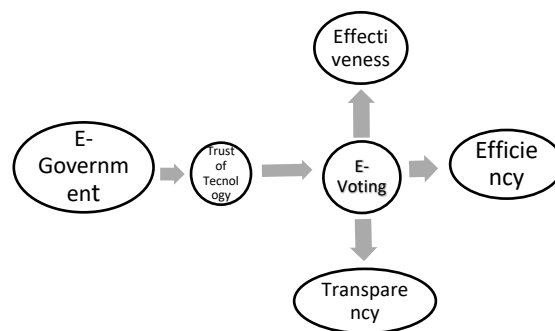
implementing the election of the Village Head is also influenced by the disclosure of information resulting from the use of E-Voting (Anistiawati, 2019). The basis of the use of E-Voting in the implementation of village head elections is to reduce the level of fraud, make the process of conducting elections more effective in terms of time and cost to help make it easy for voters to make the election process (Darmawan & Nurhandjati, 2016).

E-Voting implementation in rural communities can increase the level of community participation and reduce conflict during the vote-counting process (Juliman, 2016). Counting ballots previously done one by one manually can be accelerated by making changes using E-Voting, which has provided convenience at the stage of vote counting in the village head election process (Mohidin, Mariani, & Pajiri, 2017).

Meanwhile, the use of E-Voting, according to (Wijaya, 2017), can be used as a means of choice to make the process of implementing village head elections more effective and efficient and able to prevent vote manipulation by the election organizer. To effectiveness in E-Voting in the implementation of village head elections, it needs to be supported by the establishment of local regulations and the attitude of concern from the community to take an active role in participating in the election

implementation (Habena, 2019). E-Voting in the village head election, which is carried out by the organizer well and the application is in full synergy with the village community, will give satisfaction to the city towards the election results (S. Mahardika et al., 2017).

For the research concept in this paper, it can be seen from the framework that it is the result of a review of several journals related to the use of E-Voting in the implementation of village head elections. As for the structure of this paper, as shown below :

Source: Researcher's Analysis, 2019

From this picture, it can explain that E-Government is the use of information technology by the government in supporting the smooth functioning and functions to provide maximum ease of service to the public. E-Government has had a direct impact on the comfort and smoothness of various kinds of public affairs. Encourage increased public confidence in the use of technology. The strong desire of the community in the process of conducting elections to use technology in the form of E-Voting can see from the increasingly high Trust of Technology (TOT). The belief in the use of technology in the holding of village head elections has driven the level of willingness and desire of villagers to use

E-Voting. The use of E-Voting technology in village head elections can make the election implementation process effective, efficient, and transparent.

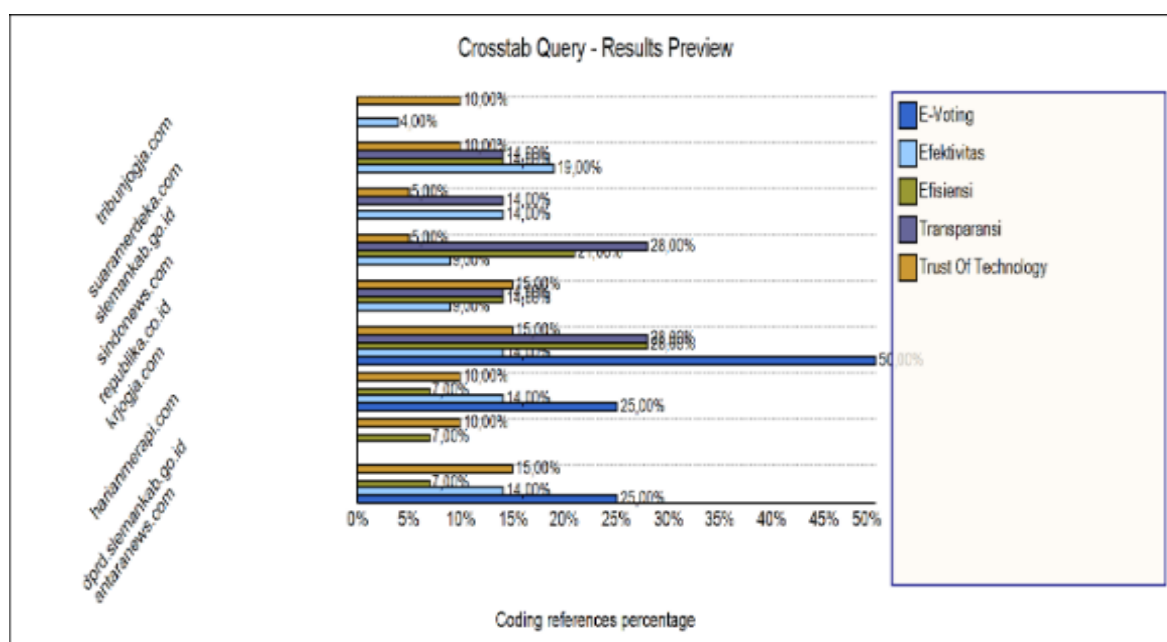**CONTEXT: FINDINGS AND DISCUSSION**
Stakeholder Trust in the Use of E-Voting in the Election of Village Heads E-Voting is an organization of voting based on the use of electronic devices ranging from voter registration, voting, counting, and sending of votes to overcome problems arising from conventional voting (B. Firmansyah & Yuwanto, 2018). E-Voting in the implementation of village head elections, which will go on in the Sleman

Regency, has been widely reported through online news media. The regional government in Sleman Regency, which will use E-Voting in the election of village heads, is interesting to know because E-Voting is an innovation from the local government that will be applied to the field of general election especially the simultaneous village head election. With the implementation of E-Voting in the village head election, which will be carried out by the Sleman Regency Government, it expected that the results of the election could be more productive, efficient, and transparent.

Figure 2. Stakeholder Trust in the Use of E-Voting In the Village Head Election

(www.slemankab.go.id), the application of E-Voting gives confidence in the selected technology of 5% with the effectiveness and transparency of the results of 14%. While from (dprd.slemankab.go.id), the use of E-Voting can provide confidence in technology by 10% with an efficiency level of 7%.

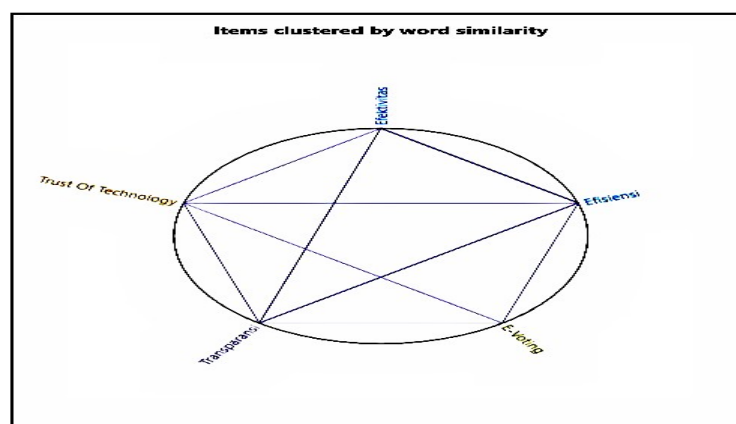Then from the local mass media information group, E-Voting gives confidence in technology 10% with the effectiveness of 4% (tribunjogja.com), then with a confidence level in e-voting technology of 15% will provide an effect of 14% effectiveness with efficiency and transparency results of 28% (krjogja.com). With confidence in the use of e-Voting by 10% affects the effectiveness level of 14% and 7% efficiency (harianmerapi.com).

While from the national mass media information group, with confidence in the use of E-Voting in the village head election by 15%, it affects the effectiveness level of 9% with

efficiency and transparency of 14% (republika.co.id). Unlike (antaranews.com), where the use of confidence in E-Voting 15% affects the effectiveness level of 14% and efficiency by 7%. Then (sindonews.com), with a 5% level of trust in E-Voting, affects the effectiveness of 9%, efficiency by 21%, and transparency by 28%. The confidence in the use of E-Voting for village head elections by 10% affects the effectiveness level of 19%, 14% efficiency, and transparency by 14% (suaramerdeka.com).

Figure 3. Relationship Pattern of Trust in the Use of E-Voting on the Effectiveness, Efficiency and Transparency of Village Head Elections

Source: Nvivo 12plus Cluster Analysis, 2019

From Figure 3., it can explain, the presence of technology has provided many benefits in helping to facilitate completion in each field, one of which is the electoral field. Decision making with the right ICT policies can support the achievement of effectiveness and efficiency in the public sector (Nurdin, 2018). The high level of public trust in technology will influence the amount of willingness and desire of the community to use e-voting (Azizah, 2018). Accelerating the use of technology for innovation in the electoral field with E-Voting can contribute to accurate election data as well as increase voter participation and public trust (Cahyaningsih et al., 2019). The use of E-Voting in the implementation of village head elections can influence the effectiveness, efficiency, and transparency of election results.

The effectiveness of the implementation of E-Voting in village head elections will affect the efficiency and transparency of election results. The effectiveness of the implementation of village head elections can be increased by simplifying the election process so that everyone will be able to vote easily. Practical and fast e-voting can be a solution, especially for "rural-urban"

people who have a busy life or work outside the village (Afifah et al., 2019). A quick election process using E-Voting will make the election more effective in terms of time, and the efficiency of the election budget can be suppressed. Online-based e-voting saves more money because the process can be done simultaneously with one application (Saputra & Yanto, 2015). E-Voting will also have a positive impact on the transparency of results that can account for the results of the vote count that can be known quickly because it has been directly collected in one database (N. Mahardika, Sasmito, & Putra, 2015).

Transparent and also accountable results make the quality of the village head election process better in reducing fraud that can lead to conflicts over election results. Utilization of E-Voting technology, according to (Wijaya, 2017), can be used as a means of choice to make the process of implementing village head elections more effective and efficient and able to prevent fraud in vote manipulation by the election organizer. Transparency of vote counting results is effective in preventing manipulation of voter data and manipulation of voting votes. With the least potential conflict caused by holding village head elections, the entire process of the election stage implementation of village head elections will be more quickly resolved, so that, in terms of time, the election will be more effective. The use of E-Voting by the public in conducting elections is considered more comfortable and more practical, saving costs and time, and the results can be justified (Afifah et al., 2019).

The application of E-Voting for the implementation of village head elections can help the work of election organizers in the process of vote counting become faster, and the data produced more accurately. The method of organizing a quick election will have an impact on the effectiveness and efficiency of the implementation of village head elections. In contrast, accurate election result data will affect the transparency of the election results themselves. Through the application of e-voting technology, making the election results more transparent to reduce the potential for fraud that occurs from the election results.

The effectiveness of the implementation of village head elections and the transparency of election results that can reduce the occurrence of conflict in the holding of village head elections also affect the efficient use of the election budget. In the absence of conflicts or disputes caused by fraud, especially in the vote-counting phase in the implementation of village head elections, all the processes and stages of election implementation can be resolved quickly so that this will also affect the use of the budget. The more active the process of completing the electoral step is the ability
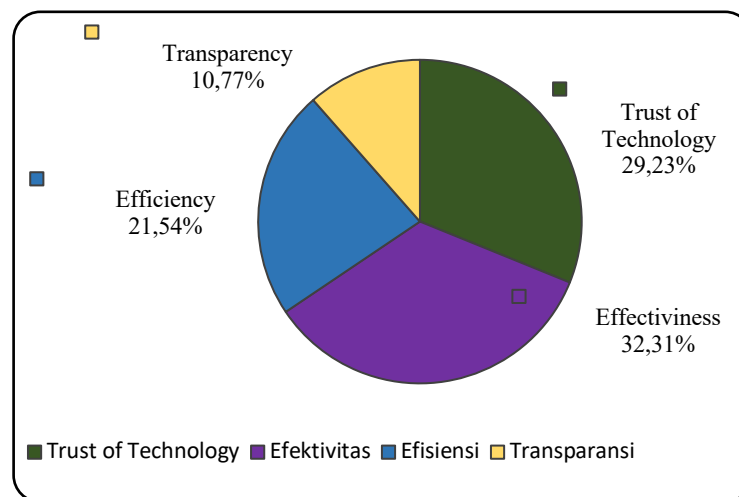
to reduce the use of large electoral budgets so that budget efficiency in the electoral process can suppress. E-Voting can make the implementation of village head elections more effective and efficient than the implementation time process and saving budget (Darmawan & Nurhandjati, 2016; Wijaya, 2017).

Trust in Technology E-Voting in Village Head Elections in Sleman Regency

The rapid progress of technology today can influence and facilitate humans in various fields, one of which is in the political arena (Elections) (Sulastri & Zulita, 2015). The development of information technology has become an

important thing to use, especially in the election of village heads (Mohidin et al., 2017). The human development index shows an increase from 82.15 in 2016 to 83.42 in 2018 (BPS in Sleman Regency, 2019), as well as several regions that have successfully implemented E-Voting in the holding of village head elections, such as in Pemalang, Boyolali, and Musi Rawas, making the Sleman Regency government the first in the country to implement village head elections with E-Voting. The level of confidence in the use of E-Voting technology in village head elections in Sleman can be seen in the following figure:

Figure 4. Trust of Technology E Voting in Sleman Regency

Source: Analysis of Nvivo
12 plus Crosstab Query, 2019

From figure 4. above it is known, Sleman Regency Government for the level of trust in the use of E-Voting technology of 29.23% can have an effect

on the effectiveness of the implementation of 32.31% then efficiency of 21.54% but for the transparency level of only 10.77 % of the simultaneous village

head elections which will take place in 2020. The growing use of e-voting machines and the increasing application of online polls indicates that the public believes in the performance of information technology in improving the electoral process (Azizah, 2018). Kemristekdikti continues to encourage the use of electronic-based electoral technology in elections throughout Indonesia because a technology exists to fill every joint of human needs to accelerate a process (krjogja.com, 2019).

Certainty The election of village heads in Sleman Regency by e-voting has been stated in the Second Amendment to the Regulation No. 5/2015 on Procedures for the Election and Appointment of Village Heads. Implementation Election of village heads will be held in 2020 and will be held simultaneously in 49 villages in 17 sub-districts. The selection process carried out in 1,102 polling stations (TPS) spread over 718 hamlets (sindonews.com, 2019). The e-voting process in the village head election is a step taken by the regional government that, to support the more effective and efficient implementation of village head elections, the electronic village head election process needed to support Sleman Smart Regency (dprd.slemankab.go.id, 2019). Sri Purnomo said that the Sleman Regency Government had signed an MoU with the Agency for the Assessment and Application of Technology (BPPT) related

to the preparation for the implementation of e-voting for village head elections (www.slemankab.go.id, 2019).

The simple process of organizing village head elections can facilitate the implementation of each stage of the vote. Encourage convenience in the application of village head elections in Sleman, the use of E-Voting will be applied. The use of E-Voting can make the implementation of village head elections more effective in terms of time and money and make it easier for voters to make elections (Darmawan & Nurhandjati, 2016).

E-voting can provide convenience in vote counting (Munir & Utari, 2016). According to Sri Purnomo, village head elections by e-voting can carry out with a more straightforward method that makes the work of electoral officials lighter and can complete in less than half a day (antaranews.com, 2019). In terms of hardware requirements are relatively inexpensive because the configuration is simple, so it has a fast and accurate process because it will automatically calculate the results of the vote (Risnanto, 2017).

According to the Head of the Sleman Regency Communication and Information Agency, Eka Suryo Prihantoro for each TPS will only contain one unit of touch screen device, smart card scanner, and small-sized printing machine, two laptop units, and one KTP-

EL scanner were the first laptop as an input data selector. In contrast, the second laptop used to set the smartcard (tribunjogja.com, 2019). E-Voting can encourage effectiveness in accelerating the results of vote counting, preventing multiple voter votes, and easing the work of the implementing committee (B. Firmansyah & Yuwanto, 2018). Election of village heads by e-voting can reduce conflicts in the vote-counting process (Juliman, 2016).

According to Andrari Rahitandaru, as Head of the Electronic Election System Project, this e-voting system cannot be manipulated using any method. Because all activities recorded systemically and the results can be known directly (sindonews.com, 2019). On the other hand, according to the Head of the Sleman PMD Service Priyo Handoyo, the use of e-voting also reduces the potential for fraud. It minimizes the vote fall because the system cannot accept if the ballots filled with two choices (suaramerdeka.com, 2019). Also, the E-Voting Application can prevent the manipulation of votes from the election organizer because real-time data can monitor by voters (Wijaya, 2017). Sleman Regency Government has also prepared for the needs of human resources that will play a role in realizing the effectiveness of the implementation of E-Voting-based Pilkades. So, holding workshops and training for officers who

would later play a role as the primary technical and field technical personnel. The provision of the workshop and training activities will then make the field staff more prepared to face the obstacles that arise to create the effect of the process of implementing the village head election with E-Voting.

"As many as 49 villages in Sleman Regency will hold simultaneous Pilkades in March 2020. The election mechanism has also approved by e-voting. Not long ago, we also conducted workshops for prospective key technical workers (TTU). TTU numbered 60 people who would later place in the village. It will also recruit as many as 1,200 fields technical personnel (TTL) for each polling station (TPS). This task is only to open the TTL application, then submitted to the KPPS ". (Head of Village Institutional and Apparatus Development Division, Office of PMD Sleman Agung Endarto, Harianmerapi.com 2019)."

In addition to preparing the organizer's resources, the readiness of the community itself as an elector is also urgent to consider. The voter community must even know and understand the changes in the election system from the general election to the e-Voting so that later they will not experience difficulties when conducting the voting process. Based on reason, the local government started to use E-Voting and also to

prepare a simulation of the use of E-Voting tools before the D-day of the election.

"One day before the upcoming Pilkades, the PMD Service will hold a simulation at each polling station." (PMD Sleman Regency Office, Agung Endarto, suaramerdeka.com, 2019)."

The use of E-Voting in elections intended can provide efficiency in the use of resources, especially those related to budget savings and efficiency in the process of conducting elections. Efficiently can make interpretations as using minimal resources to obtain maximum results or output. The more active the process of completing the electoral stage is the ability to reduce the use of large electoral budgets so that budget efficiency in the electoral process can suppress and village head elections more economical. The use of electronic applications in elections can save money, especially when procuring logistics for election equipment such as ballot papers (N. Mahardika et al., 2015).

"In addition to minimizing fraud, this e-voting system also saves the budget" (Head of the Electronic Election System Project, Andrari Rahitandaru, sindonews.com, 2019)."

The previous conventional village head election, which based on the use of ballot papers, made the election process less efficient in the process from the registration of prospective voters to the vote-counting process and recapitulation of election results. Improve the efficiency of the village head election, the use of ballot papers in the previous village head election will replaced by using an electronic voting card in which the voters who have registered in the DPT the attach the card to the election tool after being confirmed, so all they have to do is to choose one of the candidates already available where the results Voter selection is stored in the election database. The results will also print immediately after the selection process is done correctly by the voter.

"In the e-voting, voters only need to enter the 'smart card' on the device, which will then appear the candidate's choice. Voters only need to touch the computer screen by choice. Then a validity notification will appear containing a statement that the decision is correct or not, if it is right, click, and the results will be printed directly (print) ". (Head of Sleman Regency Communication and Information Agency Eka Suryo Prihantoro, Harianmerapi.com 2019)".

According to Sri Punomo, E-Voting is quite easy, accurate, and efficient because, for voters, there is no need to open the ballot paper and examine one by one candidate, but only choose candidates on the monitor screen

(sindonews.com, 2019). Of course, using this system can save time in calculating the number of valid votes (dprd.slemankab.go.id, 2019). The results of the vote count can be known quickly because it has been directly collected in one database (N. Mahardika et al., 2015). With E-Voting to be implemented in Sleman Regency, the implementation process will take place in two stages, first touching the choice, second the verification process (Head of the Sleman Regency Communication Information Office Eka Suryo Prihantoro, sindonews.com, 2019). So, e-voting can save time and also money in the implementation of voting (Azwanti, 2017).

E-voting applications that build on the process of printing votes reduce the problem of printing votes because the votes are obtained in the form of data that can be directly provided at the time of voting (Purwati, 2015). This electronic system is considered to have a high level of accuracy where the election results can be directly known and do not need to be examined one by one (Sri Purnomo, suaramerdeka.com, 2019). Using the e-Voting system in village head elections creates information disclosure on the results of village head elections (Anistiawati, 2019).

Sri Purnomo (sindonews.com, 2019) explained that although this system is new, it is considered entirely secure,

accurate, and efficient. Because voters no longer need to open the ballot paper but only choose candidates on the monitor screen. Besides, the results can be known immediately after the implementation is complete. So, there is no need to do the calculations manually. Then, according to the Head of the Village Community Empowerment Service (PMD) of Sleman Regency, H. Priyo Handoyo, the purpose of the implementation of the election of the village head by e-voting is to be more transparent and accountable so that the quality becomes better and more reliable (krjogja.com, 2019). The use of E-Voting can make the election results known quickly, and the election data is also more accurate (Yulianto, Yusuf, & Firmansyah, 2019).

CONCLUSION

E-Voting can affect the level of trust in the use of technology for the village head election process. Because the procedure can be carried out simultaneously with one application, e-voting makes the election process more effective in terms of time, the electoral process and increases the efficiency of the election budget. E-Voting in village head elections can assist election organizers in counting ballots faster and obtaining more accurate vote data. So, the results of village elections are more effective, efficient, and transparent from the local

government's trust in E-voting technology.

The level of stakeholder confidence in the use of technology in E-Voting from the Regional Government of Sleman Regency for the holding of village head elections is 29.23%, which can affect the effectiveness of the implementation of 32.31% then the efficiency of 21.54% and transparency of 10.77%. The level of stakeholder confidence in E-Voting technology in village head elections shows that the use of technology is capable of influencing the electoral process. E-Voting can be made effective and efficient on the village head election in terms of implementation time, where the election implementation process becomes more straightforward from the validation of voter data to the operation of counting votes, which have all been recorded automatically in one election database.

However, this paper has limited research, namely the analysis of information sources, where all the information obtained is limited to the website and data from online news related to the use of E-Voting, which will be implemented in the election of village heads in Sleman Regency in 2020. Besides that, other research limitations are the extent to which the application of E-Voting can provide a guarantee of transparent election results in the holding of elections. Further research focused on evaluating the results of the use of E-Voting after the village head elections held in Sleman District.

REFERENCES

Abas, R. L., Mohidin, I., & Mariani, A. (2018). Aplikasi Monitoring Hasil Pemilihan Kepala Desa Berbasis Android. *JTII (Jurnal Teknologi Informasi Indonesia)*, 3(2), 48–48. Https://Doi.Org/10.30869/Jtii.V3i2.264

Afifah, K., Kolopaking, L. M., & Barlan, Z. A. (2019). E-Voting Kepala Desa Dan Modal Sosial. *Jurnal Sains Komunikasi Dan Pengembangan Masyarakat [JSKPM]*, 2(6), 759–772. Https://Doi.Org/10.29244/Jskpm.2.6.759-772

Alam, A. S., & Sultan, M. I. (2017). Keterbukaan Informasi Publik Melalui Sistem Penghitungan (Situng) Online Hasil Pilkada Terhadap Pengetahuan, Sikap, Dan Perilaku Masyarakat Di Kota Palu. *Kareba : Jurnal Ilmu Komunikasi*, 5(1), 92–103. Https://Doi.Org/10.31947/Kjik.V5i1.1886

Amanda, C. N., & Wibawani, S. (2019). Faktor-Faktor Yang Mempengaruhi Partisipasi Politik Masyarakat Pada Pemilihan Kepala Desa Secara E-Voting Di Desa Kepuhkiriman Kecamatan Waru Kabupaten Sidoarjo. *Public Administration Journal Of Research*, 1(1), 20–26. Retrieved From Http://Paj.Upnjatim.Ac.Id/Index.Php/Paj/Article/View/4

Anistiawati, M. L. (2019). *Implementasi Kebijakan Penerapan Elektronik Voting (E-Voting) Dalam Pemilihan Kepala Desa (Studi Kasus: Pemilihan Kepala Desa Di Desa Mendoyo Dangin Tukad, Kecamatan Mendoyo Kabupaten Jembrana) | CITIZEN CHARTER.* Retrieved From Https://Ojs.Unud.Ac.Id/Index.Php/Citizen/Article/View/9806

Aprudi, S., & Saputra, Y. (2018). Kajian Penerimaan Penerapan Sistem E-Voting Pada Pilkades Di Kecamatan Megang Sakti Dengan Pendekatan Technology Acceptance Model (TAM). *Prosiding Seminar Nasional Sains Dan Teknologi, 1*(1). Retrieved From Http://Semnas.Radenfatah.Ac.Id/Index.Php/Semnasfst/Article/View/36

Azis, A., & Tarwoto, T. (2019). Aplikasi Sistem Cerdas Guna Mendukung Dan Mempercepat Proses Pemilihan Kepala Desa Elektoronik Modern Pemilu (Empemilu) Studi Kasus Di Desa Beji Kecamatan Kedung Banteng Kab. Banyumas. *Aksara Public, 3*(3), 56–62. Retrieved From Http://Aksarapublic.Com/Index.Php/Home/Article/View/304

Azizah, A. H. (2018). Analisis Faktor Kepercayaan Terhadap Teknologi Pada Keinginan Masyarakat Dalam Mengadopsi E-Voting. *Jurnal Ilmiah Teknologi Informasi Terapan, 4*(2). Retrieved From Http://Jitter.Widyatama.Ac.Id/Index.Php/Jitter/Article/View/287

Azwanti, N. (2017). Perancangan E-Voting Berbasis Web. *Jurnal Komputer Terapan, 3*(2), 119–132.

Cahyaningsih, A., Wijayadi, H., & Kautsar, R. (2019). Penetrasi Teknologi Informasi Dalam Pemilihan Kepala Daerah Serentak 2018. *Jurnal Polgov, 1*(1), 1–34. Retrieved From Https://Journal.Ugm.Ac.Id/Polgov/Article/View/48289

Darmawan, I., & Nurhandjati, N. (2016). Why Adopt E-Voting? Study On Village Leader Elections In Musi Rawas, South Sumatera. *Jurnal Politik, 1*(2), 205–229.

Drehem, I. M. (2016). Implementasi Kontrol Integritas E-Kiosk Untuk Pengamanan Sistem Pemungutan Suara Secara Elektronik (E-VOTING). *Jurnal Teknik ITS, 5*(1). Https://Doi.Org/10.12962/J23373539.V5i1.14250

Dwi Amarta Putra, A., & Niswah, F. (2018). Implementasi Elektronik Pemilihan Kepala Desa (E-Pilkades) Oleh Dinas Kependudukan Dan Catatan Sipil Kabupaten Gresik (Studi Di Desa Panjunan, Kecamatan Duduksampeyan, Kabupaten Gresik). *Publika, 6*(8). Retrieved From Https://Jurnalmahasiswa.Unesa.Ac.Id/Index.Php/Publika/Article/View/24789

Firmansyah, B., & Yuwanto. (2018). Implementasi Kebijakan Electronic-Voting (E-Voting) Dalam Pemilihan Kepala Desa Di Kabupaten Pemalang Tahun 2016 (Studi Kasus Pilkades Sistem E-Voting Di Desa Ujunggede 2016). *Journal Of Politic And*

Government Studies, 8(01), 41–50. Retrieved From Https://Ejournal3.Undip.Ac.Id/Index. Php/Jpgs/Article/View/22618

Habena, A. R. (2019). Implementasi Peraturan Daerah Kabupaten Banyuasin Nomor 1 Tahun 2015 Tentang Tata Cara Pemilihan Kepala Desa Berbasis Electronic Voting Di Desa Lubuk Saung Kecamatan Banyuasin III Kabupaten Banyuasin. *Jurnal Pemerintahan Dan Politik, 3*(2). Retrieved From Http://Ejournal.Uigm.Ac.Id/Index.Ph p/PDP/Article/View/669

Handiwidjojo, W., & Oetomo, B. S. D. (2015). Integrasi Basis Data Syarat Mutlak Pembangunan Sistem Informasi E-Government. *Seminar Nasional Informatika (SEMNASIF), 1*(5). Retrieved From Http://Jurnal.Upnyk.Ac.Id/Index.Php/Semna sif/Article/View/938

Juliman. (2016). Implementasi Pemilihan Kepala Desa Dengan Menggunakan Metode Elektronik Voting (E-Voting) Di Kabupaten Empat Lawang Provinsi Sumatera Selatan. *MIMBAR: Jurnal Penelitian Sosial Dan Politik, 6*(3), 9–18.

Kurnia, T. S., Rauta, U., & Siswanto, A. (2017). E-Government Dalam Penyelenggaraan Pemerintahan Daerah Di Indonesia. *Masalah-Masalah Hukum, 46*(2), 170-181–181. Https://Doi.Org/10.14710/Mmh.46.2.2 017.170-181

Kusuma, R. S., & Azizah, N. (2018). Melawan Radikalisme Melalui Website. *Jurnal ASPIKOM, 3*(5), 943.

Https://Doi.Org/10.24329/Aspikom.V 3i5.267

Mahardika, N., Sasmito, G. W., & Putra, G. M. (2015). APLIKASI E-PILKADA DI KOTA TEGAL. *Smart Comp: Jurnalnya Orang Pintar Komputer, 3*(1). Https://Doi.Org/10.30591/Smartcomp. V3i1.192

Mahardika, S., Yuwono, T., & Herawati, N. R. (2017). Implementasi Kebijakan Elektronik Voting Dalam Pemilihan Kepala Desa Di Kabupaten Boyolali Tahun 2013. *Journal Of Politic And Government Studies, 6*(2), 21–30.

Mardoni, A. (2016). Elektronik Pemilihan Umum Pemilihan Kepala Desa Secara Elektronik Di Kabupaten Musi Rawas Provinsi Sumatera Selatan. *MIMBAR : Jurnal Penelitian Sosial Dan Politik, 6*(3). Retrieved From Https://Www.Journals.Unihaz.Ac.Id/ Index.Php/Mimbar/Article/View/763

Mohidin, I., Mariani, A., & Pajiri, I. A. (2017). APLIKASI E-VOTING PEMILIHAN KEPALA DESA DI KECAMATAN BOTUPINGGE BERBASIS WEB. *Jurnal Teknologi Informasi Indonesia (JTII), 2*(2), 25–31. Https://Doi.Org/10.30869/Jtii.V2i2.283

Munir, A. Q., & Utari, E. L. (2016). PEMANFAATAN E-KTP UNTUK PROSES PEMUNGUTAN SUARA PEMILIHAN UMUM DI INDONESIA MENGGUNAKAN SISTEM E-VOTE. *Seminar Nasional Teknologi Informasi Dan Multimedia, 2*(4), 1–6.

Napitupulu, D. (2015). Kajian Faktor Sukses Implementasi E-Government, Studi

Kasus: Pemerintah Kota Bogor. *SISFO*, *Vol 5*(3), 229–236. Retrieved From Http://Is.Its.Ac.Id/Pubs/Oajis/Index.Php/Home/Detail/1445/Kajian-Faktor-Sukses-Implementasi-E-Government-Studi-Kasus-Pemerintah-Kota-Bogor

Nisa, K. (2019). Implementasi Elektronik Voting (E-Voting) Dalam Pemilihan Walinagari Di

Nagari Salareh Aia Kabupaten Agam Tahun 2017. *Journal Of Residu*, *3*(16, April), 39–48.

Nurdin, A. H. M. (2018). Menuju Pemerintahan Terbuka (Open Government) Melalui Penerapan E Government. *Jurnal MP (Manajemen Pemerintahan)*, *5*(1), 1–17.

Nuriyana, R. R. (2018). Perancangan Sistem E-Voting Dengan Menerapkan Qr-Code Sebagai Sistem Keamanan Menggunakan Vb.Net Untuk Pemilihan Kepala Desa. *PROCEEDING STIMA*, *1*(1). Retrieved From Https://Jurnal.Unma.Ac.Id/Index.Php/ST/Article/View/959

Prabowo, S. A., & Astuti, P. (2018). Faktor Penyebab Tidak Terpenuhinya Kuorum Dalam Pilkades E-Voting Di Desa Warungpring Kabupaten Pemalang Tahun 2016. *Journal Of Politic And Government Studies*, *7*(04), 211–220. Retrieved From Https://Ejournal3.Undip.Ac.Id/Index.Php/Jpgs/Article/View/21910

Purwanto, R. (2019). Pemilihan Kepala Desa (Pilkades) Di Era Digital. *Mimbar Administrasi FISIP UNTAG Semarang*, *15*(19), 85–101.

Purwati, N. (2015). Perancangan Sistem E-Voting Untuk Pemilihan Kepala Daerah (Pilkada). *Jurnal Bianglala Informatika*, *3*(1), 18–27. Https://Doi.Org/10.31294/Bi.V3i1.573

Rahman, A. (2016). Evaluasi Kesuksesan E-Government: Studi Di Kabupaten Sleman Dan Kabupaten Tulungagung. *JAAI, 15*(2), 190–203.

Risnanto, S. (2017). Aplikasi Pemungutan Suara Elektronik/E-Voting Menggunakan Teknologi Short Message Service Dan At Command. *Jurnal Teknik Informatika*, *10*(1), 17–26. Https://Doi.Org/10.15408/Jti.V10i1.5611

Saputra, A. Y., & Yanto, R. (2015). E-Voting Berbasis Web Dan Wap Dalam Pemilihan Kepala Desa Kabupaten Musi Rawas. *SISFO*, *Vol 5*. Retrieved From Http://Is.Its.Ac.Id/Pubs/Oajis/Index.Php/Home/Detail/1440/E-Voting-Berbasis-Web-Dan-Wap-Dalam-Pemilihan-Kepala-Desa-Kabupaten-Musi-Rawas

Simangunsong, F., & Rasak, T. A. (2016). Kinerja Badan Pemberdayaan Masyarakat Dan Pemerintahan Desa (BPMPD) Dalam Pelaksanaan Pemilihan

Kepala Desa Serentak Melalui Metode Electronic Voting (E-Voting) Di Kabupaten Bantaeng Provinsi Sulawesi Selatan (Studi Kasus Pada Pemilihan Kepala Desa Serentak Gelombang I). *Jipsi*, *6*(1), 67–83.

Sosiawan, E. A. (2015). Tantangan Dan Hambatan Dalam Implementasi E-Government Di IndonesiA. *Seminar*

Nasional Informatika (SEMNASIF), *1*(5), 99–108. Retrieved From Http://Jurnal.Upnyk.Ac.Id/Index.Php/Semnasif/Article/View/760

Sulastri, & Zulita, L. N. (2015). E- Votting Pemilihan Walikota Bengkulu Di Komisi Pemilihan Umum (Kpu) Kota Bengkulu. *Jurnal Media Infotama*, *11*(2), 181–190. Retrieved From Https://Jurnal.Unived.Ac.Id/Index.Php/Jmi/Article/View/265

Ulum, B. (2018). Peran Dinas Kependudukan Dan Catatan Sipil Kabupaten Serang Dalam Penetapan Daftar Pemilih Tetap Pada Pemilihan Gubernur Dan Wakil Gubernur Banten Tahun 2017. *Scientium : Jurnal Ilmiah Dewan Riset Daerah Banten*, *7*(2), 104–113. Retrieved From Http://Www.Drdbanten.Org/Jurnal/Index.Php/Jurnal/Article/View/35

Ulum, C. (2018). Manajemen E-Government Dalam Rangka Capacity Building Birokrasi Di Indonesia. *BISMA (Bisnis Dan Manajemen)*, *2*(2), 167–172. Https://Doi.Org/10.26740/Bisma.V2n2.P167-172

Wijaya, H. O. L. (2017). E-Voting Berbasis Website Pada Pemilihan Kades Di Rantau Jaya (Lake) Dengan Keamanan Data Menggunakan Enkripsi Base 64. *Jurasik (Jurnal Riset Sistem Informasi Dan Teknik Informatika)*, *2*(1), 48. Https://Doi.Org/10.30645/Jurasik.V2i1.18

Yamin, M., Darmawan, A. B., Zayzda, N. A., & Ash-Shafikh, M. (2018). Analisis Open Government Dan E-Government Di Indonesia Berdasarkan Kerangka Kerja Sdgs: Studi Kasus Desa Melung, Kabupaten Banyumas. *Jurnal Hubungan Internasional*, *7*(2), 133–143. Https://Doi.Org/10.18196/Hi.72137

Yulianto, A., Yusuf, D. H., & Firmansyah. (2019). Penerapan E-Voting Untuk Pemilihan Ketua Osis Pada SMP PGRI Parung Panjang Bogor. *REMIK (Riset Dan E-Jurnal Manajemen Informatika Komputer)*, *3*(2), 66–73. Https://Doi.Org/10.33395/Remik.V3i2.10117.