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Utilization of E-Voting as A Medium for Decisions Making on The Use of Village Funds

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Abstract

Each region in Indonesia has advantages and disadvantages, such as location, facilities, and infrastructure. These advantages and disadvantages give rise to social inequalities, especially in rural areas. To minimize social inequality, the government provides village funds that can be used to build facilities and infrastructure, training, and tourism development through Village-Owned Enterprises (BUMDes). The use of village fund assistance is discussed in village council meetings with the community. Some of the obstacles faced in the deliberations are the minimal attendance of participants, less than optimal participants getting information and giving opinions, and the corona virus-19 pandemic. Public concern about the COVID-19 pandemic has turned face-to-face meetings into virtual ones. In this study, public opinion obtained from village e-voting is processed using TF-IDF which aims to give weight to words as a reference in determining development priorities and empowerment needed by the community. After the system is completed, the system is tested with three characteristics of ISO 9126: usability, efficiency, and functional test. The results obtained from testing ISO 9126 are 86.5% for usability, 80% for efficiency, and 75.5% for functionality. TF-IDF generates requests for empowerment, improved facilities and infrastructure, and education. In the word cloud, empowerment becomes the most dominant, depicting it as the biggest. The results showed that the community's priorities and the results of the system were running well.

Keywords: Village Funds, Covid-19, ISO 9126, TF-IDF, Word Cloud

Abstrak

Setiap daerah di Indonesia memiliki kekurangan dan kelebihan seperti lokasi, sarana dan prasarana. Kekurangan dan kelebihan tersebut memunculkan kesenjangan sosial, khususnya daerah pedesaan. Untuk memperkecil kesenjangan sosial, emerintah menyediakan dana desa yang dapat digunakan untuk membangun sarana dan prasarana, pelatihan, dan pengembangan pariwisata melalui Badan Usaha Milik Desa (BUMDes). Penggunaan bantuan dana desa didiskusikan dalam musyawarah perangkat desa bersama masyarakat. Beberapa kendala yang dihadapi dalam musyawarah diantaranya adalah kehadiran peserta yang minim, peserta kurang optimal mendapatkan informasi dan memberi pendapat, serta adanya pandemi corona virus-19. Kekhawatiran masyarakat

terhadap pandemi Covid-19 mengakibatkan pertemuan tatap muka beralih menjadi pertemuan virtual. Pada penelitian ini, opini publik yang diperoleh dari e-voting desa diolah menggunakan TF-IDF yang bertujuan untuk memberi bobot kata-kata untuk menjadi acuan dalam menentukan prioritas pembangunan dan pemberdayaan yang dibutuhkan masyarakat. Setelah sistem selesai dibuat, dilakukan pengujian sistem dengan tiga karakteristik dari ISO 9126 yaitu usability, efficiency, dan functional test. Hasil yang diperoleh dari pengujian ISO 9126 adalah 86.5% untuk usability, 80% untuk efisiensi, dan 75.5% untuk fungsionalitas. TF-IDF menghasikan permintaan pemberdayaan, sarana dan prasarana yang ditingkatkan, serta pendidikan. Pada word cloud, pemberdayaan menjadi yang paling dominan sehingga tergambar paling besar. Hasil penelitian menunjukkan prioritas masyarakat dan hasil sistem berjalan dengan baik.

Kata Kunci: *Dana Desa, Covid-19, TF-IDF, Word Cloud,* ISO 9126

Introduction

The State Budget (known as APBN in Indonesia) is a source of funds for village funding aimed at prioritizing community empowerment and development [1]. The allocation of village funds has been regulated in Law Number 6/2014 about villages. The Makmur village is one of the recipients of village funds in Riau Province. Makmur Village is located in Pangkalan Kerinci District, Pelalawan Regency, Riau Province. Makmur Villages has complete educational, health, and entertainment facilities. The facilities were built to meet the needs of affluent village communities totaling 9,322 residents consisting of 4,751 male residents and 4,571 female residents [2]. Of course, from the total population of Makmur Village, there needs to be an increase every year, both facilities and empowerment that funds are from the State Budget for village fund.

The use of village funds is based on an allocation of 30% for indirect expenditures such as operational costs, allowances, and official travel, while 70% is for direct expenses such as community empowerment and strengthening village government programs [3]. The village fund aims to improve public services, overcome poverty, improve the economy, equitable development among villages, build facilities and infrastructure, and develop tourism with Village-Owned Enterprises (BUMDes) [4].

At certain times, village meetings need to be held to determine the use of village funds. It is known that several inhibiting factors result in suboptimal community participation, internal and external factors such as the role of the private sector, the role of the government in providing information and guidance, income, age, gender, education, and employment [5]. In addition, the COVID-19 pandemic activities that are usually carried out outside the home must be done in their respective homes [6]. "Coronavirus disease 2019" or the COVID-19 pandemic is a pandemic case originating from the SARS-COV-2 virus that started in Wuhan 2019. On November 29, 2020, the number of cases in Indonesia was 70,792, where

16,815 of them died. The number of cases in Pelalawan is 938 cases, where nine of them passed away [7].

In this study, COVID-19 is the reason for making electronic participation (e-participation). E-participation is an information technology-based term for empowering awareness, communication knowledge, and human cooperation in building a participatory social system [8]. In the last two decades, governments have adopted electronic government (e-government), a technology that provides e-participation for online information and services [9]. The motives behind e-government initiatives are rooted in the strategies of public organizations, thereby influencing decisions. There are four main clusters: performance, technology, strategic, and operational [10].

Technology clusters from the central cluster on the motive of e-government initiatives can be in the form of e-voting [10]. E-voting is a voting activity that utilizes media or electronic devices for faster data processing. Besides that, costs can be reduced and prevent fraud, such as voters who do not have the right to vote [11]. Along with the development of technology, face-to-face interaction has turned into interacting with the help of mobile phones or landlines [12]. This is based on the continuous increase in social media users and the prohibition against crowding because it can be punished [13]. Therefore, the research will build a voting system. The voting system is helpful in saving time. The meeting stage (the stage before voting) is done by using Google Meet or Zoom meetings. The shortening time is needed because of many complaints about using internet quota which costs a lot. Village e-voting research will be a solution to get consensus results in deliberation and still avoid the dangers of COVID-19, and not cost too much for the internet.

Voting using online voting has begun to grow in recent years [14]. Online communities are increasingly used to access and share information and for collaborative problem discussions [15]. A study discussing the application of data mining to analyze citizen participation recorded in online digital platforms found that conversational and possibly relevant issues do not always get sufficient attention in e-participation [16]. Research investigating how government presence on social media can stimulate online political participation explains that quality information on social media will significantly relate directly to transparency, trust, online participation, and perceived response [17]. Features that appear on social media are voting that can express opinions on the subject [18].

To get participants' opinions on the e-voting system procedure, they will be given a theme of discussion after an online meeting using Google Meet [19] or Zoom meeting [20]. After that, participants can give their opinion about the results of the meeting. The results obtained from this e-voting are public opinion regarding the community's priority needs. The stages of this research follow the framework of research [21], where there are three levels, namely the level of the participant

area, to group various areas of participation. The tools level category discusses the devices, products, and tools used. At the tools level, the category that will be used is a weblog. The last one is the technology level which discusses the technology that will be used at the previous levels [21].

Opinions from village communities collected in the system will be processed using the TF-IDF term matrix document that has the aim to see which one has higher word weight among the opinions of the village community [22]. The weightiest or most words that appear frequently will be visualized into a word cloud that displays in an attractive and informative form [6]. In this study, the results of community opinion will also be visualized to make it easier for the community to see the results of voting opinions on the voting system. Besides being accessible for the community to understand, it is hoped that this voting will also make it easier for the village head to make decisions from the deliberation. After the system is complete, a test will be carried out using three characteristics in ISO 9126. The test only focuses on functionality, efficiency, and usability, such as implementation research and analysis of SARDrive cloud [23]. ISO 9126 has six assessment characteristics: portability, maintainability, efficiency, functionality, usability, and reliability characteristics. With the use of these three characteristics, it is hoped that the application used can be used sustainably and can help villages in managing village funds so that they can minimize the occurrence of criminal acts of corruption.

Research Methods

Figure 1 is the research flow used to facilitate the research process in this study.

Problem Identification

The first step that needs to be done in this research is problem identification. Observing and finding problems in the village regarding deliberation during the COVID-19 pandemic is the stage of problem identification. Starting from the increasing spread of the virus, the punishment that will be accepted if holding a large number of activities, the place and time of deliberation, which causes a lack of participants.

Problem Analysis

Problem analysis is carried out based on problem identification. Problems that arise will be analyzed to find alternative ways to solve them. The community wants to continue holding discussions but is constrained by the dangers of the spread of COVID-19, which limits activities to break the virus transmission chain. In addition, deliberation in the old way is also constrained by time and place, so the number of participants is not optimal. Therefore, a system must accommodate the community's aspirations in village meetings to determine priority needs.
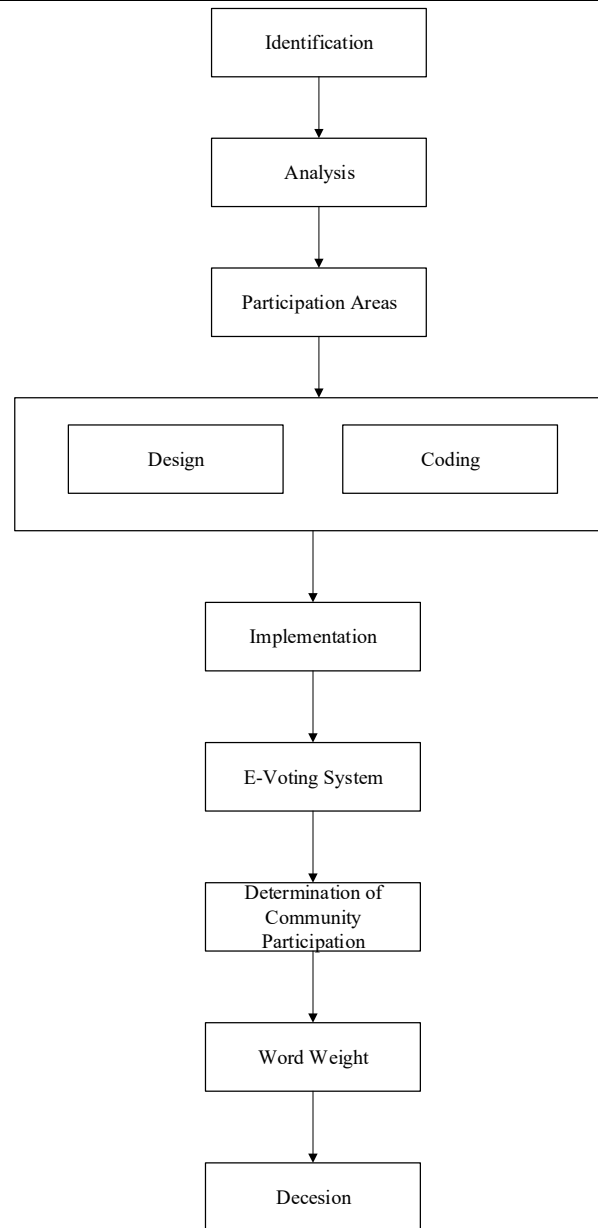
Figure 1 Research Method

Participation Area

The area of participation is one of the elements in the research, which is useful for seeing the areas of participation in deliberation activities. Suppose the activity is carried out in the old way. In that case, it can be seen that there is a lack of participation, such as public interest in deliberation, because the place and time cannot accommodate all participants in the area. The concept of the village e-voting participant area that will be built is that it can be done without time and place restrictions so that more residents participate [24]. The participation area is carried

out by following the research framework [23], with three levels: participation area, tool category, and technology. Figure 2 shows the framework.
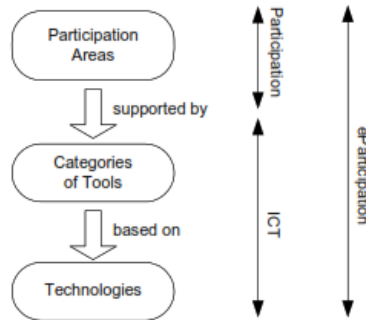

Figure 2 Framework [21]

Technology Design and Development

In fulfilling the order of the framework in this research, the Unified Modeling Language (UML) is used as a tool to make analysis and design the village e-voting system. From the design that has been made, the next step is the development of the system. After making the system, system testing will be carried out by measuring quality refers to three characteristics in ISO 9126, namely characteristics of usability, functionality, and efficiency.

Implementation

Implementation in this study aims to test the system that has been made. In addition to being a trial, the implementation stage is carried out to determine the system's feasibility. The system created must follow the initial design and initial purpose. This is done so that the system published to the public can fulfill the initial purpose of making the E-Voting system. The feasibility test used is ISO 9126 with the Equation (1).

$$Value\ (\%) = \frac{Actual\ Value\ x\ 100\%}{Ideal\ Value} \tag{1}$$

where:
Actual Value = the total value of the questionnaire from the respondents
Ideal Value = the highest questionnaire value from the respondents

Before testing ISO 9126, it is necessary to test the validity and reliability with the help of tools on SPSS. The validity test aims to determine the validity of the questions on the questionnaire with the following conditions:

- $r_{count} \geq r_{table}$ = valid
- $r_{count} \leq r_{table}$ = invalid

While reliability aims for reliable decisions and not with the condition that a variable is reliable if Cronbach's alpha (α) > 0.60 [25]. However, other researchers

also say that Cronbach's alpha (α) > 0.70 is an acceptable reliability threshold [26] (high reliability), while 0.50-0.70 is moderate reliability [27]. For this reason, this study will use Cronbach's alpha (α) > 0.70.

E-voting System

The system applied in village e-voting is expected to assist in deliberation during the pandemic. The system plays a role as a platform so that the deliberation keep continues and does not limit the place and time like the previous deliberation. The system has input and output processes that help the activity process. The input process for access to the system so that there are no false voices and makes it easier for administrators so that there is no need to input data for the entire community. In the final report/output, it can be seen who agrees to manage some of the village funds.

Determination of Community Participation

The determination of community participation in village deliberations is carried out through the help of Google Meet or Zoom. The public is free to express opinions and provide responses according to the theme raised. From the given opinions, it will be processed according to the following process: word weighting.

Word Weight

Word weighting is carried out after the community gives their opinion through e-voting as the platform. The word weighting process uses the TF-IDF Document term matrix to get the word weighting that appears. Furthermore, the word weighting obtained will be used as a word cloud that displays words of different sizes depending on the weight of the word.

TF-IDF formula used:

$$W_{ij} = tf_{ij} \, x \log\left(\frac{D}{df_j}\right) \tag{2}$$

where:
tf_{ij} = Number of occurrences of term
D = Total of all documents
df_j = Number of documents containing term

Decision

The decision from the village e-voting results in a word cloud form which will be compared with the results of data processing using TF-IDF that the data is obtained from public opinion according to the theme given to the community when conducting online meetings using help from Google Meet or Zoom.

Result and Discussion

The following is an explanation related to the results and discussion.

Implementation

The implementation in this research is a web-based system design. The web is a solution in deliberation because it can be accessed using laptops, computers, and smartphones. The selection of the web was also chosen because the cost of the internet used was lighter than deliberation using Zoom and Google Meet.

The page is divided into home page, the e-participation page, and the results page (Figure 3). The home page for admin and user has something in common, which only displays the name and welcoming to the system along with the current time and date. On the e-voting page for the public, there are two slots for displaying name input and opinion input. The public can fill in their opinions regarding the current discussion on the opinion input. The result page summarizes the opinions that have high value using TF-IDF.

Figure 3 E-Participation

The display of e-voting on the admin will be seen more clearly because it can display all opinions from the community. The admin page of the e-voting system displays the overall opinion of the village community and the name of the opinion giver. The order of opinion on this e-participation is based on filling time. The e-participation method only accommodates public opinion before being processed using TF-IDF and has not yet been implemented.

The e-participation result display will see the TF-IDF process being executed (Figure 4). At this stage, all opinions are processed using the TF-IDF formula. After knowing the value of opinion in the village community, the sentences of opinion automatically become in order according to the value of the opinion itself. The order is arranged from smallest to largest. In the summary results

section, what appears is the highest sentence representing the opinion of the entire village community (Figure 5).

Kalimat 3	22
Kalimat 66	21
Kalimat 17	21
Kalimat 57	21
Kalimat 11	19
Kalimat 80	18
Kalimat 52	18
Kalimat 72	18
Kalimat 92	16
Kalimat 12	15
Kalimat 27	11
Kalimat 35	10
Kalimat 89	3
Kalimat 77	1
Kalimat 106	0

Hasil Rigkasan

fasilitas sarana dan pendidikan yang dapat menunjang proses pemberdayaan dari semua jenis aktor yang ada di desa, contohnya, lembaga khursus, ataupun lainnya. Perlu ada nya pemberdayaan tentang sarana dan prasarana keolahragaan .

Figure 4 E-Participation TF-IDF Result

Figure 5. Word Cloud

Testing

To test the system by selecting three characters from ISO 9126. Testing is done by distributing questionnaires. The questionnaire was conducted using the help of Google forms with a total of 10 questions. In this study, respondents who became the research sample were experts in the IT field, namely programmers, IT staff, and IT lecturers. Responses from respondents will be processed using the following Equation 1.

Table 1 Elibigility Table

No	Category	Percentage (%)
1	Very Inappropriate	0%-20%
2	Not Feasible	21%-40%
3	Decent Enough	41%-60%
4	Worthy	61%-80%
5	Very Worthy	81%-100%

a. Validity Test

Validity test is carried out to determine the validity of the questions on the questionnaire that distributed to respondents, the requirements for validity testing as follow:

- $r_{count} \geq r_{table}$ = valid statement.
- $r_{count} \leq r_{table}$ = invalid statement

The use of SPSS tools to test the validity with an error rate of 5% is worth 0.632 with $n = 10$.

Table 2 Validity Test

No	r_{count}	r_{table}	Explanation	Characteristics
1	0.822	0.632	Valid	Usability
2	0.822	0.632	Valid	Usability
3	0.848	0.632	Valid	Usability
4	0.830	0.632	Valid	Usability
5	0.922	0.632	Valid	Efficiency
6	0.922	0.632	Valid	Efficiency
7	0.887	0.632	Valid	Functionality
8	0.892	0.632	Valid	Functionality
9	0.506	0.632	not Valid	Functionality
10	0.921	0.632	Valid	Functionality

In the usability test, the validity gets a value above 0.632 so that the four questions get all valid results. The validity test carried out on the efficiency characteristics obtained the same results as usability, described as valid with a value above 0.632. The last validity test performed on functionality three out of four got a score above 0.632 so that only three out of four questions were valid.

b. Reliability Test

Reliability test also uses tools in SPSS for reliable and unreliable decisions. A variable is reliable if the Cronbach's Alpha $(\alpha) > 0.70$.

Table 3 Reliability Test

No	Characteristics	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	n of Items
1	Usability	.884	.897	4
2	Efficiency	1.000	1.000	2
3	Functionality	.826	.858	4

If the test value on usability is more than 0.70, which is 0.884, then the variable is reliable. In the efficiency reliability test, it gets a value of 1.000, so the variable is declared to be reliable. Last, the functionality has a value of 0.826, so the variable is reliable. Of all the variables, all values are above 0.70, which indicates that all variables are reliable.

c. ISO 9126 Test

Assessing the ease of software interfaces and navigation is an assessment of usability testing. Efficiency assesses the efficiency of using the system, performance, and saving resources The characteristics of functionality rate the capability of the system.

Table 4 ISO 9126 Test

No	Characteristics	Actual	Ideal	Percentage	Description
1	Usability	173	200	86.5%	Very Worthy
2	Efficiency	80	100	80%	Worthy
3	Functionality	151	200	75.5%	Worthy

Conclusion

TF-IDF and Word Cloud conclusions can be seen as priority needs based on comments given to the system. The word cloud's appearance will make it easier for village administrators to decide on the use of village funds for next year. This is beneficial not only for village administrators but also for the community. People can give their opinion without limitations of place and time. People also do not have to worry about their opinions because they will still be processed using TF-IDF.

The village e-voting test results describe very worthy in usability with a percentage value of 86.5%, worthy in efficiency with a value of 80%, and worthy in functionality with a value of 75.5%. Usability test includes understandability or ease of understanding, learnability or ease of learning, operability or ease of operation, and attractiveness of the software's ability to attract users. In the efficiency test, there are two sub-characters, namely time behavior or the ability of the software to respond and the appropriate processing time when performing its functions, and the resource behavior sub-character, namely the software's ability to use its resources when performing the specified function. Finally, on functionality testing with its four sub-characters, namely suitability or the ability to provide a series of functions that are suitable for specific tasks and user goals, accuracy or preventing unwanted access to hackers, interoperability or interaction of one or more certain systems, and compliance or the ability to meet standards and needs according to specific regulations. With the testing of ISO 9126, it can be used as a benchmark that the system created is suitable for use by the community in expressing opinions.

Future research is expected to be tested using all ISO 9126 variables in system testing, so that the test results can be more optimal in the implementation of the village government's e-voting system.

Daftar Pustaka

[1]   Y. Hulu, R. H. Harahap, and M. A. Nasution, "Pengelolaan Dana Desa dalam

Pemberdayaan Masyarakat Desa," vol. 10, no. 1, pp. 146–154, 2018.

[2]   Badan Pusat Statistika Kabupaten Pelalawan, "Kabupaten Pelalawan Dalam Angka 2020," *Badan Stat. Kabupaten Pelalawan*, no. 2355–455X, 2020.

[3]   A. Rahum, "Pengelolaan Alokasi Dana Desa (Add) Dalam Pembangunan Fisik Desa Krayanmakmur Kecamatan Long Ikis Kabupaten Paser," *eJournal Ilmu Pemerintah.*, vol. 3, no. 4, pp. 1–14, 2015.

[4]   Kementerian Keuangan, "Buku Saku Dana Desa," *Kementeri. Keuang. Republik Indones.*, pp. 1–98, 2017.

[5]   A. B. Gedeona, "Partisipasi Masyarakat Dalam Musyawarah Perencanaan Pembangunan Kecamatan Larantuka Kabupaten Flores Timur," *J. Adm. Publik dan Birokrasi*, vol. 2, no. 1, pp. 1–22, 2014.

[6]   Andreyestha, A. D. Suriyanto, and W. E. Pangesti, "Analisa Sentimen Terhadap Tagar #dirumahaja Melalui Twitter Di Indonesia," vol. 2, no. 09, pp. 9–17, 2021.

[7]   Satuan Tugas Penanganan COVID-19, "Analisis Data COVID-19 Indonesia," *covid19.go.id*, 2020. https://covid19.go.id/p/berita/analisis-data-covid-19-indonesia-update-15-november-2020 (accessed Jul. 02, 2021).

[8]   J. N. S. Gono, "e-Partisipasi Politik," *BioKultur*, vol. 5, no. 2, pp. 143–156, 2016.

[9]   D. Coursey and D. F. Norris, "Models of e-government: Are they correct? An empirical assessment," *Public Adm. Rev.*, vol. 68, no. 3, pp. 523–536, 2008, doi: 10.1111/j.1540-6210.2008.00888.x.

[10]   M. Hapsara, A. Imran, and T. Turner, "Beyond Organizational Motives of e-Government Adoption: The Case of e-Voting Initiative in Indonesian Villages," *Procedia Comput. Sci.*, vol. 124, pp. 362–369, 2017, doi: 10.1016/j.procs.2017.12.166.

[11]   S. Jaleha and E. Suriyani, "Implementasi Sistem E-Voting Dilihat Aspek Komunikasi Dalam Rangka Pemilihan Kepala Desa Di Desa Kambitin Raya Kecamatan Tanjung Kabupaten Tabalong," *JAPB*, vol. 3, no. 2, p. 1253, 2020, [Online].   Available: http://jurnal.stiatabalong.ac.id/index.php/JAPB/article/view/350.

[12]   S. A. Munasaroh, "Budaya Komunikasi Pada Pengguna Media Sosial Facebook Di Era New Media," *Al-Ittishol J. Komun. dan Penyiaran Islam*, vol. 2, no. 2, pp. 82–96, 2021, doi: 10.51339/ittishol.v2i2.309.

[13]   K. S. W. Putri, S. Suhartono, and T. Michael, "Penerapan Sanksi Pidana Kepada Pelanggar Protokol Kesehatan Di Tengan Pandemi Covid-19," *Akrab Juara*, vol. 6, no. 2, p. 216, 2021.

[14]   J. Mellon, T. Peixoto, and F. M. Sjoberg, "Does online voting change the outcome? Evidence from a multi-mode public policy referendum," *Elect. Stud.*, vol. 47, pp. 13–24, 2017, doi: 10.1016/j.electstud.2017.02.006.

[15]   L. Chen, A. Baird, and D. Straub, "Why do participants continue to contribute? Evaluation of usefulness voting and commenting motivational affordances within an online knowledge community," *Decis. Support Syst.*, vol. 118, no. January, pp. 21–32, 2019, doi: 10.1016/j.dss.2018.12.008.

[16]   I. Cantador, M. E. Cortés-cediel, and M. Fernández, "Exploiting Open Data to analyze discussion and controversy in online citizen participation," *Inf. Process. Manag.*, vol. 57, no. 5, p. 102301, 2020, doi: 10.1016/j.ipm.2020.102301.

[17]   S. Arshad and S. Khurram, "Can government ' s presence on social media stimulate citizens ' online political participation ? Investigating the influence of transparency , trust , and responsiveness," *Gov. Inf. Q.*, vol. 37, no. 3, p. 101486, 2020, doi: 10.1016/j.giq.2020.101486.

[18]   J. Wang, H. Wang, M. Zhao, J. Cao, Z. Li, and M. Guo, "Joint Topic-Semantic-aware Social Matrix Factorization for online voting recommendation," *Knowledge-Based Syst.*, vol. 210, p. 106433, 2020, doi: 10.1016/j.knosys.2020.106433.

[19]   S. Nalurita, "Pemanfaatan Aplikasi Google Meet pada Mata Kuliah Teknik Proyeksi Bisnis Semester Gasal Tahun Pelajaran 2020/2021 di Universitas Dirgantara Marsekal Suryadarma (UNSURYA) (Studi pada Mahasiswa Prodi Manajemen Kelas G)," *J. Ilm. Manaj. Surya Pasca Sci.*, vol. 10, no. 1, pp. 22–30, 2021, [Online]. Available: https://journal.universitassuryadarma.ac.id/index.php/jimspc/article/download/593/564.

[20]   D. Haqien and A. A. Rahman, "Pemanfaatan Zoom Meeting untuk Proses Pembelajaran pada Masa Pandemi Covid-19," *SAP (Susunan Artik. Pendidikan)*, vol. 5, no. 1, 2020, doi: 10.30998/sap.v5i1.6511.

[21]   E. Tambouris, N. Liotas, and K. Tarabanis, "A framework for assessing eParticipation projects and tools," *Proc. Annu. Hawaii Int. Conf. Syst. Sci.*, pp. 1–10, 2007, doi: 10.1109/HICSS.2007.13.

[22]   M. G. Pradana, "Penggunaan fitur wordcloud dan document term matrix dalam text mining," *J. Ilm. Inform.*, vol. 8, no. 1, p. 38, 2020.

[23]   M. K. Anam and H. Ulayya, "Implementasi dan Analisa SARDrive Sebagai Media Penyimpanan Cloud," *JUITA J. Inform.*, vol. 8, no. 1, pp. 83–90, 2020, doi: 10.30595/juita.v8i1.5748.

[24]   A. Petitpas, J. M. Jaquet, and P. Sciarini, "Does E-Voting matter for turnout , and to whom ?," *Elect. Stud.*, no. October, p. 102245, 2020, doi: 10.1016/j.electstud.2020.102245.

[25]   K. A. M. Daud, N. Z. Khidzir, A. R. Ismail, and F. A. Abdullah, "Validity and reliability of instrument to measure social media skills among small and medium entrepreneurs at Pengkalan Datu River," *Int. J. Dev. Sustain.*, vol. 7, no. 3, pp. 1026–1037, 2018, [Online]. Available: www.isdsnet.com/ijds.

[26]   K. S. Taber, "The Use of Cronbach's Alpha When Developing and Reporting

Research Instruments in Science Education," *Res. Sci. Educ.*, vol. 48, no. 6, pp. 1273–1296, 2018, doi: 10.1007/s11165-016-9602-2.

[27]   F. A. M. Nawi, A. M. A.Tambi, M. F. Samat, and W. M. W. Mustapha, "a Review on the Internal Consistency of a Scale: the Empirical Example of the Influence of Human Capital Investment on Malcom Baldridge Quality Principles in Tvet Institutions," *Asian People J.*, vol. 3, no. 1, pp. 19–29, 2020, doi: 10.37231/apj.2020.3.1.121.