

Research Trend on E-democracy Publications: A Bibliometric Analysis

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Abstract

Research related to e-democracy is now a trend carried out by scholars since the massive development of information and communication technology. The e-democracy system that continues to change and develop every year is an interesting topic to continue to be studied. The article purposes is to evaluate e-democracy research trend through bibliometric analysis techniques in the time period two decades (2001-2020). This article uses a bibliometric analysis with applied VOSviewer to provided researchers in describing data and Gephy software to map network classification. Countries in Europe and the Americas dominate the research and implementation of the e-democracy system through a smaller approach, namely, e-government. This article found 9 main clusters of 306 articles that have been comes from different countries, affiliates, and authors. This clusterization mapping was useful for future researchers in developing and discussing their research on the study of e-democracy

Keywords: Bibliometric analysis, E-democracy, Research trend, VOSviewer

INTRODUCTION

The development of information and communication technology provides opportunities for changes in democratic mechanisms (Freeman & Quirke, 2013). The use of digital media is considered an opportunity to democratize the political process (Kneuer, 2016; Petr Balog & Badurina, 2017). This is because one of the benchmarks of the course of democracy is the existence of free and independent media. In this era of information technology, e-democracy has become a critical component (Petr

Balog & Badurina, 2017). For governments, the use ICT (Information, Communication and Technology) in their systems provides opportunities for political representation, transparency, participation, and accountability, which these opportunities open up people's access to engaging in the democratic process. This change in digital democracy has expanded throughout the world, such as countries located in the African region have also begun to implement e-democracy and e-governance in their system of government (Netchaeva, 2002), in addition to the implementation of e-democracy has also been followed by

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several countries in the Middle East (El-Qawasmeh & Owais, 2010).

Various forms of e-democratic practices such as voluntary public input or crowdsourcing lead to collaborative democracy (Brabham, 2009; Hennen et al., 2020; Hilgers & Ihl, 2010), using public knowledge in government decision-making (Aurigi, 2005; Couldry et al., 2016); political processes were transferred into internet-based platforms of case studies in Hungary and Italy (Molnár & Urbanovics, 2020); using the help of information systems in translating "Obscurity and irregularity of people's desires" as in Australia (Hasan & Linger, 2020). The new perspective in the development of e-democracy is not only about "what e-democracy do" but also "what political model can be created through e-democracy". Forcella (2006) asserts the core of e-democracy from an EU perspective is its potential to create a new political model: multi-centers democracy. Therefore, the meaning of e-democracy can be seen from various angles.

The change in the democratic process is never rapid, but it also never stagnates (Freeman & Quirke, 2013). E-democracy has a very broad understanding. Various terms for e-democracy in the literature include e-democracy, part of e-government, e-participation, cyber politics, and others. In addition, the use of the term is inconsistent (Kneuer, 2016). This is because the definition of e-democracy itself is inconsistent. Some authors understand e-democracy as a common concept with citizen participation (Gunter, 2006); the use of ICT by

political actors (government, elected officials, media, political/community organizations, and citizens) in the political and governmental processes in the current representative democracy (Lukšič, 2014). Forcella (2006) defines e-democracy as new forms of communication that allow the expression of citizens' political will. However, according to Norris, et al (2013) the definition of e-democracy concerns at least 6 components, namely (1) Citizens' access to information and services; (2) The ability of citizens to contact and interact with officials; (3) The ability of citizens to communicate online with the government; (4) Participation of citizens in government activities and programs; (5) Participation of citizens in government decision-making; and (6) Voting.

The development of world e-democracy does not run without criticisms. Many articles raise the criticism that e-democracy has not fully been implemented. Moreno-Jiménez & Polasek, (2003) made a famous statement before platforms (e-cognoracy) exploded that "the road to e-democracy is littered with failed projects that burn out". Moss & Coleman (2014) concluded that the Internet has failed to drive revolutionary change in political participation and even if it has a purpose for which this participation is aimed, it is not necessarily democratically desirable. (Kim, 2008) argues that the wisdom of many people based on social media where groups of "likes" and Tweets become databases, is incompatible with representative democracy. Kreiss (2015) highlights the practice of e-democracy in America

where collaborative and deliberative efforts occur only between parties, not intra-party or between partisans. This causes so-called "public problems" not yet entirely to be entirely public problems as mentioned (Kreiss, 2015). Another criticism of e-democracy, namely the results of research in Sweden that citizens are more likely to use the function of e-democracy if they have a high level of income and education and, also have experience using computers (Lidén, 2013).

The purpose of this article is to identify research trends on the topic of e-democracy that has been published using bibliometric data analysis techniques and research data collection through the Scopus database. The development of e-democracy research is very important to be discussed by scholars. This is in line with Bindu research, et al (2019) where the growth curve of the number of articles published per year shows that research activities are still in an upward phase and the results of cluster analysis identify the main topics leading to the topic of e-democracy. To fill this gap, this article mainly uses a bibliometric analysis to evaluate knowledge mapping, and keyword clustering, and content analysis represented by topic of e-democracy. Additionally, this article can provide a comprehensive and objective overview of the current state of research in the field and serve as a scientific resource for further investigation. We established the following goals to accomplish this:

1. Annual publication trend and subject areas of e-democracy research.

2. Most Contributing Authors, Institutions, and Countries

3. Influential works of e-democracy research

4. Cluster by keywords and network analysis on e-democracy research

This paper is structured as follows; firstly, the introduction or background of the topic to be studied. Secondly, the research methods used in analyzing research objects. Thirdly, the results and discussions containing data in the form of the development of publications every year, subjects related to e-democracy, author, institutions, countries that dominate in writing articles on e-democracy, the most confiscated authors, and clusters that divide the topic of e-democracy in various scientific discussions. Finally, the findings of the study that has been studied will be concluded and provide advice and recommendations for future research.

RESEARCH METHOD

This article uses bibliometric analysis in examining data derived from Scopus database on the topic of e-democracy. Referring to Robertson et al., (2020); Sánchez et al., (2017), a study with bibliometric analysis is a literature study that analyzes bibliographic data derived from scientific publications with the final result in the form of statistical data. Bibliometric analysis has the latest data using statistical data owned by a database index, analysis using bibliometrics can help researchers to find an update of the previous information or find information that has never been explored. At first bibliometric analysis is part of library

studies, but in the end, bibliometric analysis that continues to develop has the main goal of recording and reviewing a research topic that has long existed and been updated with a certain period.

The use of bibliometric analysis becomes a separate interest in describing certain topics in various fields of science, as well as in certain periods. Examples of the use of bibliometric analysis are Bibliometric analysis and literature review of ecotourism: Toward sustainable development (Khanra et al., 2021), Bibliometric overview of the Technological Forecasting and Social Change journal: Analysis from 1970 to 2018 (Singh et al., 2020), Higher education decolonization: #Whose voices and their geographical locations? (Adefila et al., 2021). Research related to e-democracy using bibliometric analysis is still very little, then this is interesting for researchers to examine the trend of e-democracy publications using bibliometric analysis.

Bibliometric analysis is a scientific subject consisting of comprehensive data on knowledge, assessment, and measurement that refers to scientific publications (Herrera, 2020). The data contained in this article is collected using the Scopus database. Scopus is one of the largest databases in the international scope that presents various documents or literature such as books, journals review, proceedings, and book chapters with various multidiscipline. Furthermore, researchers describe data in the form of statistical folders using the VOSviewer application. According to van Eck & Waltman (2010) VOSviewer is used to construct and visualize the bibliometric network which will form information related to the field of study, developments, and existing trends. In mapping the network classification, researchers chose to use Gephy software. Here is an overview of the research methods used in this article (Figure 1).

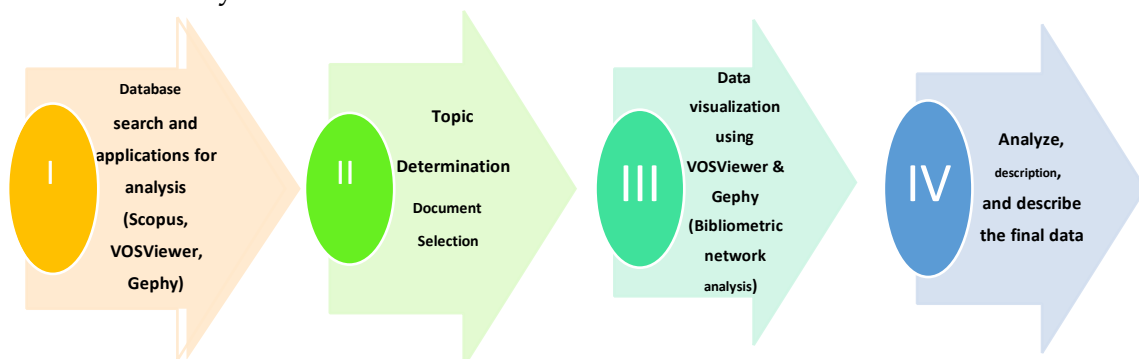


Figure 1. Research Method Phase

RESULTS AND DISCUSSION:

Annual Outputs and Subject Area

The annual publications about e-democracy has ups and downs every year, this can be seen in Figure 2 which describes the analysis of annual

publications from 2001 to 2020. The figure shows the research trend on e-democracy which increased dramatically in 2003, e-democracy itself is a technological development tucked into the democratic system, the

implementation of this internetbased democratic system aims to facilitate and assist the government's work in collecting public opinion (Heindl et al., 2003; Parvez, 2003). Quoting Dahlberg (2001) the first publication related to e-democracy conducted by Dahlberg

discusses the application of the internet in the body of democracy in the government of Minnesota, United States. This collaboration between the internet and democracy opens up new opportunities to expand public spaces in cyberspace.

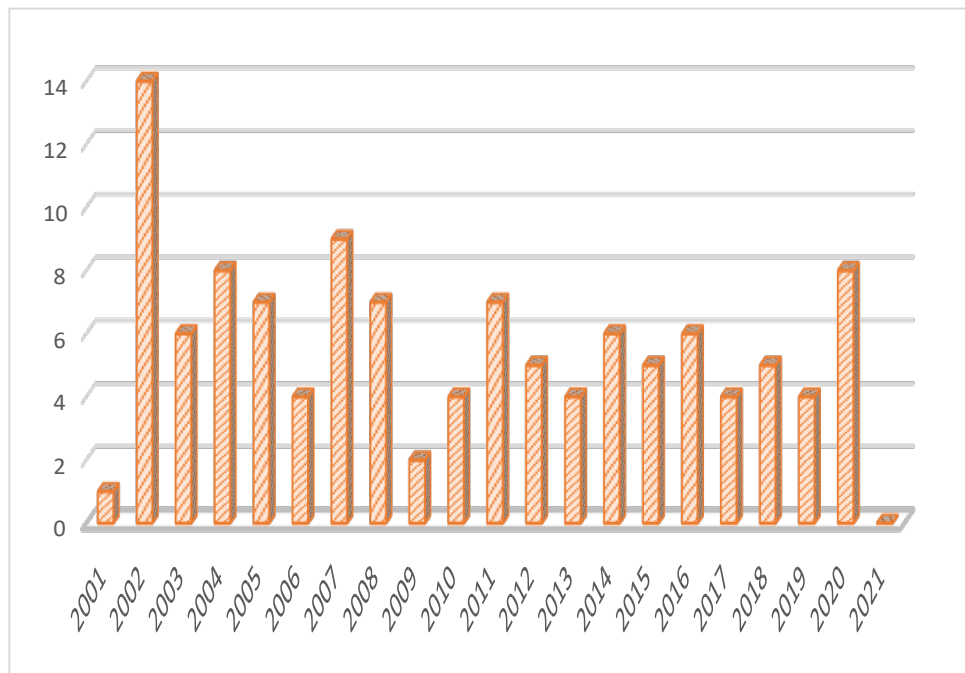


Figure 2. Annual Outputs of E-democracy Publication Research Trend (2001 – 2020)

Research on e-democracy has been published so quickly and on so many various topics that it has made it possible to build it using more diverse resources and different lenses. The trend of e-democracy publication after 2001, precisely in 2003 with the publication of 24 articles that appeared, one of the articles discussed the existence of a system of renewal in the democratic body called e-cognocracy, which is a democratic system that is focused on networking in the system to find and solve a problem (Moreno-Jiménez & Polasek, 2003), this is also in line with the improvement in decision making in the e-democratic system. detailing the

ideal technical and methodological ability to make democratic decisions (French, 2003a).

Another article written by Carvalho (et al., 2003) in the same year of publication also outlines how a newly arises in the voting of the community to discuss the interests of democracy in a city. This significant update that continues to emerge remains stable until finally in 2009 when there are only two publications. In 2020, trends related to e-democracy have focused on talking about how an application or software created by local governments in supporting the distribution of involvement of people en masse for

decision making related to democracy in their country or city (Hujran et al., 2020; Janoschek & Piswanger, 2020; Mishra, 2020; Toode, 2020).

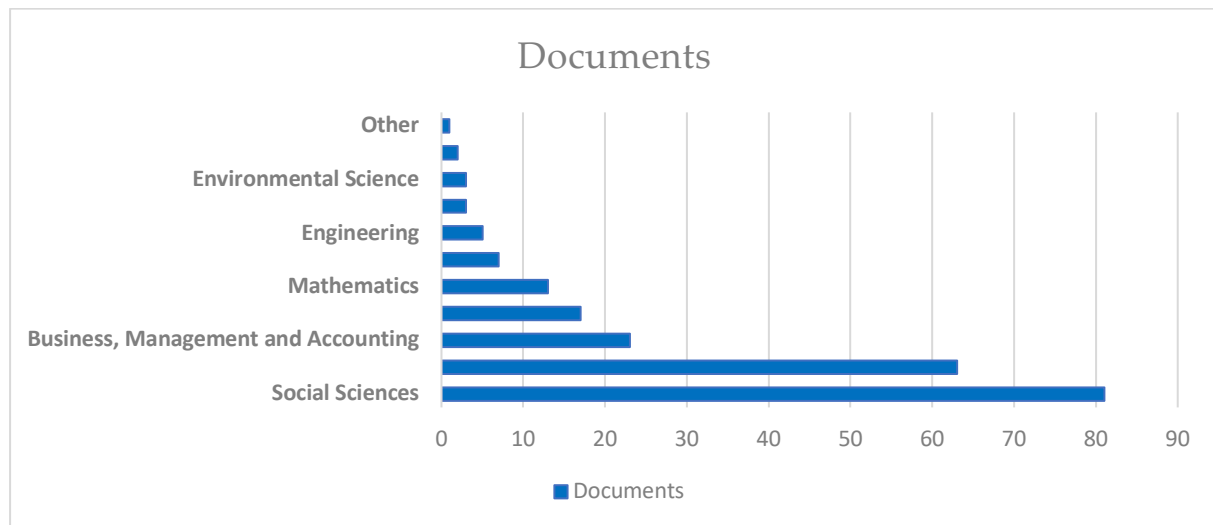


Figure 3. Subject Areas Related to E-democracy

After being presented above the trend related to the publication of e-democracy then in Figure 3, we can see how e-democracy is not only limited to social and political subjects. Figure 3 describes that e-democracy is also discussed in other subjects such as computer science (28.9%), business, management, and accountants (10.6%), mathematics (6.0%) to medicine with a percentage (0.9%). The percentage in the figure 3 shows how e-democracy is so in demand by academics in the field of social sciences (Hepburn, 2012; Moss & Coleman, 2014) which proposes digital transformation or the internet in traditional democratic systems in improving the participation of society.

E-democracy is also getting closer to the development of technology or computer science, this is indicated by a publication by (Carenini et al., 2007; Hilbert, 2009; Hilton, 2006) which examines how a technological system in

the form of software or e-government applications or the like can be integrated into traditional democratic systems that are quite complicated, with the development of digital applications that can help local or national governments to update and simplify democratic systems and help in solving problems related to democratic systems.

Most Contributing Authors, Institutions, and Countries

The publication trend towards e-democracy that continues to grow from year to year, has led many authors or academics from various institutions in various parts of the world to criticize the same thing. Figure 4 can be seen the names of the top ten authors who are active in reviewing and publishing their writings in the last 19 years. S. French and A. Macintosh are the authors of the most published e-democracy articles, followed by M. Haćek, D. R. Insua, M.

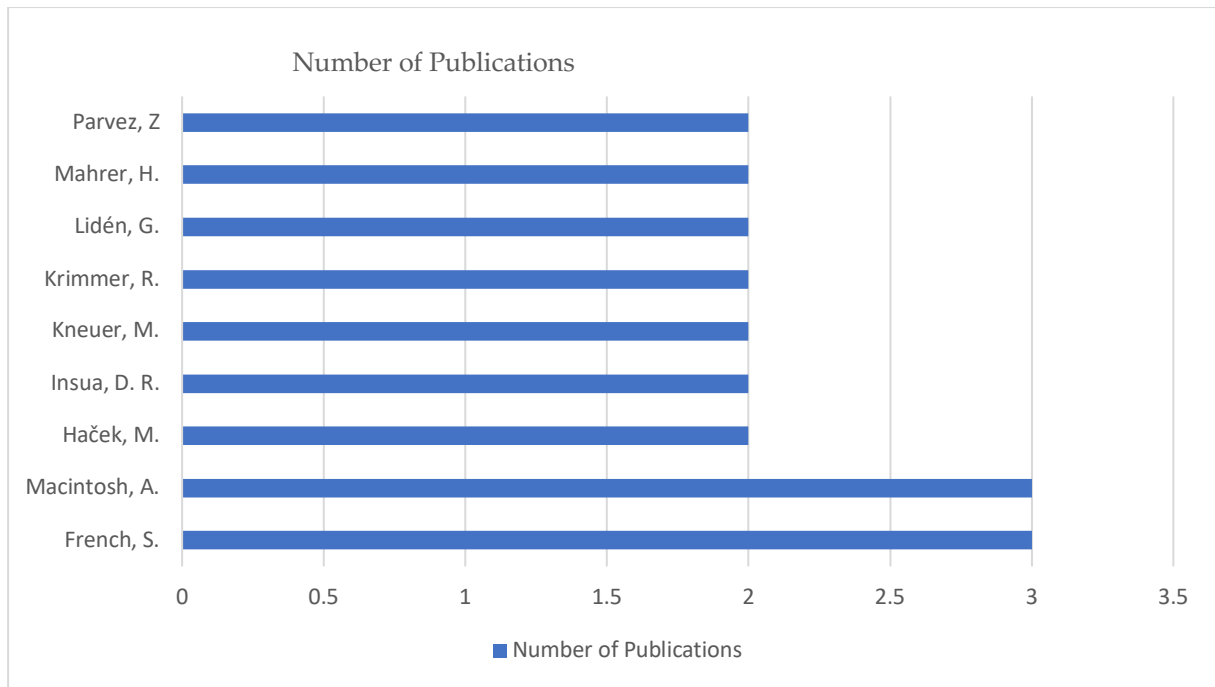


Figure 4. Most Contributed Authors on E-democracy Publication Research

Kneuer, R. Krimmer, G. Lidén, H. Mahrer, Z. Parvez, and A. Prosser with the same number of article publications. The article written by S. French is dominated by discussions about the Multi-Criteria Decision Analysis

(MCDA) paradigm in the application of e-democracy, which allows elections or policy-making by the public based on several aspects, one of which is self-interest (French, 2003a, 2003b, 2007).

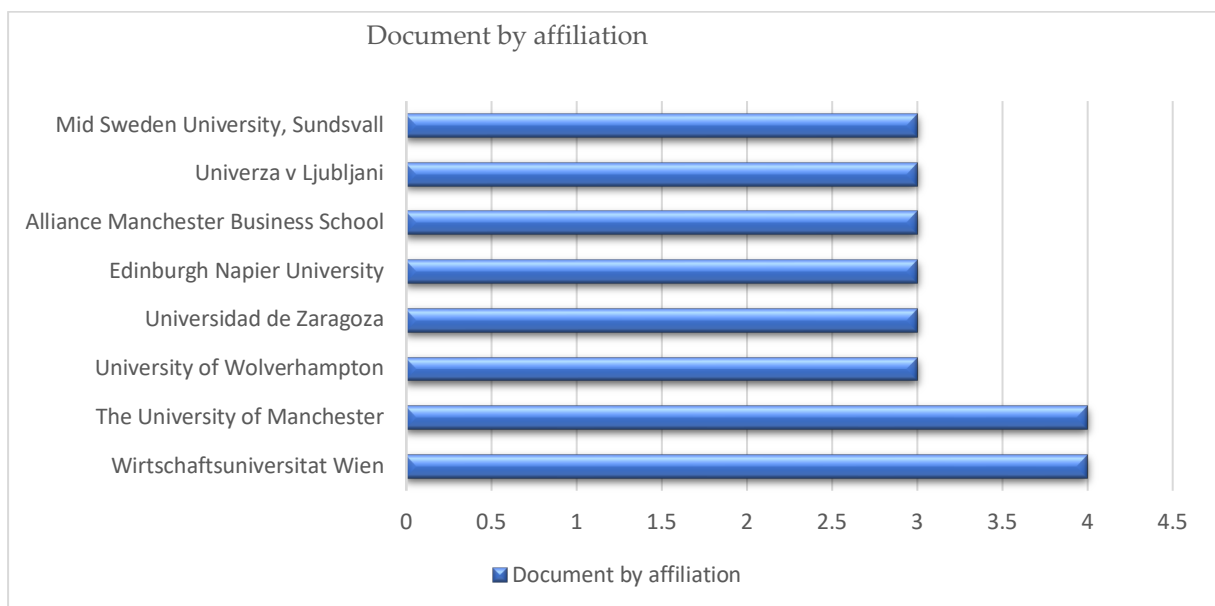


Figure 5. Documents Publication by Affiliation

Decision Analysis (MCDA) paradigm in the application of e-democracy, which allows elections or policy-making by the public based on several aspects, one of which is self-interest (French, 2003a, 2003b, 2007). Publications related to e-democracy are not only carried out by an author but affiliated with universities and other institutions. Several institutions that have been affiliated with the authors can be seen in Figure 5. *Wirtschaftsuniversitat Wien* and *The University of Manchester* have published 5 articles on e-democracy, one of the articles published is that of S. French published by the University of Manchester and "E-democracy: A new dimension in democratic decision making" which explains the various options for voting systems over the internet and the impact on the people. User (Prosser & Müller-Török, 2002) by *Wirtschaftsuniversitat Wien*.

The trend of publications related to e-democracy is widely carried out by universities or agencies located in the European region, this shows how the democratic system in the European region continues to make changes and updates, especially in the field of information technology to support the participation of local communities in the performance of the government and the course of democracy of a country or region. Referring to Figure 5 affiliates that are widely done, institutions located in the Asian region are not included in the list of publications of trends in updating the edemocracy system. Meanwhile, an article published by Florida State University, which summarizes and provides conclusions

related to the running of e-democracy and e-government systems in 131 countries in the world including the Asian region, it is found that the different political systems, communities, and internal factors of each country finally have an impact on how the e-democracy and e-government systems can be carried out by their respective political rules and norms (Lee et al., 2011).

Figure 6 shows data related to the country of origin of the authors who published articles about e-democracy. The dominance of writers comes from European countries, such as the United Kingdom which occupies the top ranks, followed by the United States, Spain, Italy, Sweden, Australia, Austria, Germany, Brazil, and in the last order namely Jordan. The most popular publication trend is held by the United Kingdom, this is due to the large number of studies conducted to see the development of the effectiveness of e-voting in the democratic system in the United Kingdom in the transition from traditional democracy to e-democracy (Pratchett, 2012; Smith & Macintosh, 2003). Moss & Coleman (2014) stated that the trend of e-democracy that is fading in fact can not be realized perfectly in the United Kingdom.

Another article that also emerged from the United Kingdom related to the application of edemocracy in the form of e-voting, namely Shat & Pimenidis (2017), argued that this digital democracy trend cannot run effectively looking at the state of the global world that is experiencing a crisis, one of which is the crisis of public confidence in the system that has been created and

people's participation in voting. The application of digital democracy in the European region has become a 'common' thing to do, this is evidenced by the existence of the E-democracy

European Network (EDEN) as a project created to develop the participation of local people's communication with the public administration system (Carenini et al., 2007).

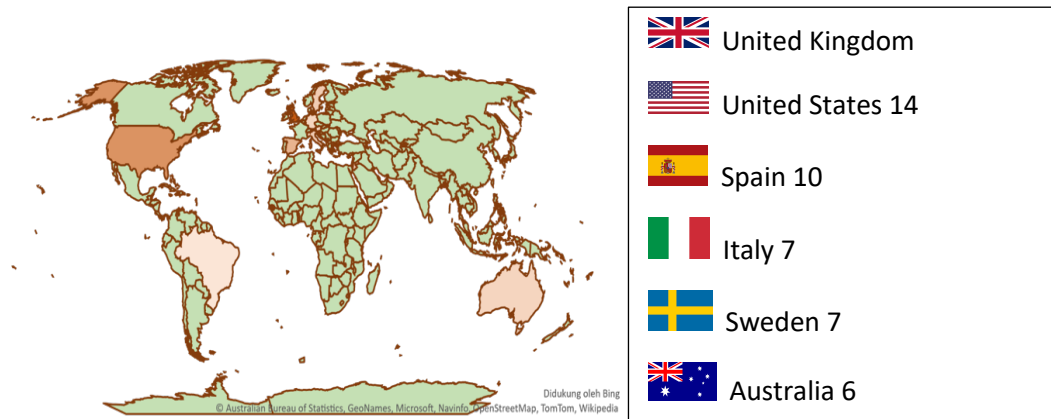


Figure 6. The most contribution countries

Influential Papers

This section features some of the top authors with their most influential publications on the topic of digital democracy. Lee et al., (2011) is the top article with its publication "Testing the Development and Diffusion of E-Government and E-Democracy: A Global Perspective" has been cited 130 cited, this article was published in 2011. The main focus of the article is discussing the implementation of e-governance and e-democracy in 131 different countries, obtaining the result that the implementation of e-governance is much more advanced and developed than the implementation of e-democracy, this is based on internal state factors. The realization of e-democracy is also quite complicated to be adapted to a country, even countries in the west that have developed Information and Communication Technologies (ICTs) systems.

The complexity of the application of e-democracy is also presented in the article written by Mahrer & Krimmer, (2005) with citations as many as 118 cited, adaptation of digital democracy takes a long period and seems very slow, inversely proportional to e-government and e-administration which are much easier to realize. Traditional democratic systems are still attached to some countries, this is based on the easiness of getting the participation and trust of the people although sometimes it cannot reach more participants. The dominance of articles in table 1. discussing the weaknesses of digital democratic systems that are difficult and seem to 'fail' in implementation, but also the advantages of technological renewal in the democratic body to support public participation in decision-making or state policies (Hilbert, 2009; Kim, 2008; Moreno-Jiménez & Polasek, 2003).

Table 1. Influential Papers

Authors	Title	Year, Source	Cited
Lee, C.-P., Chang, K., Berry, F.S.	Testing the Development and Diffusion of EGovernment and E-Democracy: A Global Perspective	2011 Public Administration Review 71 (3), pp. 444-454	130
Mahrer, H., Krimmer, R.	Towards the enhancement of e-democracy: Identifying the notion of the 'middleman paradox'	2005 Information Systems Journal 15(1), pp. 27-42	118
Dahlberg, L.	Extending the public sphere through cyberspace: The case of Minnesota EDemocracy	2001 First Monday 6 (3)	87
Thomas, J.C., Streib, G.	E-democracy, e-commerce, and e-research: Examining the electronic ties between citizens and governments	2005 Administration and Society 37 (3), pp. 259-280	85
Moreno-Jiménez, J.M., Polasek, W.	E-democracy and knowledge. A multicriteria framework for the new democratic era	2003 Journal of Multi-Criteria Decision Analysis 12(2-3), pp. 163-176	56
Netchaeva, I.	E-government and e-democracy: A Comparison of Opportunities in the North and South	2002 Gazette 64(5), pp. 467-477	55
Saglie, J., Vabo, S.I.	Size and e-democracy: Online participation in Norwegian local politics	2009 Scandinavian Political Studies 32(4), pp. 382-401	53
Hilbert, M.	The maturing concept of E-democracy: From E-voting and online consultations to democratic value out of jumbled online chatter	2009 Journal of Information Technology and Politics 6(2), pp. 87-110	44
Kim, J.	A model and case for supporting participatory public decision making in e-democracy	2008 Group Decision and Negotiation 17(3), pp. 179-193	39
Moss, G., Coleman, S.	Deliberative manoeuvres in the digital darkness: E-Democracy policy in the UK	2014 British Journal of Politics and International Relations 16(3), pp. 410-427	39

Source: Scopus database per August 30, 2021

Cluster by Keywords and Network Analysis

Digital democracy or e-democracy has a relationship with various aspects that have been divided into several clusters displayed in table 2 above. Each divided cluster will be related to each other, in cluster 1 the main focus is on democracy. Democracy itself can be formed by the participation of the general public with local governments, this is also helped by the progress of the dissemination of information through digital media and internet facilities that can facilitate mass spread. According to Nchise, (2012), the advancement of digital information and communication or the internet can reach the participation of people in other world that are quite difficult to reach such as Sub-Saharan Africa. Supported by research by Hujran et al., (2020), who surveyed the effectiveness of e-democracy on Jordanians in the Middle

East, found that they are comfortable with e-democracy itself, edemocracy must be packaged with applications that are easy to understand and use so that people can use it optimally and reach more people.

Furthermore, in cluster 2, e-voting is highlighted in the cluster. E-voting is formed against the background of artificial intelligence which makes it easier for humans to form a system. Voting on the internet is the brainchild of local governments to create a more flexible voting system. E-voting was formed to increase youth participation in government (Smith & Macintosh, 2003). Some weaknesses can be in e-voting itself, the change of elections directly into the form of online elections requires community independence and the help of young people to succeed in the use of voting with this internet base in the future (Masters et al., 2004).

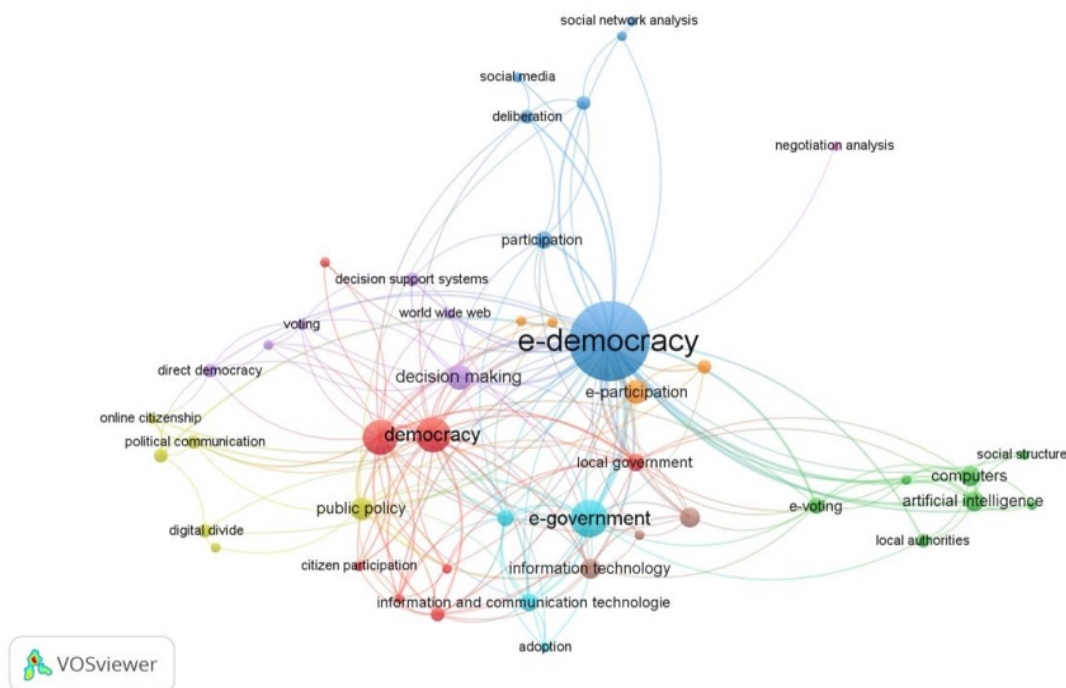


Figure 7. Cluster Item of Concept

Table 2. Clusterization by VOSviewer

Cluster	Items of Concept	Total
Cluster 1	Citizen participation, democracy, digital media, information dissemination, information services, internet, local government	7
Cluster 2	Action research, artificial intelligence, computers, e-voting, local authorities, social structure, young peoples	7
Cluster 3	Deliberation, e-democracy, participation, social media, social network analysis, transparency, trust	7
Cluster 4	Citizen access, digital divide, online citizenship, political communication, public policy	6
Cluster 5	Decision making, decision support system, direct democracy, voting, web 2.0	6
Cluster 6	Adoption, e-government, government, information and communication technology	4
Cluster 7	Cybernetics, e-participation, governance, information and communication technologies	4
Cluster 8	Digital democracy, electronic commerce, information technology	3
Cluster 9	Negotiation analysis	1

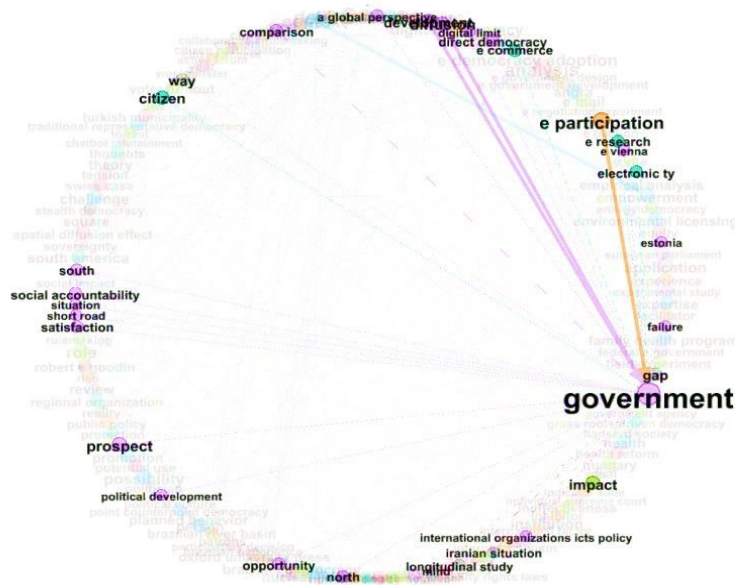


Figure 8. Social Network Analysis

Figure 8 refers to the implementation of cluster 3, which is indicated in the form of social network analysis. It can be seen that the system of digital democracy or e-democracy can be realized if the government has full connections and trust in its people. With the trust of the people who can be, then the change from traditional democracy to digital democracy can be an easy thing. Transparency is also needed in the implementation of the e-democracy system, transparent in showing government statistics, state funding, to information about legitimate laws to gain the full trust of the community (Manes Rossi et al., 2018; Zaganelli & De Miranda, 2017), especially with the existence of social media that can easily frame the government. Dissemination and convenience in the e-democratic system can increase public participation in decision-making and joint policy formulation.

Cluster 4 shows the relationship of political communication with community access and community ethics in the digital world. Political communication formed by governments in the digital world offers new ideas such as e-democracy, e-voting, and e-governance. Easy digital access makes people freely participate in the selection of candidates for leaders and their cabinets, as well as participate in the government itself (Rossini & de Oliveira, 2016). As for the weakness of this online democratic system in addition to not all people who understand and feel technology, the government cannot stem all criticisms and words made by every person to the overall performance of the

government in carrying out the system that has been established (Črnič, 2012).

Cluster 5 shows how the system of direct democracy is related to policymaking and public voting. Direct democracy can be defined as the purest democratic system, where people can jump directly to form and determine their democratic system. There is an argument that e-democracy cannot be said to be direct democracy even if it reaches a large mass because the internet is a public forum that is individualistic and does not meet the same conditions (Johnson, 2007). E-democracy cannot replace the position of direct democracy in harmony even by offering higher community participation, the problems experienced by the direct democratic system cannot be solved by the emergence of this e-democracy (Kampen & Snijkers, 2003).

In cluster 6, it was found the adoption of government systems in information and communication technology, gave birth to e-government. E-government is a digital system that makes it easier for people to access government data and contribute actively to help and monitor government performance, e-government is a new path or access to the implementation of edemocracy (Kardan & Sadeghiani, 2011). E-government systems can demonstrate government transparency, public information, and improvements in democratic processes (Netchaeva, 2002). The use of e-government is considered to have many advantages to help people in getting to know edemocracy later, but if the application of e-government is not right can have a direct impact on the country's

democratic system that can refer to 'failure' (Sundberg, 2019).

Cluster 7 shows how variables affect a system or what can be called cybernetics. The influence between these variables is shown in the government's relationship with e-participation or digital participation by the community. The government has control over e-participation carried out by the community, the intended digital participation is in the form of digital discussion forums, and elections, to the delivery of criticism and suggestions to the government (Nikvashvili, 2019). E-participation has brought a lot of changes in the participation of local communities that began to switch to digital media or the internet, e-petitions, e-campaigning, e-consultations, and e-voting are a product of e-participation as a path to e-democracy (Hennen et al., 2020).

Next cluster 8, indicates that an active society in the internet world also has an impact on the sustainability of digital democracy. Digital democracy can gradually be realized, the article published by (Thomas & Streib, 2005) explains how people can communicate with the government, one of which is through websites or applications owned by the government which in it can be divided into three main aspects, namely e-democracy, e-commerce, and e-research.

Finally, cluster 9 connects e-democracy with negotiation analysis, participation from the community will be collected and calculated to achieve a balance to achieve a common agreement, and negotiation analysis is used to maximize the calculation of community

participation in large numbers (Insua et al., 2003; Kersten, 2003).

CONCLUSION:

Publications related to e-democracy are becoming a trend in the authorship of scientific articles, changes, and developments that continue to occur in the adoption of e-democracy become an interesting thing to study in the development of science. The research in this article examines the development of publications on the topic of e-democracy using bibliometric techniques. This study related to digital democracy or e-democracy first appeared in 2001, then increased in the next two years in 2003 with the emergence of 24 articles discussing e-democracy concerning the development of information and communication technology systems. The increase in the publication of edemocracy articles is also accompanied by an increase in the scope of subjects in e-democracy which is also related to other science subjects such as computer science, business, management, accountants, mathematics to medicine. This shows that the topic of e-democracy is also in demand for further study by academics from various branches of science. S. French and A. Macintosh are the two authors with the highest number of article publications among the data that has been collected. "Background to the special issue: E-democracy and multi-criteria decision analysis" published in 2003 is the work of S. French in studying e-democracy, while A. Macintosh has the article "Designing E-democracy in Scotland" published in 2002.

The trend of publishing articles on the topic of e-democracy dominates the parts of the country in Europe and America, rather than countries in the Asian region can be seen in figure 6, the United Kingdom became the country with the most article publications followed by the United States. The University of Manchester, which is in the United Kingdom, is one of the universities with the highest level of efficiency in the publication of e-democracy articles. The e-democratic system that is so complicated and cannot be directly implemented takes a long period to be able to adapt to people's lives. This is supported by the article "Testing the Development and Diffusion of E-Government and E-democracy: A Global Perspective" with 130 citations, in the article, explained that the journey to edemocracy will go through several stages, one of which is the application of e-government that is closer to the community to make it easier for the government to collect information data and communicate with the public.

This study, the authors obtained as many as 9 clusters of 306 articles collected from the Scopus database with the keyword "e-democracy". Researchers used the VOSviewer application in mapping the 9 clusters above. Furthermore, the 9 clusters are divided into Cluster 1) Citizen participation, democracy, digital media, information dissemination, information services, internet, and local government. Cluster 2) Action research, artificial intelligence, computers, e-voting, local authorities, social structure, young people, Cluster 3) Deliberation, e-democracy,

participation, social media, social network analysis, transparency, trust, Cluster 4) Citizen access, digital divide, online citizenship, political communication, public policy, Cluster 5) Decision making, decision support system, direct democracy, voting, web 2.0, Cluster 6) Adoption, e-government, government, information and communication technology, Cluster 7) Cybernetics, e-participation, governance, information and communication technologies, Cluster 8) Digital democracy, electronic commerce, information technology, and Cluster 9) Negotiation analysis. This clusterization is useful for further research by scholars who will conduct studies and updates on the topic of e-democracy. Research on e-democracy will continue to undergo changes and developments considering the implementation of e-democracy which is still being improved by every country that implements it. This article uses the Scopus database as the main source of reference in scientific authorship.

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