

Digital Literacy and the Electoral Support for Populist Candidates: A Preliminary Bibliometric and Political Analysis

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Abstract. *The technological progress creates a great range of opportunities that can improve every aspect of our lives. The latest evolutions allow most of the citizens, especially in the Global North, to easily solve issues that otherwise required a great amount of time and energy. Our existence is more comfortable and dynamic because of the innovations brought by the most recent phase of the Industrial Revolution. However, there are also notable downsides to this new reality. In the academic field, there is a growing interest in the manner in which social media and the internet affect our attention span, our mental health, or the way in which we relate to other people. One of the main goals of our study is to establish if there is a similar interest for the impact of technology on voting behavior and political participation as well. An incipient bibliometric helps us in framing an overview on this topic. In the second phase of the study, based on Francis Fukuyama's arguments regarding the causality between the growing importance of the online environment and the global surge of populist movements, we focus on the possible interconnections between the level of digital literacy and the electoral strength of populist presidential candidates. We build our conclusions on three case studies: the latest presidential elections in Romania, Lithuania, and France. Although our study has several limitations, it provides useful insights for a wider academic debate on the future of political radicalism in the age of social media and large language models.*

Keywords: digital literacy, populism, voting behavior, political participation, European politics.

Introduction

Almost 60 years ago, Ghiță Ionescu and Ernest Gellner argued that the specter of populism was haunting the world (Ionescu & Gellner, 1969, p. 1). At that time, the concept's meaning was quite unclear. Populism was presented as a doctrine, as a political movement, or as the syndrome of a worldview based on the idealization of the common people and their collective wisdom. An interesting conclusion, presented by the British economist Peter Wiles, showed that populism can easily become a component of Fascist political forces, the Romanian Iron Guard being a telling example in this regard (Wiles in Ionescu & Gellner, 1969, p. 176). Today, the specter became a palpable threat to liberal democracies, generating a wave that engulfed much of the developed world.

Although even now a consensus regarding the definition of populism is lacking, the following version gained a preeminent position in the field of political science: „a thin-centered

ideology that considers society to be ultimately separated into two homogeneous and antagonistic camps, “the pure people” versus “the corrupt elite,” and which argues that politics should be an expression of the *volonté générale* (general will) of the people.” (Mudde & Rowira Kaltwasser, 2017, p. 6) A thin-centered ideology usually forms hybrid entities with thick-centered ones (those that focus on all the themes that are fundamental for political thought and action). For instance, Nationalism often becomes a pillar of Conservative movements (Freedon, 2003, p. 99). Another combination, mentioned by Wiles in 1969 and present in the 21st century as well, is the one between populism and the radical right. Although in some countries, like Venezuela or Bolivia, populism with left-wing characteristics can be identified, generally the much broader exclusionary forms are placed on the other side of the political spectrum (Mudde & Rowira Kaltwasser, 2013, p. 160). Donald Trump, Viktor Orban, or Giorgia Meloni are politicians that managed to obtain or retain political power through right-wing populist strategies.

Which are the main factors that enabled their successes? Several scholars tried to offer answers to this vital question for the future of liberal democracies. The American political scientist Francis Fukuyama synthesized the main arguments that were put forward in the academic environment, concluding that the possible explanations regarding the effectiveness of the populist camp can be divided into nine main categories: „Economic inequality brought on by globalization and neoliberal policies; Racism, nativism, and religious bigotry on the part of populations that have been losing status; Broad sociological changes that have sorted people by education and residence, and resentment at the dominance of elites and experts; The special talents of individual demagogues like Donald Trump; The failures of mainstream political parties to deliver growth, jobs, security, and infrastructure; Dislike or hatred of the progressive Left’s cultural agenda; Failures of leadership of the progressive Left; Human nature and our proclivities towards violence, hatred, and exclusion; Social media and the internet” (Fukuyama, 2025). Although the author acknowledges that all categories are relevant, he argues that one of them, Social media and the internet, is of paramount importance for the populist ascension that fuels a global democratic backsliding.

Fukuyama explains that some of the factors were present long before the radical right’s resurgence, without enabling the consolidation of disruptive political forces. The economic difficulties of the 1970s changed the main economic paradigm but left unaltered the political system. The 1960s represented, in certain regions, a golden age of alternative cultural discourses, without causing a backlash with Fascist nuances. The potential dark sides of human nature are also perennial; they were active not only when Americans elected Donald Trump as their president but also when Franklin Delano Roosevelt was chosen to mitigate the effects of the Great Crash of 1929. When expectations or desires are not fulfilled, even at a political level, the outcome is represented by frustration and anger (Galston, 2025), but not always does this anger lead to radicalization. Therefore, the role of the latest technological developments is seen as quintessential for the new political reality. Fukuyama states that the internet and the social networks are creating an alternate political universe, where the borders between facts and fiction are erased and the truth, which should be fundamental for the citizens’ decisions, is being relativized. This toxic environment is enhanced by the profit-driven big tech companies, which facilitate the circulation of disinformation in order to boost online activity (Fukuyama, 2025). Shocking fake information generates engagement all over the world, causing anger and threats, and shaping the political positions of entire communities (DiResta, 2024).

The purpose of our article is to contribute to the development of an academic discussion regarding the role of technology in the political storm that transformed right-wing populism into one of the most influential ideologies worldwide. If Fukuyama's hypothesis on the political impact of social media and the internet were to be true, this would mean that the strength of the radical right-wing would depend on the level of internet access and the capability of the citizens to use digital tools. This could lead to a counterintuitive conclusion: technological backwardness can act as a protector of liberal democracies. In order to see if such a statement could be labeled as valid, an analysis regarding the potential links between the level of digital literacy and the electoral strength of populist forces could be helpful. In various cases, the radical right benefitted from spreading disinformation online (Gabor, Oancea & Pripp, 2024). On the other hand, in some countries, like Estonia, the digitalization of the political field is not harmful, at least for now, for the stability of the democratic regime (Gabor, Oancea & Pripp, 2023, p. 81).

Digital literacy is gradually becoming a component of citizenship in the 21st century, with more and more aspects of human activity and interaction being conditioned by the access to digital tools and by the skills needed to use them. However, as we will highlight below, there are still notable differences in this regard between countries and regions, this aspect becoming an extension of global inequality. Mitigating these gaps is complicated by the lack of a broad consensus on the definition of digital literacy. For instance, can the ability to separate facts from disinformation on social platforms be an indicator of how prepared a citizen is for navigating in the online environment? Answering this kind of question would add the methodological clarity needed for further enhancing this field of study.

Although we cannot identify a unanimously accepted definition of digital literacy, some fundamental competencies are unavoidable when approaching this topic: use, understand, and create. To use means possessing the basic aptitudes needed to connect to the internet, send an email, access search engines, etc. These aptitudes can become a basis for more complex activities, which can transform digital technology into an indispensable part of everyday life. To understand is the key element that can help us provide an answer to the question raised in the previous paragraph. Critical thinking is needed in the online environment as well. Comprehending and contextualizing the information accessed through the latest digital tools is essential for the manner in which our behavior and belief system are influenced by it. To create requires not only the ability to generate digital content (images, videos, sound recordings, etc.) but also to properly disseminate it. Online creativity is defined not only by the content you produce but also by the ability to instrumentalize the materials shared by others (Johnson in Bailey & Steeves, 2015, pp. 341-342).

Starting from the above-mentioned competencies, our goal is to observe if there are reasons to explore a possible interconnection between the level of digital literacy and the electoral strength of right-wing populist forces. In order to reach some preliminary conclusions, we will realize a study in two steps. Firstly, we will put forward an incipient bibliometric analysis, which represents the basis of a literature review purposed to highlight how important the topic is in the academic field and its layers that attract the most attention from researchers. This part of the endeavor allows us to indicate scientific gaps that might be reduced by future studies. Secondly, a comparative case study will help us understand if there is a strong correlation between the digital skills of the voters and their electoral preferences. The methodological background of the process is described in the following section.

Methodology

The bibliometric analysis is a procedure that allows the researcher to extract large quantities of data from international databases, such as Scopus, Web of Science, ScienceDirect or others. The extracted data can include information either about the author, such as academic affiliation, name, gender, geographical localization or details about the text, such as keywords, title, publishing place, etc. After the data is retrieved, it is processed using different tools such as “VOSviewer, Bibliometrix, CiteSpace or Gephi” (Van Eck & Waltman, 2014, p.7) in order to generate images and graphs that illustrate the existing tendencies in that field of research.

One of the objectives of this paper is to map the research fields of Political Sciences and Digitalization in order to identify the latest subjects of interest that include subdomains such as political participation, voting behavior and digital literacy. For this reason, we applied the method of bibliometric analysis, in order to “map, mine, analyze, sort and visually display” (Cheng et al., 2023, p.2) the literature that simultaneously covers some aspects of the two subjects. The first reason behind this endeavor was to identify whether there is a subject common to the two aforementioned research fields. The second reason was to identify and emphasize any possible gap in the literature in order to further study it.

Regarding the process of data gathering, we focused on the Web of Science (WoS) database due to the fact that “it includes journals from five of the most commercial publishers (Elsevier, Springer, Taylor & Francis, Wiley-Blackwell, Sage Publications)” (Mongeon & Paul-Hus, 2016, p.13). When collecting the data, one does not need to “preprocess the data” (van Eck & Waltman, 2017). Thus, we could process the data immediately, without being forced to “remove duplicates and correct author names” (Passas, 2024, p.9). Due to the fact that WoS is “suitable for searching and analyzing Open Access resources at the publication level” (Pranckutė, 2021, p.48) we were able to analyze data about the authors and their organisational affiliation.

In order to limit the research to the topics of our interest, we applied two queries that included specific terms for the two researched themes. On one hand, for the subject of political participation, we included in our search keywords such as “*digital literacy*”; “*information literacy*”; “*data literacy*”; “*communication skills*”; “*online learning*”; “*digital learning*”; “*digital skills*”; “*cybersecurity*”; “*problem solving*”; “*digital innovation*”; “*technology adoption*”; “*disruptive technology*”. On the other hand, for the theme of political participation, we used key terms such as “*vote*”; “*electronic voting*”; “*political participation*”; “*voter apathy*”; “*populism*”; “*youth participation*”; “*digital democracy*”; “*e-democracy*”; “*digital civic engagement*”. These queries generated us 393 results, spanning from 2005 up until 2025. However, in order to have a clearer image, we excluded book chapters, book reviews, and newsletters and focused only on scientific articles. Thus, we included in our research 291 out of the 393 results originally generated by the queries.

The next step was to process the data using Bibliometrix, due to its ability to “execute a comprehensive science mapping analysis of scientific literature” (Aria and Cuccurullo, 2017, p.973). During this stage, we focused on the co-occurrence of trending keywords and relationship between authors. At the same time, we also included a brief description of the academic affiliation. The results generated from the analysis were converted into images and graphs in order to be better visualized. In the final stage of the following section, we interpreted the results of the bibliometric analysis.

Case study method

Researchers, especially those from the fields of social sciences, have applied the method of the case study in order to obtain thorough, in-depth perspectives of different socio-economic and political issues. This method, which has been used for the last 50 years, does not have a clear definition. However, the majority of the members of the academic community agree on the fact that the case study represents “an intensive study about a person, a group of people or a unit” (Heale & Twycross, 2018, p.7).

Besides people, case studies can focus on “organizations, events, decisions, actions, locations or nation states” (Schwandt & Gates, 2017, p.341). One of the greatest advantages of the case study stems from the multiple ways in which researchers can gather data, including, but not limited to “observation, experiments, structured interviews, questionnaires, and/or documentary analysis” (Jennings, 2005, p.224).

Thus, the researchers can choose from a great array of instruments in order to collect data for the case-study-based paper. For the case study conducted in this research, we analyzed data gathered from open-sourced documents, such as reports issued by the European Commission or national electoral institutions.

Our case studies are based on data regarding digital literacy and on electoral results provided by open sources. More precisely, we are focusing on the scores obtained by populist candidates in recent presidential elections. We analyze three countries: Romania, France, and Lithuania. We built this group having the Romanian case as a starting point. On one hand, given our background, we are highly familiar with the Romanian political and social landscape. On the other hand, the ascension of the Romanian populist right has shaken the liberal democratic regime, attracting the attention of politicians and mass-media entities worldwide (Gabor, Oancea & Pripp, 2025, p. 1790). For the accuracy of the comparative analysis, it is necessary to focus only on countries that are members of the European Union (the data on digital literacy is collected in the EU member states) and that hold direct presidential elections, just like Romania. However, some countries, although they share these characteristics with Romania, have different political systems. For instance, Cyprus is a presidential republic, while in Ireland the president has largely ceremonial duties. Therefore, we decided to include in our study only semi-presidential republics, a category in which Romania fits properly (Stan, 2010).

How can we conclude that a country is a semi-presidential republic? The most influential definition was given by Maurice Duverger (1980, p. 166): „(1) the president of the republic is elected by universal suffrage; (2) he possesses quite considerable powers; (3) he has opposite him, however, a prime minister and ministers who possess executive and governmental power and can stay in office only if the parliament does not show its opposition to them.” The presence of the first and last criteria can be identified easily. However, the concept of *quite considerable powers* creates a certain ambiguity, introducing „an element of subjective judgement into empirical analyses” (Elgie, 1999 apud Åberg & Denk, p. 709). Although alternative definitions were put forward, neither of them managed to clarify once and for all the question of the main traits of a semi-presidential republic. Therefore, we added an additional element that can be seen as a confirmation of the fact that the president possesses a significant influence in the institutional architecture: he represents his country in the meetings of the European Council. By adding this filter, we found that only two other member countries of the EU have a subtype of semi-presidential regime similar to the Romanian one: France and Lithuania (European Council, 2026).

Another important methodological question is the following one: how can we conclude that a presidential candidate is a representative of right-wing populism or not? A thorough analysis of the alignment of the politicians' discourses and actions with the characteristics of populism described in the literature, although it could be very useful, is beyond the scope of our endeavor; a separate study could bring conclusions that might approve or contradict our approach. We included a candidate in the populist camp based on the affiliations of the parties that support them in the European Parliament (EP). Firstly, the European Conservatives and Reformists (ECR) group is seen as a safe haven for populist national parties, being dominated by entities like the Polish PiS (Prawo i Sprawiedliwość – Law and Justice), controlled by Jarosław Kaczyński, or the Italian Fratelli d'Italia (Brothers of Italy), led by Prime Minister Giorgia Meloni (Norman, 2025). Secondly, another key European populist party, the French Rassemblement National - National Rally (Norman, 2025), joined in 2024 the Patriots for Europe group, newly created under the guidance of one of the most important European populist leaders, Hungarian Prime Minister Viktor Orbán (Mos & Piovezan, 2024). Therefore, we labeled as populist candidates those politicians who were supported by member parties of the ECR or of the Patriots for Europe group. We did not include in our analysis the candidates linked to the Europe of Sovereign Nations group, built by the German AfD (Alternative für Deutschland – Alternative for Germany) party, given that it is unclear if it's proper to include it in the populist camp or to label it a neo-fascist (Lanches, 2025). Moreover, we left out the candidates with scores lower than 5%.

Based on our entire methodological approach (literature review, incipient bibliometric analysis, case studies), we framed a research question and a subsequent hypothesis. The research question is the following: Is there a correlation between the level of digital literacy and the electoral support for populist candidates in the European Union? The hypothesis is the following: The lack of a clear connection between the level of digital literacy and the electoral support for populist candidates in the European Union suggests that the technological progress is not the main factor that enabled the current ascension of populist political groups. In other words, our goal is to prove that Fukuyama's theory regarding the reasons behind the contemporary democratic backsliding needs to be thoroughly revised.

Literature review

Political participation

In the following section, we examine the factors which positively influence political participation. Political participation is a complex, multifaceted concept. Thus, in order to be able to generate a complex image, we included not only socio-demographic variables such as age or education, but also more complex factors, such as local and global governance or the individual's civic participation. We included five of the most quoted articles on the subject on political participation from the Web of Science database.

Political participation is one of the cornerstones of a democracy. People's opinion should be taken into consideration regardless of their gender, place of residence, sexual orientation, or age. Currently, parts of academia and the mass media are disregarding the younger generation because of their absence from the polls. However, the electoral process is not the only way through which young people can influence the political process, especially in difficult periods, marked by health crises, wars, lack of institutional trust etc. Young people can greatly influence politicians and policy makers in two distinct ways. On one hand they can raise awareness on issues that they are facing. On the other hand they can also express "what they think and

experience during the Covid-19 pandemic” (Branquinho et al., 2020, p.2), and other types of crisis, thus contributing to the construction of better policies.

Another important socio-demographic variable that influences political participation is education. Numerous studies have proved the existence of a positive correlation between the level of education and political participation. This phenomenon can be explained by the fact that schools have a “long-term effect of political socialization” (Kupchik and Catlaw, 2015, p.3). Thus, they directly contribute to “the development of students’ political and civic capacities” (Kupchik and Catlaw, 2015, p.2). Moreover, through their longitudinal study, the authors also found that higher levels of political participation can be achieved only when students are exposed to “inclusive educational climates” (Kupchik and Catlaw, 2015, p.23) which do not rely on punishments to impose regulations.

While institutional contexts matter, individual skills developed through education are seen as more important to participation. Condon reframes the relationship between education and political participation by focusing on verbal and communication skills rather than years of schooling or civic knowledge alone. Using longitudinal data, he shows that communication abilities, such as “reading, writing, speaking, and listening skills” (Condon, 2015, p.15) contribute to the “acquisition of political information” (ibidem p.20) and “improve political discussion” (ibidem p.21)

In the next part, we will discuss how organisations contribute to the development of political participation. On one hand, there are civic organisations, which are perceived as more competent than for-profit organisations or government agencies in helping people because they are able to “generate solutions that are both effective and democratic” (Lelieveldt et al., 2009, p.5). Thus, they tend to be more sympathetic towards people’s needs and provide the best solutions, which do not generate negative consequences. Not only organizations, but the civil society as a whole, increase political participation by “increasing transparency, strengthening representation of marginalized stakeholders, and enhancing problem-solving capacity” (Bernauer and Gampfer, 2013, p.440). Moreover, governments that are open towards the presence of the civil society have a higher level of popular legitimacy.

Digital literacy

Moving on, we discuss the factors that contribute to the development of high levels of digital literacy and how it impacts political participation. Digital literacy describes a person’s ability to navigate within the modern-day digitalized society. When assessing a person’s level of digital literacy, we are taking into account different skills, such as “information and data literacy, communication and collaboration, digital content creation, safety and problem solving” (Misheva, 2024). For each of the five dimensions, there are multiple indicators through which a person’s digital ability is evaluated. The EU institutions that measure the level of digitalisation separate people, based on their digital skills, into three groups. First, those who cannot perform any activity are considered below basic. Second, there are those with basic digital skills, who are able to perform only one type of activity. Last, we talk about those with above-basic digital skills, who can perform at least two different types of activities. (Vuorikari et al., 2022)

It is important to emphasize that digital literacy does not only refer to a person’s technological abilities but also to whether or not he or she possesses the “attitudes and behaviours necessary to develop as a critical, reflective and life-long 21st century learner” Martzoukou et al., 2020, p.3) Moreover, digital literacy also has a positive impact on society, because it prepares

“people to live as responsible citizens” (Shreiner, 2017, p.32). There are multiple types of factors that influence digital literacy, ranging between “organizational and technical infrastructure that supports the use of the technology” (Tirado-Morueta et al., 2018, p.3) and socio-demographic ones, such as age, education, income and which contribute towards the development of digital skills.

The authors concluded through their research that age greatly influences the way in which people perceive technology. They emphasize that, in general, older people “are a heterogeneous collective in relation to the access and use of the Internet” (ibidem p.8) who possess lower levels of digital skills. However, we consider that the issue of lack of digital skills among senior citizens can be resolved through the implementation of digitalization courses.

Education is another critical variable that influences people’s levels of digital literacy. Numerous research studies have proven that “highly educated individuals benefit more from the internet than those with less education” (van Deursen and Helsper, 2015, p.49). Powell, Bryne and Dailey built their research on the idea that digital exclusion “can be mapped to other areas of social inequality” (Powell et al., 2010, p.163), such as education. They discovered that people with lower levels of education tend to have a hard time accessing both “public and private services” (Powell et al., 2010, p.164). The widespread process of digitization “has created significant “push” factors” (ibidem, p.186) for people with lower levels of education because they lack the necessary digital skills.

However, it is important to emphasize that formal education is not yet able to help people achieve the highest levels of digital skills. Blank and Lutz researched the negative effects of internet use; and concluded that younger, more educated people, with a higher income; are also the ones who “experience most harm from the internet use” (2018, p.15). Some of the risks include, but are not limited to “cyberbullying, online stalking, online sexual risks” (Machimbarrena et al., 2018, p.12), such as grooming.

In the digitalised society, there is a trend to “reduce demand for unskilled labour and to increase demand for better educated workers” (Sutherland, 2019, p.13). The lack of proper public policies, meant to increase digital skills, contributes to the increasing unemployment rates. Thus, a great number of people are placed in a vulnerable position. As we have previously shown, if people are not prepared enough for the digital environment, they can be easily influenced by organisations or individuals who can use technology to “influence the public’s decision-making processes” (Shreiner, 2017, p.3). For this reason, it is fundamental to understand the importance of digital literacy and the risks that are associated with lack of knowledge.

At the same time, higher levels of digital literacy not only protect the individual from online harm but also enhance its chance of taking part at actions specific to online political participation, such as “contacting political leaders on social media, or sending text messages to report potholes or broken streetlights” (Ferrali et al., 2019, p.1). However, it is important to understand that political participation in the digital age is conditioned not only by the level of digital skills but also by the “state of the world and prior beliefs about the technology” (ibidem p.6) or even the way in which members of the community communicate between them. Thus, there are certain aspects of political participation in the digital age that cannot be determined by digital skills.

Based on the information presented above, we can conclude that, although there are several influential studies that mention both political participation and digital literacy, the connections between them are yet to be explored in a thorough and insightful way. Moreover, the

articles that cover both topics are not focusing on voting behavior as an essential part of political participation or on how political participation is modeled by the contemporary illiberal populist wave. Critical thinking is mentioned in some instances as a component of digital literacy, but the political ramifications of this reality remain unclear. Additional scientific gaps can be identified by observing the data provided through the bibliometric analysis.

Bibliometric analysis

The graphs which we will discuss in the next part of this paper are generated through the visualization techniques of the Bibliometrix app. These images illustrate the results of procedures such as co-authorship analysis, citation analysis and co-word analysis.

Figure 1, which shows how many times different keywords were used in the relevant articles, is illustrative for our paper because it highlights which are the most popular terms associated with political participation and digital literacy. In order to have a clear image, we excluded the keywords that appeared fewer than ten times. Out of the ten most used keywords, six are linked to political participation and four are connected to digital literacy. The most popular keywords, which were used more than 20 times, are *participation*, *populism*, *democracy*, and *political participation*. Based on these results, we can conclude that, in time, researchers focused more on the subject of political participation than on digital literacy.

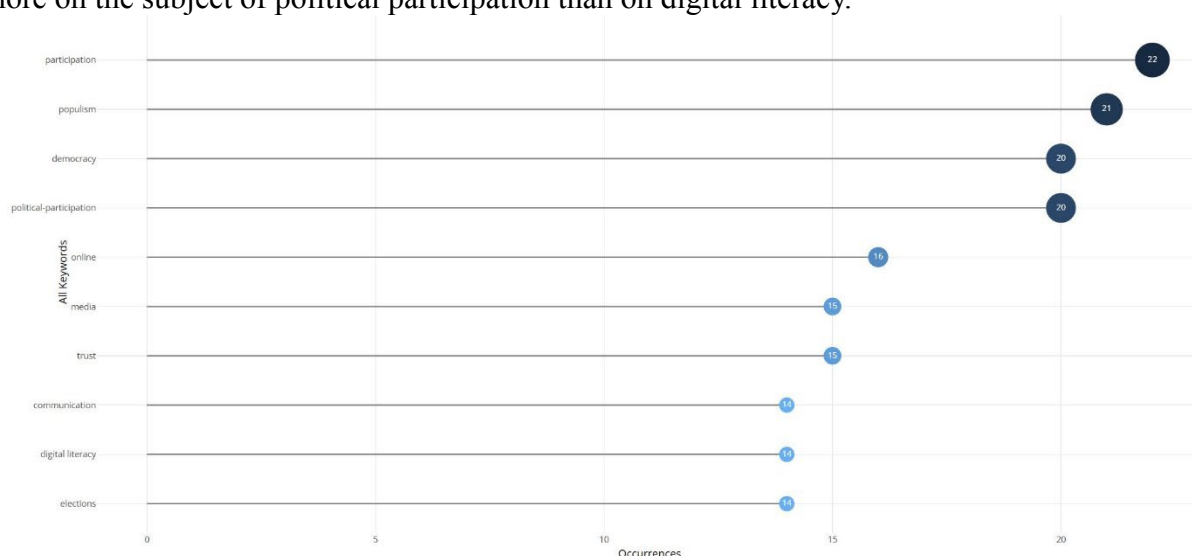


Figure 1. Most frequent words

Figure 2 shows the geographical distribution of the articles' publishing places. The most important contributors, such as the USA, Spain, France, or Germany, are located in the Global North. Other countries from which articles on these subjects originated are located in Asia (South Korea) and in South America (Chile and Colombia). This map also shows collaborations between authors from different countries. Authors from Spain, Germany and the UK collaborated with those from the USA, Canada and South America. Thus, the subject of political participation was researched in countries that register high scores in the Freedom House's index regarding political regimes (Freedom House, 2025).

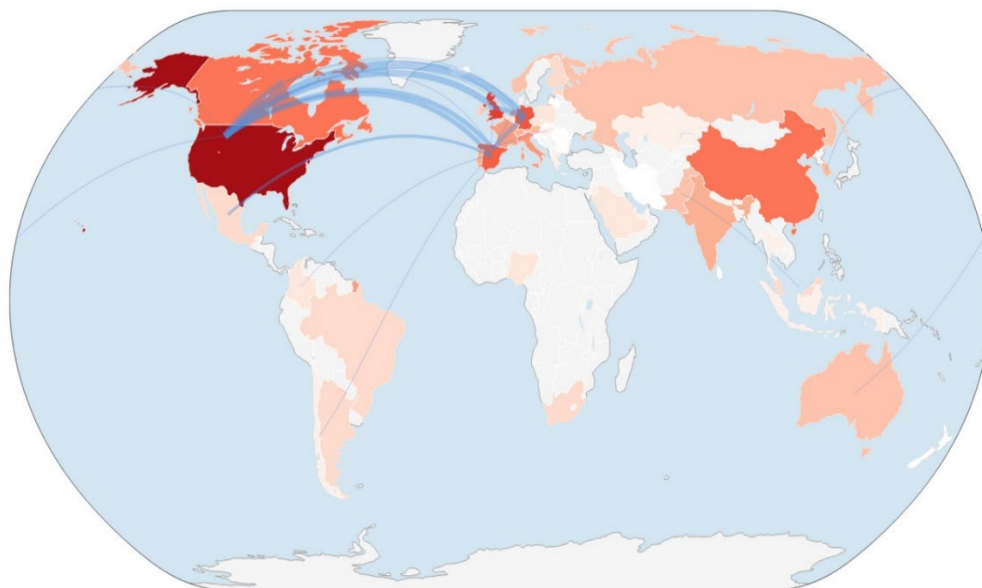


Figure 2. Countries collaboration

Figure 3 has a double role. On one hand, it presents the number of articles published each year. On the other hand, based on this number, it makes a forecast of how many articles, which focus on digital literacy and political participation, will be published in the future. This type of forecast is very useful due to the fact that it illustrates how the interest of the academic community towards the subjects of digital literacy and political participation will evolve in the future. However, we consider these results counterintuitive, given that technological evolution will continue to influence politics. The validity of the forecast could be tested in future studies.

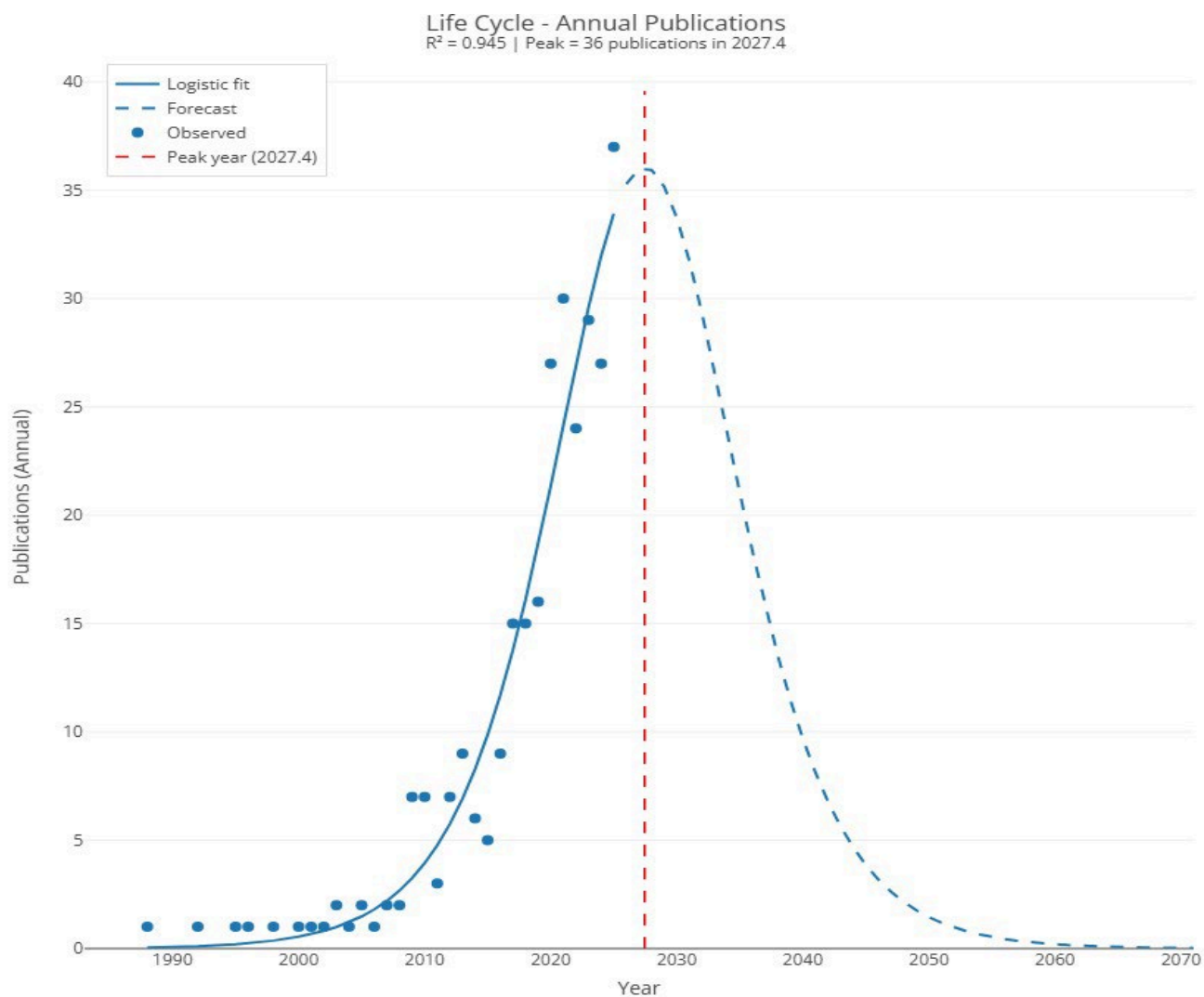


Figure 3. Life cycle of the subjects

Figure 4 groups the themes of the analysed articles into clusters, based on the degree of *Development (Density)* and *Relevance (Centrality)*. As one can see, the interest towards the digitalisation process associated with the Covid-19 pandemic is beginning to decrease. However, the threat posed by the digitalisation process towards democratic principles maintains the interest of researchers. While the traditional theme regarding the way in which populism influences the democratic principles of political participation and voting is still relevant, there are two new emerging subjects studied by researchers. First, there is the way in which political participation is affected by the digital media. Second, researchers focus on the way in which technology influences institutional trust. It would be interesting to understand the way in which these subjects will evolve in the future.

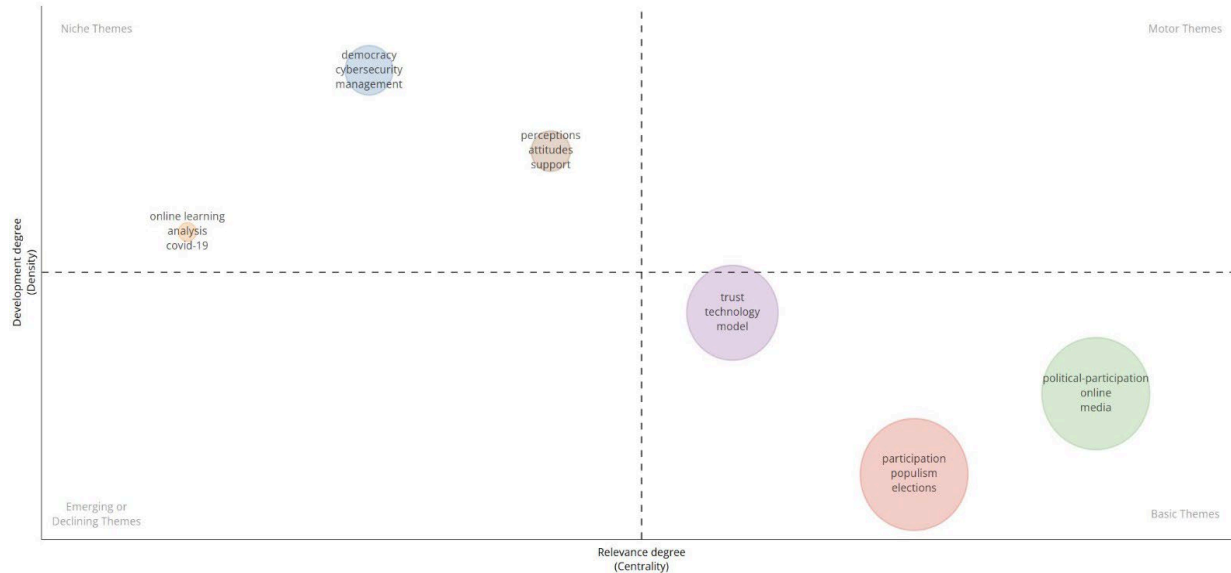


Figure 4. Thematic map

Figure 5 presents the evolution of the trending keywords. From a chronological perspective, the time frame can be separated into three periods. The first one, spanning from 2005 up until 2012, is characterized by terms such as *management*, *trust*, *technology adoption*, *e-government* and *turnout*. Papers written during this period were focusing on classical subjects of political participation, such as the way in which institutional trust affects voting. At the same time, researchers began to evaluate how new technologies influence political participation. Between 2013 and 2018, researchers began to focus more on the impact of technology, using terms such as *social networks* and the *internet*. Since 2016, when populism started to transform into a worldwide phenomenon, terms such as *education*, *digital divide*, *political participation*, and *democracy* have been used more often. Since 2019, researchers have become more interested in the way in which the most recent technologies, such as AI tools (*blockchain*), influence political participation. Moreover, terms used earlier, such as *democracy*, *governance* and *representation* reached a peak.

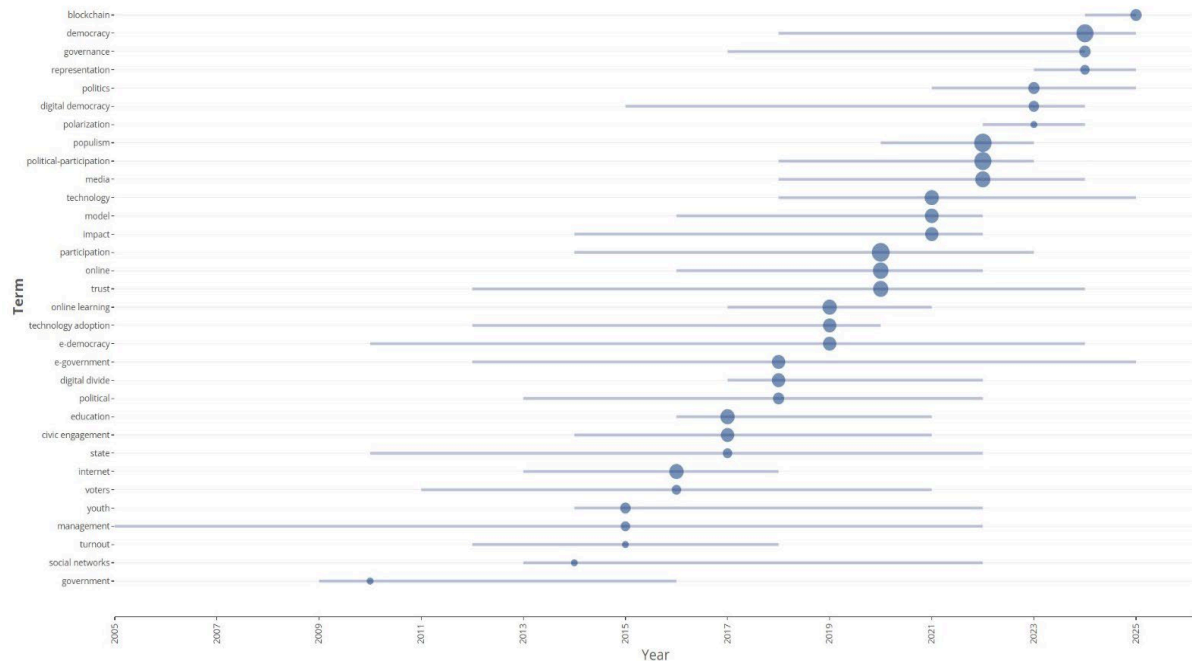


Figure 5. Topic trends

Figure 6 illustrates how frequently were the aforementioned trending keywords used. The most frequently used were the ones associated with political participation. Thus, *participation*, *populism*, *democracy* and *political participation* were each used in 4% of the 291 articles included in this analysis. The most popular key terms from the sphere of digital literacy, found among the analysed papers, were *online*, *media*, *communication*, *digital literacy*, and *internet*. Each of these key terms was found in 3% of the papers included in this research. Between 2% and 3% of the papers included key terms that refer to factors that can influence the people's attitudes towards digitalization and political participation, such as *civic engagement*, *impact*, *education*, and *online learning*. The fact that no keyword is even close to having a dominant position highlights the heterogeneity of this field of study.



Figure 6. Word tree map

Figure 7 presents the co-occurrence network of the key terms. Here, we can identify three different clusters. First, there is the cluster centered on *online political-participation*, and the factors that can influence this process, such as *civic-engagement*, *communication*, or *media*. The second cluster, which focuses on technology, comprises concepts such as *e-government*, *technology*, or *adoption*. This image presents the very interesting fact that these concepts are perceived as fundamental for a democratic society. The third cluster illustrates how *social media*, *disinformation*, or *politics* influence *participation*. The last cluster illustrates the way in which factors such as *security*, *cybersecurity* or *governance* influence the way democracy is perceived. Moreover, key terms from this cluster are strongly connected with the concept of *trust*.

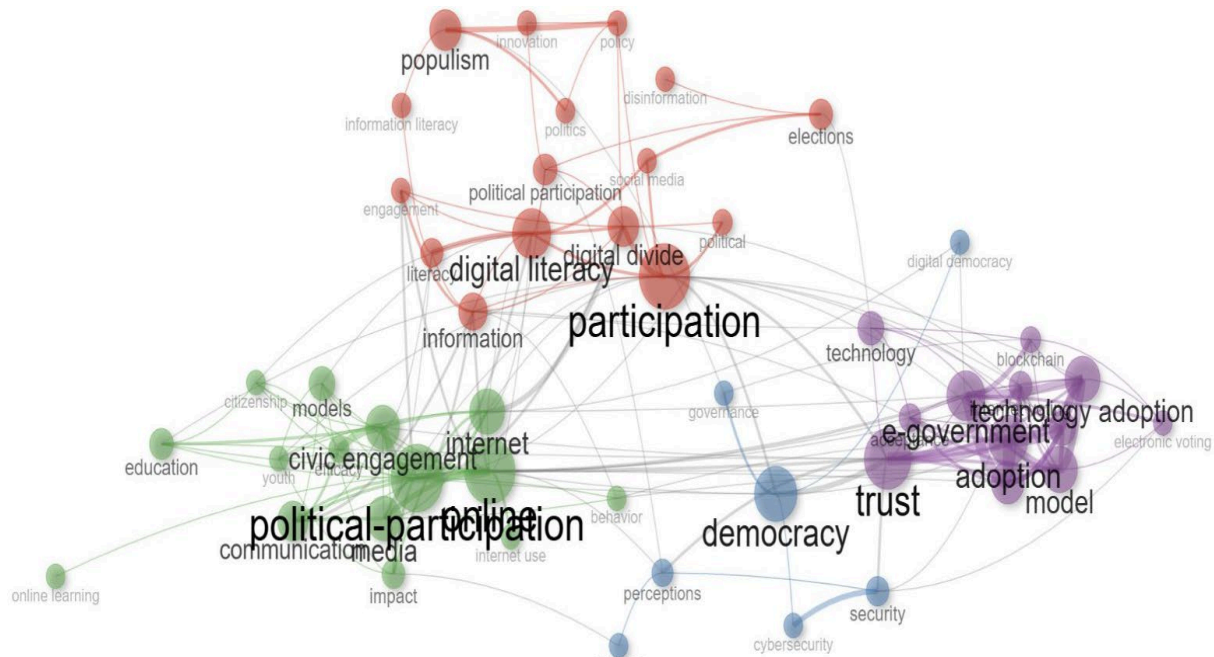


Figure 7. Co-occurrence network

Literature Gap

The aforementioned co-occurrence cluster encompasses fundamental themes and ideas regarding political participation and the digitalisation process that have been presented, discussed and debated in numerous research papers and journal articles in the last 25 years. However, the four clusters illustrate not only the main topics but also the relationship between them. While it is clear that the impact of the digitalisation process on the democratic principles and practices was thoroughly researched, there are some topics which were not properly researched. On one hand, the concept of *digital literacy* was never directly associated by researchers with *populism*. On the other hand, key words such as *e-government*; *electronic voting*; *technology adoption*; illustrate that the digitalization process takes place in democratic countries. However, we have not identified relevant studies about the factors which influence voting intentions in digitalized democracies. Thus, this paper wants to open the process of reducing this scientific gap by presenting the way in which the level of skills developed through digital literacy could influence voting behavior in EU member countries.

Cases studies and discussions

As mentioned in the methodological section, we selected three countries as case studies: Romania, Lithuania, and France. Firstly, we present their level of digital literacy, based on information provided by the European Commission. Secondly, we compare the support for populist candidates in their latest presidential elections. Then, we briefly analyze the overview provided by combining these two aspects. The main findings of this section will be furtherly discussed in the Conclusions section.

According to Eurostat (2023), Romania has the lowest level of digital literacy in the EU. More precisely, in 2023, only 27.73% of the individuals had at least basic digital skills (it's important to mention that this analysis does not list critical thinking as part of these skills). Romania was the only EU country that at that point was below the threshold of 30%. Lithuania's

level is significantly higher, with 52.91%% of the individuals having at least basic digital skills. However, the Baltic country is only in the 17th position of the 27 EU members in this regard. France has the best situation of the analyzed countries: 59.67% of the individuals possess basic digital skills. Nevertheless, the country led by Emmanuel Macron fails to reach the top 10 of the most digitally literate EU countries.

The latest Romanian presidential elections were held in May 2025, in an extremely tense climate, marked by the decision of the Constitutional Court to annul the electoral process that started in November 2024 and was due to be concluded on December 8, 2024, because of alleged foreign interference (Gabor, Oancea & Pripp, 2025). In the first round, held on May 4, 2025, four candidates had scores higher than 5%: George Simion (AUR – the Alliance for the Union of Romanians) – 40.96%, Nicușor Dan (independent) – 20.99%, Crin Antonescu (PSD – the Social Democratic Party, PNL – the National Liberal Party, UDMR - the Democratic Union of Hungarians in Romania) – 20.07%, and Victor Ponta (independent) – 13.04% (Autoritatea Electorală Permanentă, 2025a). Although Ponta, a former leader of the Social Democrats, also had a discourse with clear populist tones, the only candidate supported by a party affiliated to a populist group in the European Parliament was George Simion (AUR is a member of ECR). Dan was supported, in the last weeks of the electoral campaign, by a member party of the Liberal Renew Europe group, while Antonescu represented parties affiliated with the European Socialists and the European People's Party (EPP). In the second round, Simion was defeated. Nevertheless, he managed to obtain more than 5 million votes – 46.4% (Autoritatea Electorală Permanentă, 2025b). The average of his results in the two electoral moments is 43.68%.

In Lithuania, the latest presidential elections were held in May 2024. Five candidates managed to obtain, in the first round, scores above 5%: Gitanas Nausėda (independent) – 44.3%, Ingrida Šimonytė (Homeland Union) – 20.22%, Ignas Vegele (independent) – 12.45%, Remigijus Žemaitaitis (Dawn of Nemunas) – 9.28%, Eduardas Vaitkus (independent) – 7.37% (The Central Electoral Commission of the Republic of Lithuania, 2024). Neither of the candidates who qualified in the second round were connected to the European populist camp (Nausėda is non-affiliated in the European Council, while Šimonytė represents the EPP). Moreover, neither of the five candidates ran as a representative of a populist party. Nevertheless, Vegele was supported by the Lithuanian Farmers and Greens Union, a member of the ECR in the European Parliament. Moreover, his discourse had arguments close to those regularly put forward by leaders like Kaczyński or Orbán. Although Žemaitaitis' approach had similarities with that of Vegele, he represents a party that has no members in the EP, and his ideological vision is peculiar, combining center-left elements with antisemitic stances. Therefore, we only included Vegele in our analysis. Given that he failed to qualify in the final round, his average score in these elections is just 6.23%.

In France, Emmanuel Macron was reelected as president in April 2022. In the first round, the following candidates obtained scores higher than 5%: Macron (The Republic on the Move) – 27.85%, Marine Le Pen (National Rally) – 23.15%, Jean-Luc Mélenchon (France Unbowed) – 21.95%, Eric Zemmour (Reconquest) – 7.07% (Ministère de l'Intérieur, 2022). Macron is the informal leader of the European Liberal camp, while Mélenchon represents the radical left. As mentioned above, Le Pen is one of the main figureheads of the European populist right. Although Zemmour is ideologically close to Le Pen, we chose not to include him in our analysis, given that his party is currently a member of the Europe of Sovereign Nations in the EP. In the second

round, Le Pen was defeated by Macron, but obtained a more than honorable score – 41.45%. Her average score is 32.3%.

If we analyze the level of digital literacy alongside the score of populist candidates in the first round of presidential elections (Figure 8¹), we can notice that Romania has the highest support for an anti-establishment politician while having the fewest citizens with basic digital skills. This information casts a shadow of doubt on Fukuyama's position on the causality between the use of technology and the populist wave. Nevertheless, we cannot conclude that digital literacy and the success of the radical right are inversely proportional. The level of digital literacy in France is higher than in Lithuania, but Le Pen managed to qualify in the second round of the presidential elections, unlike Vegele.

DL and PCS - First round

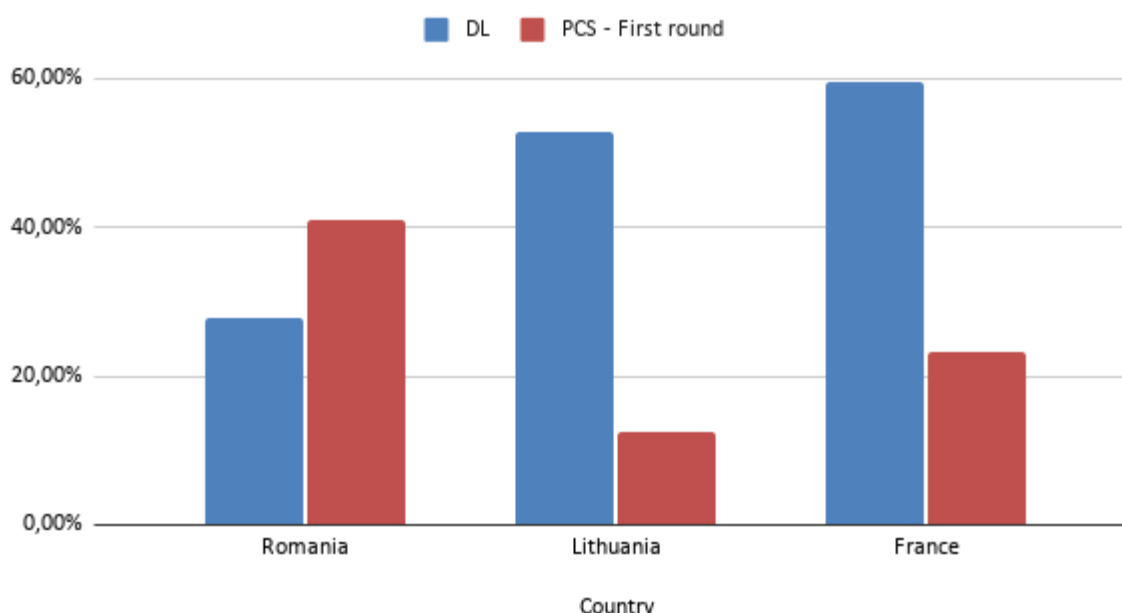


Figure 8. Digital literacy alongside the score of populist candidates in the first round of presidential elections

If we include in our analysis the second round of the presidential elections (Figure 9²), we have a confirmation of the image described in the previous paragraph. The country that is less developed regarding the digital skills of its population has the strongest populist contender. However, the country with the highest level of digital literacy has a higher percentage of voters willing to support a populist candidate than the one placed between the two extremes. The average score of the candidates in the two rounds of the presidential elections (Figure 10³)

¹ DL: Digital Literacy, PCS – First Round: The electoral score of the populist candidate in the first round of the latest presidential elections.

² DL: Digital Literacy, PCS – First Round: The electoral score of the populist candidate in the first round of the latest presidential elections, PCS – Second Round: The electoral score of the populist candidate in the second round of the latest presidential elections.

³ DL: Digital Literacy, PCS – Average: The average electoral score of the populist candidate in the two rounds of the latest presidential elections.

highlights once again Lithuania's peculiar position: it has the weakest populist camp while being extremely close (52.91% vs. 55.96%) to the average digital literacy level of the EU countries.

DL, PCS - First round, and PCS - Second Round

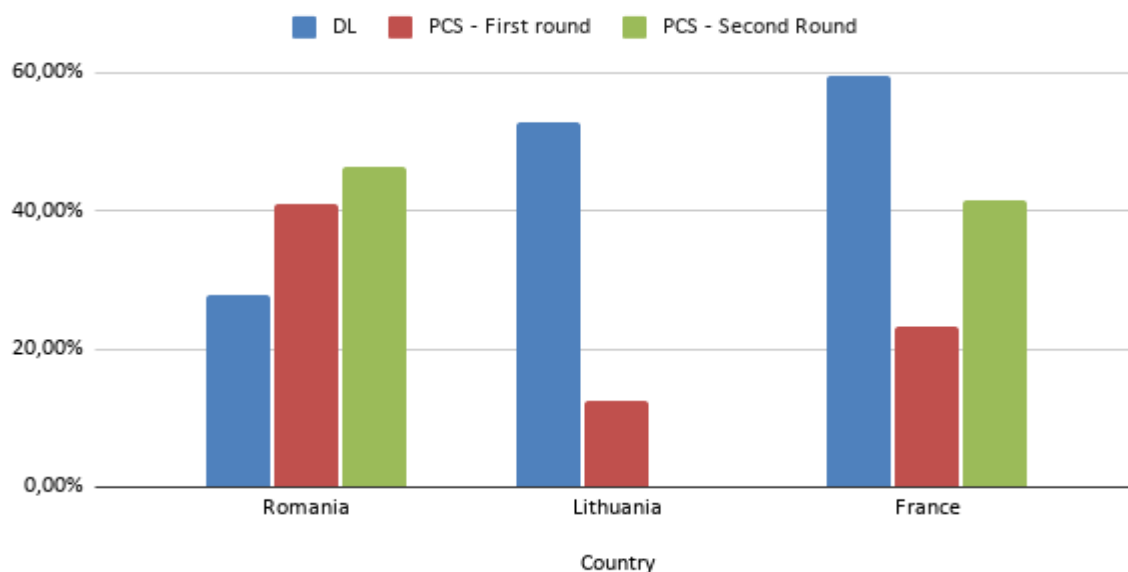


Figure 9. Digital literacy alongside the score of populist candidates in the second round of presidential elections

DL and PCS - Average

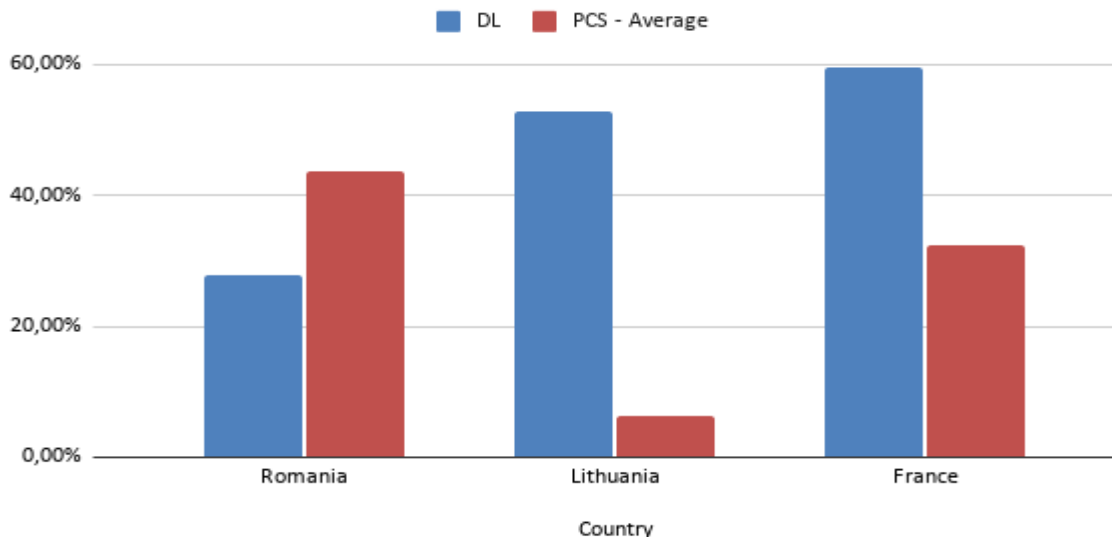


Figure 10. Digital literacy alongside the score of populist candidates in the two rounds of presidential elections

Conclusion

Our study has a number of significant limitations; as mentioned earlier, its main role is to spark a process of exploration and academic dialogue that might bring important interdisciplinary progress. Firstly, our bibliometric analysis is only an incipient one. We focused on just one

platform that gives access to databases, *Web of Science*. Enlarging the field we explore to other databases, like Scopus, would certainly provide a more accurate image of the interest that the scientific community has for the connections between digital literacy and political participation/voting behavior. Moreover, improving the queries we used through adding or removing concepts might reveal facets of our topic that the current research missed. Secondly, enlarging the number of countries covered by our case study should offer a much more solid foundation to our discoveries. Nevertheless, we do not exclude the possibility of being compelled to rethink our conclusions by a large-N analysis. We chose to focus on presidential elections because of the importance and distinctive nature of the latest presidential electoral process that took place in Romania. However, given the limited spread and ambiguous nature of semi-presidential regimes, it can be argued that analyses that focus on parliamentary and European elections could be more helpful. Thirdly, using a different definition of digital literacy than the one employed by the European Commission could produce notable changes in the rankings that we used in our analysis.

Regardless of the abovementioned limitations, we can conclude, based on the cases we analyzed, that there is no clear correlation in the EU between the level of digital literacy and the electoral support for populist candidates. Obviously, it would be an overstatement to say that technology has no influence on spreading the populist discourse and convincing citizens to vote for the radical right. However, we found no evidence that would confirm that social media and the internet constitute the main factor that enables the populist-driven democratic backsliding. On the other hand, we can state that there is room for improvement in studying the connections between possessing digital skills and voting behavior. Future studies could not only fill a worrisome scientific gap but also provide advice for preserving the rights and liberties still enjoyed across the European Union.

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