

Can Campaigns Increase Political Involvement Among Beginner Voters? Study of Scientometrics

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Abstract

Voter behavior is much shaped by political campaigns, especially for younger generations and first-time voters. The effect of political campaigns on political knowledge, involvement, and behavior is investigated in this work using a scientometric analysis. A total of 1,099 publications indexed in Scopus between 2015 and 2025 were systematically reviewed and analyzed using bibliometric analysis and knowledge mapping techniques. The results show that campaigns on political education greatly raise voter awareness, so influencing democratic involvement and participation. Rising as a key tool in political campaigns, digital media shapes voter impressions and mobilization techniques. Moreover, the study shows how significantly the voting choices of first-time voters are influenced by social elements including ideological affinity, peer influence, and socioeconomic background. Data science's ability to examine political trends has helped to further streamline campaign plans and increase voter involvement and outreach. The report also emphasizes the growing worries about negative campaigning and information manipulation, which might skew voter impressions and election results. The results imply that focused campaign plans including digital tools and tailored voter outreach can significantly raise political engagement among recently registered citizens. Integration of scientometric analysis into political studies offers insightful analysis of the changing character of electoral behavior and campaign success. This study highlights important patterns in political behavior and the success of voter education campaigns, so augmenting the larger conversation on electoral studies. Future research should look at the long-term effects of digital political education as well as the moral connotations of campaign tactics regarding voter behavior.

Keywords: political campaigns, voter behavior, digital media, scientometrics analysis, electoral participation.

Abstrak

Perilaku pemilih sangat dipengaruhi oleh kampanye politik, terutama di kalangan generasi muda dan pemilih pemula. Penelitian ini mengkaji dampak kampanye politik terhadap pengetahuan, keterlibatan, dan perilaku politik menggunakan analisis scientometrik. Sebanyak 1.099 publikasi yang terindeks di Scopus antara tahun 2015 dan 2025 ditinjau dan dianalisis secara sistematis menggunakan analisis bibliometrik serta teknik pemetaan pengetahuan. Hasil penelitian menunjukkan bahwa kampanye pendidikan politik secara signifikan meningkatkan kesadaran pemilih, sehingga memengaruhi keterlibatan dan partisipasi dalam proses demokrasi. Sebagai instrumen utama dalam kampanye politik, media digital berperan membentuk persepsi pemilih dan teknik mobilisasi. Selain itu, studi ini memperlihatkan betapa kuatnya pengaruh faktor sosial—seperti kedekatan ideologis, pengaruh teman sebaya, dan latar belakang sosial-ekonomi—terhadap pilihan politik pemilih pemula. Kemampuan ilmu data dalam menganalisis tren politik telah membantu mengoptimalkan strategi kampanye serta meningkatkan jangkauan dan keterlibatan pemilih. Laporan ini juga menyoroti kekhawatiran yang kian meningkat terkait kampanye negatif dan manipulasi informasi, yang berpotensi

mendistorsi persepsi pemilih serta hasil pemilihan umum. Temuan ini mengindikasikan bahwa strategi kampanye yang terarah—yang mencakup penggunaan perangkat digital dan pendekatan yang disesuaikan dengan karakteristik pemilih—dapat secara signifikan meningkatkan partisipasi politik di kalangan warga yang baru terdaftar sebagai pemilih. Integrasi analisis scientometrik ke dalam studi politik memberikan wawasan mendalam mengenai dinamika perilaku pemilih dan keberhasilan kampanye. Studi ini menyoroti pola-pola penting dalam perilaku politik serta efektivitas kampanye pendidikan pemilih, sehingga memperkaya diskursus yang lebih luas mengenai studi pemilihan umum. Penelitian di masa mendatang perlu mengkaji dampak jangka panjang dari pendidikan politik berbasis digital serta implikasi etis dari taktik kampanye terhadap perilaku pemilih.

Kata kunci: kampanye politik, perilaku pemilih, media digital, analisis scientometrik, partisipasi pemilu.

INTRODUCTION

Campaigns to increase political knowledge among the public, especially the younger generation, are an important step in strengthening democracy and political participation. Various studies have shown that effective political education can increase voter awareness and participation, especially among first-time voters and Generation Z. For example, Sa'Ban et al. emphasize the importance of political education socialization for novice voters in high schools, aiming to increase their understanding of the electoral process and the importance of participation in democracy (Sa'ban et al., 2022). In addition, SJORaida and Nugraha also highlighted efforts to increase political knowledge through political education socialization that can shape patriotic attitudes and nationalism among Generation Z (SJORaida & Nugraha, 2023). This political knowledge can influence the process of general elections or regional head elections from various countries (Mádr, 2025).

General elections are one of the main pillars of democracy that determine the direction of a country's policies. In recent decades, the use of digital media in election campaigns has increased, having a major impact on public opinion and voter behavior (Abdullah et al., 2019). In addition, social communication also plays an important role in shaping voter decisions, where peer influence is a significant factor in determining political preferences (Denver & Johns, 2021) (Bakera et al., 2020).

Information manipulation in electoral communication has also become an increasingly complex issue in the digital era. Political campaigns employ various manipulative strategies to directly or indirectly influence voters (Balakhonskaya et al., 2020). Furthermore, voters' economic perceptions, external factors such as Brexit, and campaign strategies have an impact on the evaluation of party leaders over time (Berz, 2020).

In the context of digital campaigns, the use of symbols in anti-disinformation campaigns is also an effective strategy in influencing public opinion, as happened in the elections in Taiwan (Bhattacharya et al., 2024). In addition, political promises made by candidates during campaigns have a limited but still significant effect on voter decisions (Bøggild & Jensen, 2024).

On the other hand, the use of data science in political analysis is also growing, allowing for more accurate mapping of voter behavior (LeDuc, 2015). Meanwhile, electoral reform also affects party campaign strategies, party systems, and voter preferences at the local level (Clark, 2021). Negative campaigning and issue ownership are other aspects that affect political dynamics, where parties use these strategies to build their image in the public eye (Craig & Cossette, 2017). In addition, social factors such as

sexual orientation have also been shown to have an influence on political and electoral behavior, as happened in Spain during 2016-2021 (Dueñas, 2022).

Voter participation can also be influenced by direct democracy mechanisms, which can increase voter mobilization or create participatory momentum within a country (Dvořák et al., 2017). In addition, ballot initiatives often show a bias toward the status quo, where voters tend to defend existing policies (Dyck & Pearson-Merkowitz, 2019)

In electoral studies, news about party coalitions can also influence voter preferences, both in terms of expectations and support for a coalition (Eberl & Plescia, 2018). A study of the 2019 European elections in Cyprus showed that the elections were characterized as secondary elections with a high salience to European issues (Efthymiopoulos et al., 2024).

Information campaigns can influence voter preferences regarding specific issues, such as vote buying, as demonstrated in a study conducted in Kenya (Erlich, 2020). This research will examine the factors that affect election campaigns and voter behavior in contemporary democracies.

RESEARCH METHOD

Research Design

This study analyzes published scientific literature concerning political campaigns and their influence on political knowledge among first-time voters through scientometric analysis and knowledge mapping. The subsequent sections outline comprehensive procedures.

Scientometrics Analysis

Scientometrics is a quantitative approach to analyzing scientific publications to understand their production patterns, dissemination, and impact within the academic community. It often uses bibliometrics, network analysis, and science mapping to measure research performance and trends in scientific development (van Raan, 2019). One of the main indicators in scientometrics is the number of citations, which reflects the level of influence of an article or journal in a particular field (Moed, 2017). Additionally, researchers often use other metrics like the h-index and impact factor to evaluate the productivity and quality of their research (Hirsch, 2005). Based on this, scientometrics is a big part of making scientific decisions, allocating research resources, spotting scientific trends that happen across different fields, and understanding how those trends affect the field of study.

Data Collection

This paper's initial step involved selecting reference journal articles from the Scopus database to create a unified analysis database. Scopus is widely recognised as a primary source of authoritative and representative citation data (Mongeon & Paul-Hus, 2016). The Scopus Database is the most commonly used and authoritative search engine for research literature, providing comprehensive coverage of major research results worldwide, including articles, meeting abstracts, books, and published projects. Moreover, it allows for a more comprehensive citation analysis (Falagas et al., 2008). To enhance the scientific rigour of this study, the search was constrained by constructing search strings (Ejaz et al., 2022).

The second phase aimed to retrieve database records. This article utilised specific criteria to select papers from academic journals in numerous databases relevant to the research topic. Data were collected from the Scopus database by entering the search terms into the Scopus Topic field, covering the period from 2015 to 2025. This selection procedure follows the latest advancements in search string retrieval

strategies (Ng et al., 2022). The search results were screened based on the following criteria. TITLE-ABS-KEY ("political behavior" OR "political attitude" OR "voter behavior" OR "political participation") AND ("voter" OR "electorate" OR "constituent" OR "electoral") AND ("impact" OR "effect" OR "influence" OR "outcome") AND ("election" OR "vote" OR "poll" OR "referendum") AND ("democracy" OR "political system" OR "governance" OR "political culture"). In bibliometric research, articles and reviews are considered more significant scientific contributions than conference proceedings or book reviews, making them worth considering (Du & Sanmugam, 2024).

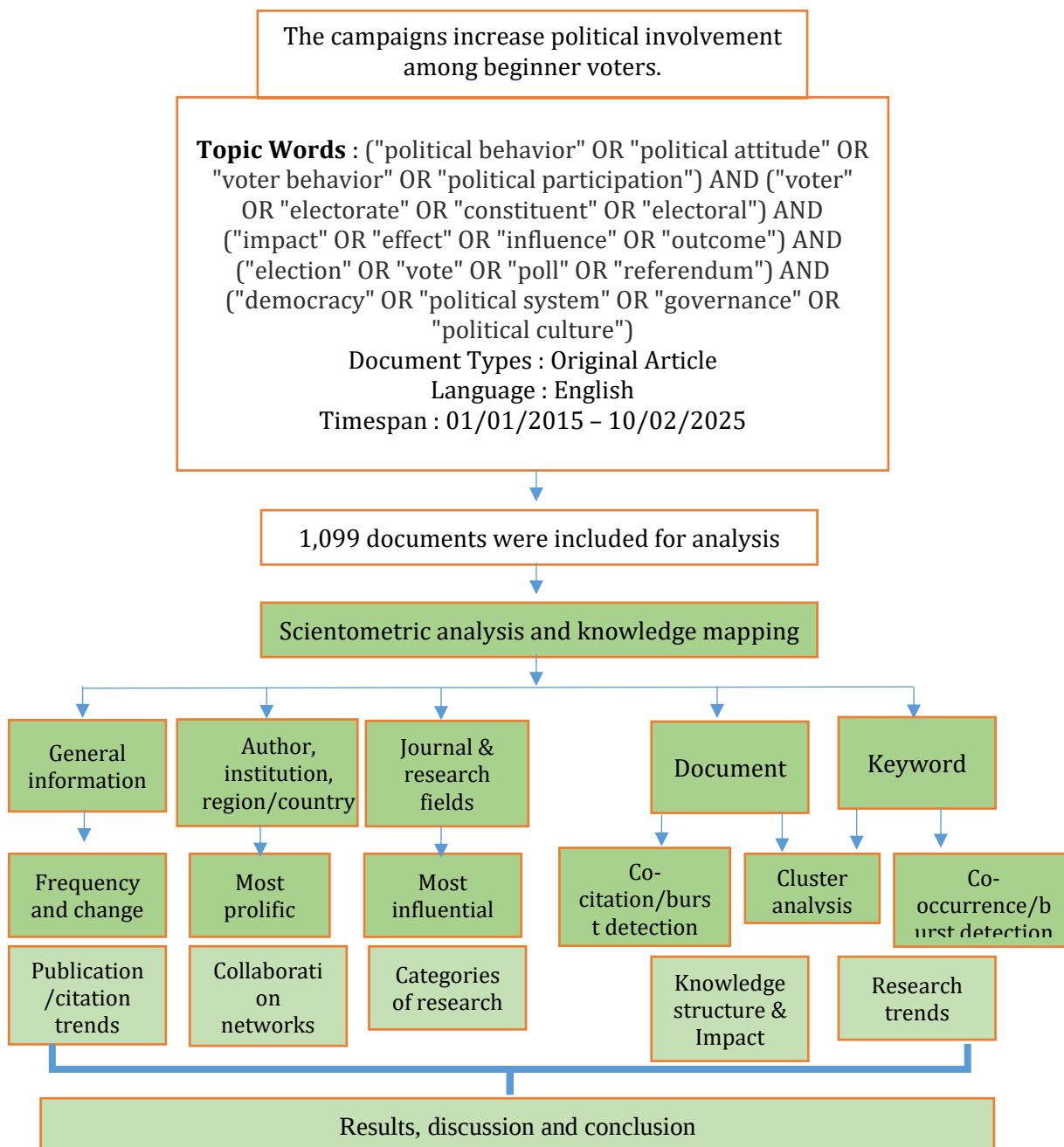


Figure 1. Methodological framework for the current study

CiteSpace Software

CiteSpace is an information visualization application created using the Java programming language. The methodology primarily relies on communal factor analysis and pathfinder network scaling to assess domain-specific literature, aiming to investigate the pivotal trajectories of scientific domain evolution and its intellectual milestones. This software for scientific literature data mining and visualization integrates multiple clustering and social network analysis techniques. The innovation resides in examining the possible motivations behind scientific evolution and identifying the boundaries of scientific advancement via the betweenness centrality among pivotal points in scientific literature (Zainudin et al., 2024).

Nodes and links constitute the primary elements of the CiteSpace visualization graph. The node types comprise "Author, Institution, Country, Term, Keyword, Source, Category, Reference, etc." While utilizing the software, we can designate a specific time frame, subsequently select the node types for the input database, and ultimately analyze the node. CiteSpace enhances the clarity and interpretability of visualizations compared to previous visualization tools (Chen, 2006). Professor Chen underscored that the paramount aspect of utilizing CiteSpace is its capability to map, generate, and interpret knowledge maps, which he contends will transform perceptions of the scientific realm (Chen, 2006).

Co-citation analysis is a crucial analytical feature in CiteSpace that accurately identifies significant publications within a research domain (Chen, 2004). When two or more papers are referenced by one or more subsequent papers concurrently, they are described as having a co-citation relationship. Secondly, the co-citation knowledge graph enables us to visualize the interconnections among the literature. The more closely connected nodes in the co-citation mapping suggest that they are frequently cited within the same literature, appearing together in numerous subsequent publications. The simultaneous appearance of the literature conveys a significant message that these co-cited articles must share similar content. Consequently, the intensity of co-citation among referenced articles increases. A higher co-citation value indicates greater content similarity and a stronger connection between the two entities (Crisóstomo et al., 2023).

CiteSpace offers two metrics, Modularity (Q) and Silhouette (S), which assess the clarity of network structures and clustering, serving as a foundation for evaluating the efficacy of mapping (Chen, 2006). Modularity (Q) ranges from 0 to 1. A Q value of ≥ 0.3 signifies a substantial level of modularity in the network, with values approaching 1 indicating stronger relationships and connections within the cluster. The Silhouette (S) metric assesses the homogeneity of a network, with clustering deemed acceptable when S exceeds 0.5. A clustering effect is deemed persuasive if S exceeds 0.7 (Chen et al., 2002).

RESULTS AND DISCUSSION

Scientometrics Result

Country Contributions

Figure 3 displays the results of the CiteSpace analysis, displaying data on scientific publication networks by country from 2016 to 2025. The visualization shows countries connected in different clusters, with each country depicted through colored nodes indicating linkages or collaborations in scientific publications. The more dominant countries, such as the United Kingdom, United States, Spain, and Australia, appear with larger node sizes, indicating significant contributions in scientific publications over the period. Meanwhile, countries with smaller nodes, such as Turkey, the Russian Federation, and Indonesia, may show more limited involvement or less collaboration in this scientific network.

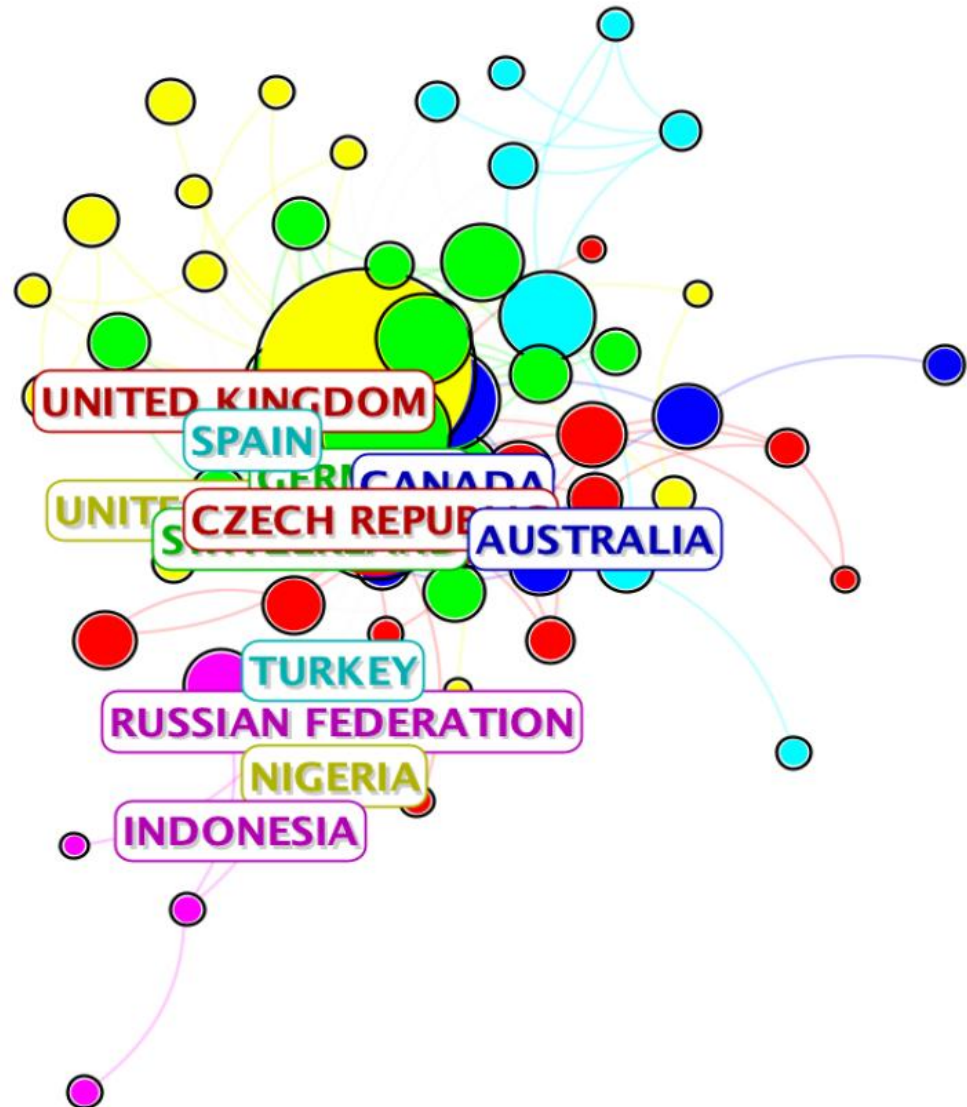


Figure 2. Countries Contribution and Relations

Table 1. Centrality Country Contribution

Centrality	Node Name	Cluster ID
0.42	United States	1
0.14	United Kingdom	0
0.06	Finland	0
0.06	Indonesia	5
0.05	Germany	2
0.05	Spain	3
0.04	Sweden	0
0.03	Belgium	2
0.03	Switzerland	2
0.03	Canada	4

The top ranked item by centrality is United States in Cluster #1, with centrality of 0.42. The second one is United Kingdom in Cluster #0, with centrality of 0.14. The third is Finland in Cluster #0, with centrality of 0.06. The 4th is Indonesia in Cluster #5, with centrality of 0.06. The 5th is Germany in Cluster #2, with centrality of 0.05. The 6th is Spain in Cluster #3, with centrality of 0.05. The 7th is Sweden in Cluster #0, with centrality of 0.04. The 8th is Belgium in Cluster #2, with centrality of 0.03. The 9th is SWITZERLAND in Cluster #2, with centrality of 0.03. The 10th is CANADA in Cluster #4, with centrality of 0.03.

In addition, the clustering by color indicates a modulation or grouping of interrelated countries in specific clusters. The different colors indicate specific relationships between countries in scientific publications, with larger countries having more influence in the network. This reflects the growing importance of international collaboration in research, with large countries often taking center stage in global publication networks, while countries with smaller involvement have a more limited role in this context.

Author Contribution

The author contribution analysis in Figure 4, which was done with CiteSpace, clearly divides researchers into clusters. This is shown by the different colors that show groups of authors who are related. Prominent authors such as Inglehart, Mansbridge, Norris, and Powell appear at the center of the main clusters, signifying their important role in the field. This visualization reveals the close relationship between various authors who are frequently cited together in academic publications, providing a clear picture of the topic trends and research flow within the field under study. The modularity of 0.5076 indicates that the network structure has a fairly strong cluster division, reflecting the different themes present.

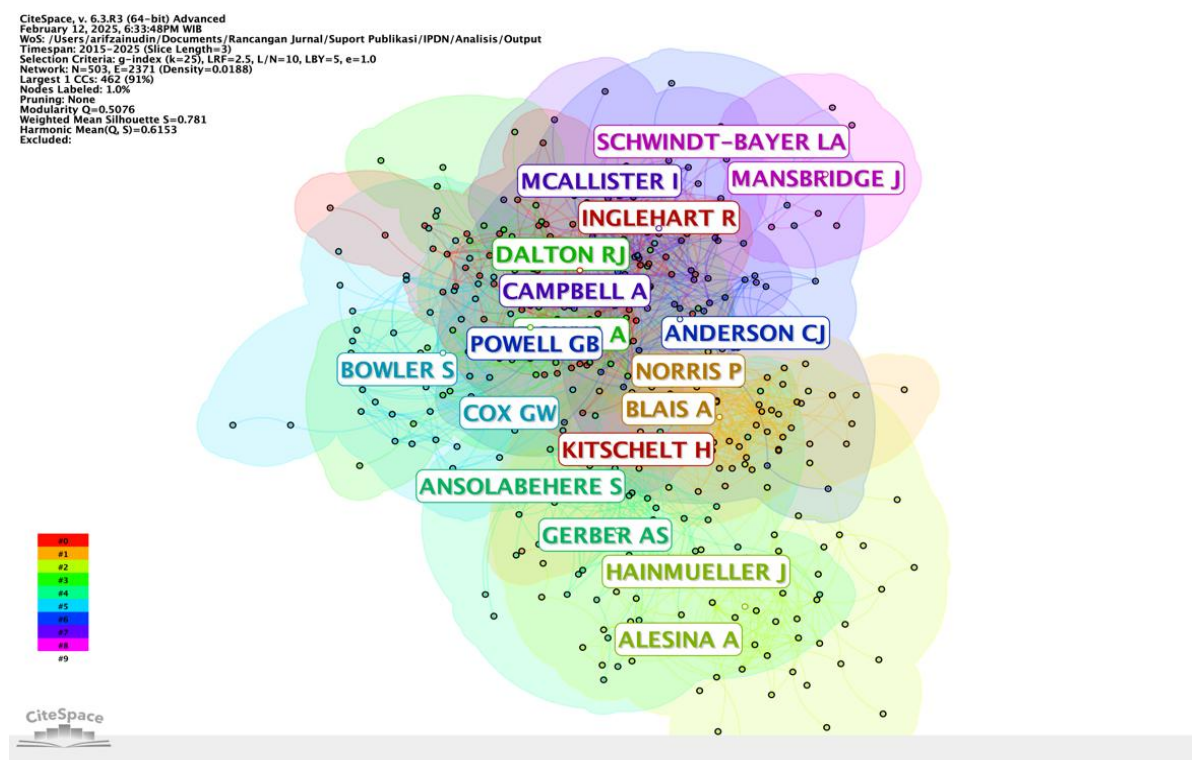


Figure 3. Author Contribution by Citespace

In addition, the Silhouette Mean value of 0.781 indicates that the clusters formed in this network have good coherence, with a clear separation between one cluster and another. This allows us to identify research trends on the topic of political knowledge and first-time voters among existing researchers.

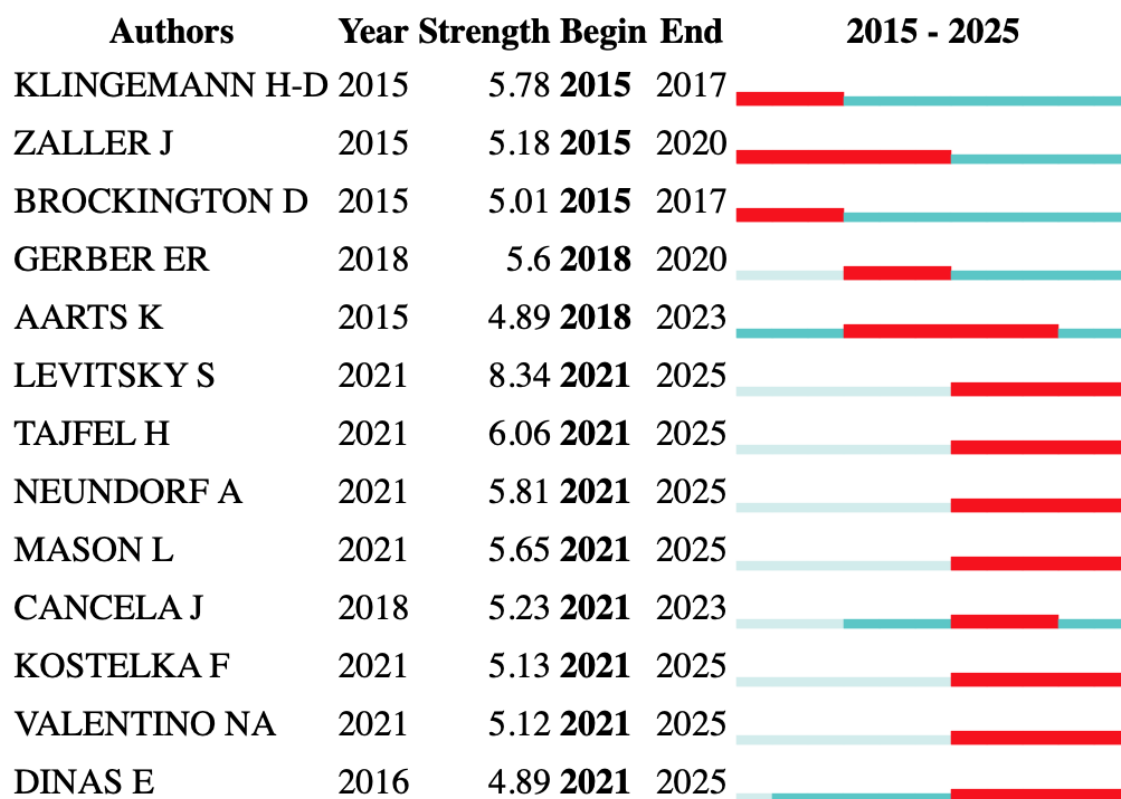


Figure 4. Burst Author Citation by Citespace

Based on the visualized data, there are clear differences in citation patterns between the analyzed authors. Authors such as (Levitsky & Way, 2022), Tajfel H, and Neundorf A show a particularly strong spike in citations in the period from 2021 to 2025. This spike most likely reflects the growing relevance and influence of their field of study in this period. This may be related to the publication of new work or increased attention to their research among the scientific community. In contrast, authors with shorter citation spikes, such as (Klingemann, 2015), Zaller, and Brockington, show peaks in citations occurring in the earlier period of 2015–2020, suggesting that their works were more relevant at that time but tended to decline thereafter.

On the other hand, authors such as Aarts K. and Cancela J. have a longer and slower-ending citation spike, with the peak of citations lasting until 2023. This suggests that while their work received significant attention, they may not have experienced as large a spike as authors who only emerged in 2021. This citation map provides important insights into changing trends in scientific research and publication, where some authors continue to influence their field over the long term, while others only register shorter spikes in popularity.

Keyword Clustering Analysis and Burstiness

The keyword network analysis that CiteSpace made shows a structure made up of several large clusters in research about politics and government from 2015 to 2025. From the visualization results,

there are ten thematic clusters that are the main focus, including #0 Social Media, #1 Political Culture, #2 Immigration, #3 Political Behavior, #4 Electoral Geography, #5 Compulsory Voting, #6 United States, #7 Political Ideology, #8 Political Parties, and #9 Voter Turnout (Figure 6). The cluster with the largest size is #0 Social Media, which shows that the role of social media in political dynamics is the most studied research topic. In addition, concepts such as local government, leadership, political ideology, and compulsory voting are also found in this network, reflecting the broad scope of studies in politics

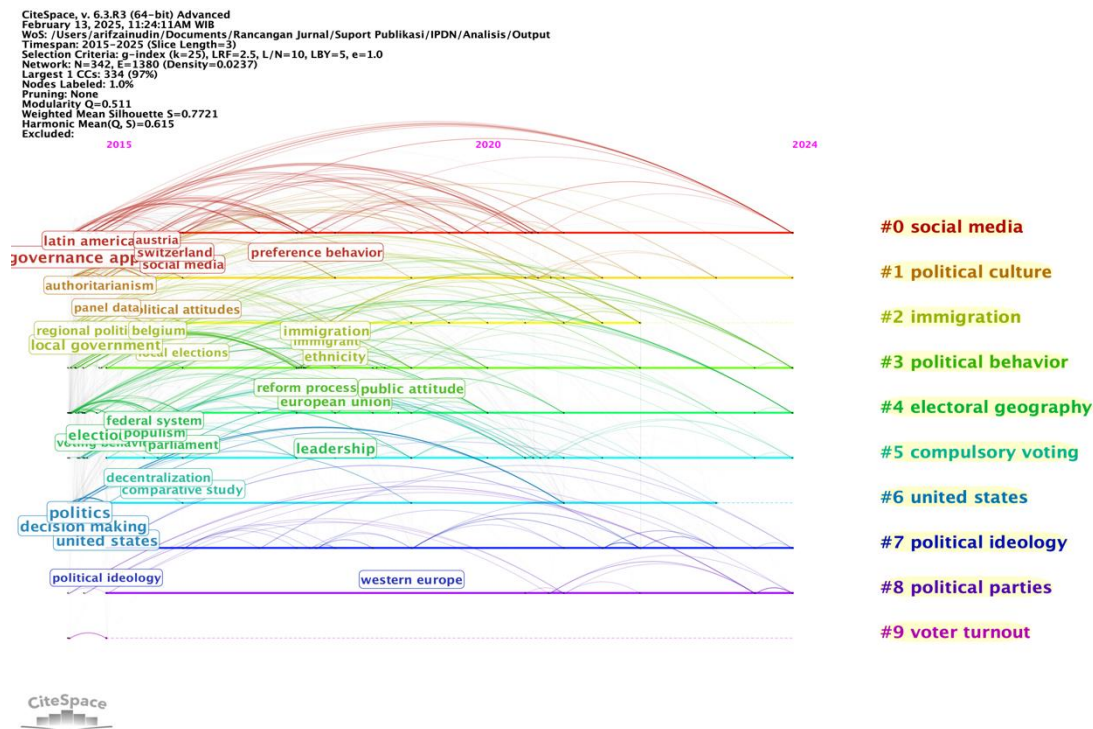


Figure 5. Clustering by Keyword

The network also shows the connections and evolution of relationships between keywords from year to year. The lines connecting the various nodes show strong connections between different topics. The change in color of the lines from red (2015) to purple (2024) signifies how research concepts evolve over time, with some topics receiving more attention in certain periods. For example, social media and political behavior saw growth in the number of publications, especially after 2020, which can be attributed to the increased use of digital platforms in political campaigns and the dissemination of political information. In addition, concepts such as immigration and voter turnout also show strong linkages with various other political themes.

Larger and more heavily colored clusters, in terms of theme density and significance, indicate the frequency of the concept's appearance and citation in other studies. The social media cluster, for example, has a high density of connections with other themes, such as political behavior, public attitude, and governance approaches, indicating that research on social media is highly relevant in modern political studies. In addition, the Political Ideology and United States clusters also have extensive connections, indicating that many political studies still focus on political ideology and policy in the United States.

Quantitatively, several indicators indicate the quality of this research network's structure. Modularity $Q = 0.511$ indicates that the cluster structure is excellent and has a clear separation between research groups. Simultaneously, Silhouette $S = 0.7721$ demonstrates the high quality of the clusters and

their ability to accurately describe patterns in political research. However, the low density (0.0237) shows that the connections between ideas in this network are not very close. This means that political research is still very broad and includes many subtopics that have been researched on their own.

The implications of these results are significant for the future development of political research. With the dominance of the themes of social media, immigration, voter turnout, and political ideology, researchers can identify current research trends and areas that still require further exploration. For example, the study of how social media affects voter behavior or how political culture factors contribute to political engagement could still be expanded. In addition, the increasing connection between electoral concepts, immigration policies, and the decentralization of government shows that these aspects are becoming increasingly important in academic studies, especially in the era of globalization and the digitalization of politics.

The Impact of Political Campaigns on Political Behavior of Beginner Voters

In the study of political psychology, voter behavior is influenced by various factors that have a significant impact on electoral decisions. Based on the table, we can identify six main factors that contribute to the psychological dynamics of voter political behavior.

Table 2. Political Behavior on Voters

Section 1 Psychological Impact			
Cluster	Factors	Impact	Author
#0	Party system polarization; fragmentation; and contextual effects	Influencing voters' psychological political behavior	(Anderson & Dalton, 2011) (Schoen et al., 2017)
#1	Affiliation to a social group; political party closeness; ideological position; economic situation	Determining voting behavior	(Debus, 2007)
#2	Economic shocks; (job loss, income drop)	Increase support for broader social policies and redistribution, and reduce trust in political institutions.	(Margalit, 2019)
#3	Candidate properties (internal and external)	Influencing voter behavior during election campaigns	(Groshev et al., 2019)
#4	Sociological environment; party identification; rational expectations	Being an important variable that shapes voting behavior	(Aygoren & Yilmaz, 2015)
#5	Social influence and political party affiliation	The impact of this depends on the maturity of the political party system, with a greater impact in established democracies	(Erişen, 2016)
Section 2 Voter Decision-Making			
Cluster	Factors	Impact	Author
#6	Decision-Making Mechanisms	Voter choices are shaped by variables such as family, friends religion, party identification, and rational expectations.	(Aygoren & Yilmaz, 2015)
#7	Impact of Party and Ideology	The impact of party and ideology on legislative behavior varies across state legislatures, with electoral party activity explaining part of the variance.	(Jenkins, 2006)

#8	Personalization of politics has shifted voting practices, focusing on candidates over institutions, (Falcão et al., 2023) influencing political outcomes through candidate evaluation.
Personalization of Politics	

Based on Table 2, it shows the factors that can influence political behavior. There are 6 clusters based on political psychology studies conducted during political campaigns. Cluster #0, party system polarization, fragmentation, and contextual effects are fundamental factors that shape voters' perceptions of the political environment. Party system polarization creates cleavages that affect voters' psychology in determining political preferences, while fragmentation can increase complexity in electoral decision-making.

Cluster #1 includes variables that directly determine voting behavior, such as voter affiliation to specific social groups, subjective closeness to political parties, ideological positions, and perceived economic situations. Voters tend to side with parties or candidates that are in line with their ideological values and economic interests, so social and ideological affiliation factors are key in understanding voting patterns.

Cluster #2, economic shocks, such as job loss or drastic reductions in income, play a role in shifting voters' political attitudes. Worsening economic conditions tend to encourage support for broader social policies, including economic redistribution. In addition, economic instability can also reduce voters' trust in political institutions, potentially increasing participation rates in opposition or populist movements.

Cluster #3: During election campaigns, voters' perceptions and decisions are significantly influenced by candidate characteristics, including internal aspects like integrity, competence, and policies, as well as external aspects like public image and electability. Voters tend to consider candidates' personal factors as indicators of credibility and capability in running the government.

Cluster #4, sociological environment, party identification, and rational expectations are factors that shape voting behavior. Voters who have strong party identification tend to be loyal to their political affiliation, while those who prioritize rational expectations will consider pragmatic factors, such as economic and welfare policies, before making their political choices.

Cluster #5, the influence of social and political party affiliation on electoral choice, depends on the level of maturity of the political party system in a country. In established democracies, party affiliation has a stronger impact on voter behavior, whereas in less developed systems, other factors such as populism and sectoral issues may play a greater role.

Cluster #6, Voter decision-making mechanisms are influenced by social and psychological factors such as family, friends, religion, party identification, and rational expectations. These factors indicate that voters' decisions are not only based on political policies or programs but also on the social environment that shapes their preferences. Highlights the importance of social aspects in determining individual political choices (Aygoren & Yilmaz, 2015).

Cluster #7, The impact of party and ideology on legislative behavior is not uniform across regions. This variation is due to party activity in the electoral arena, which also affects how political parties play a role in mobilizing voters and influencing election outcomes. The study (Jenkins, 2006) explains that differences in governance structures and regional political dynamics can strengthen or weaken the influence of parties on voter behavior.

Cluster #8, the personalization of politics, is a phenomenon that has changed voting practices in Western democracies. Candidates are now the main focus of political campaigns, often at the expense of the role of political institutions. This indicates that voters are increasingly considering the character and

personal image of candidates rather than party platforms or policies. (Falcão et al., 2023) asserts that voter evaluations of candidate personality can contribute significantly to political outcomes, suggesting a shift away from party-based politics towards more individualistic politics.

All these factors suggest that dynamic social, economic, and political conditions strongly influence voter political behavior, which is not static. Political psychology is becoming more and more important as a way to understand how people react to political changes and how different factors affect voters' choices in different election situations.

Societal Factors

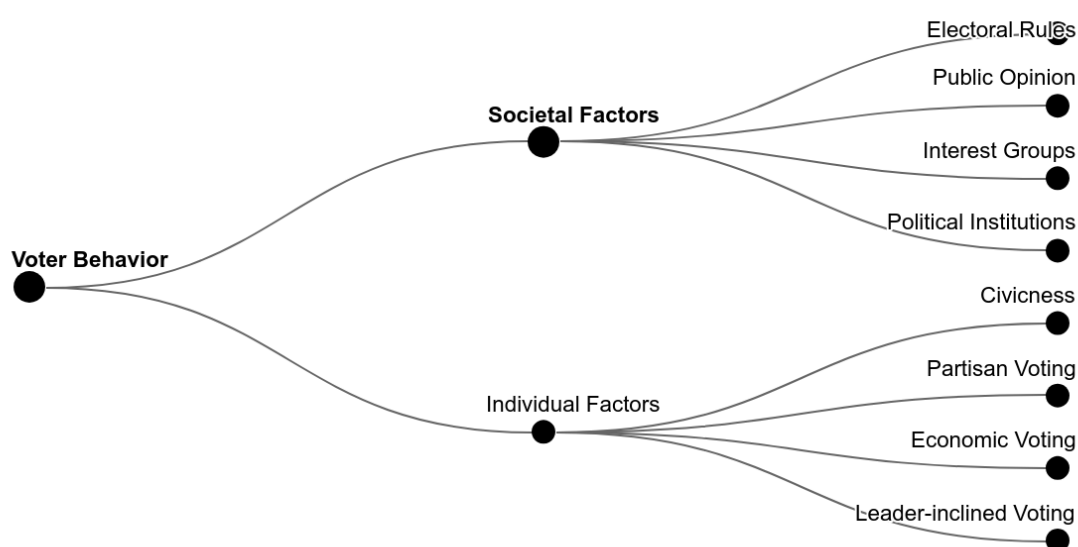


Figure 6. The concept of the impact of political campaigns on vote behavior

This paper answers the question of what social factors affect voter behavior by looking at the keyword mapping in Figure 6. This shows how political campaigns are grouped together and how they affect the political knowledge of first-time voters.

Table 3. Societal Impact Factors

Societal Impact Factors	Description	Author
Social group affiliation	Voters' affiliation with social groups that support a particular campaign can influence their decision-making.	(Debus, 2007)
Subjective proximity to political parties	The closeness that voters feel toward a party that conducts a campaign can determine their voting behavior.	(Debus, 2007)
Ideological or policy-specific positions	Certain ideological or policy positions of voters and political parties can have an impact on voting behavior.	(Debus, 2007)
Candidate-based behaviors	Some voters may choose a party based on their favorite candidate.	(Debus, 2007)
The economic situation	The economic conditions perceived by voters can affect their behavior at the polls.	(Debus, 2007)
Socio-psychological factors	Socio-psychological factors such as family loyalty, neighborhood preference, and emotional attachment to political parties or candidates influence high school voting behavior.	(Şener et al., 2023)
Socio-structural variables	Factors such as religion and social class have been studied for their influence on voting behavior.	(A. C. Goldberg, 2017)

Societal Impact Factors	Description	Author
Age as a variable	Recent studies tend to focus more on factors such as ideology and political intelligence, leaving aside the age variable in voting behavior.	(Sokhey & Djupe, 2017)

Based on Table 3, societal factors in first-time voters are often influenced by their social groups, such as family, friends, or certain communities. These social alliances can play a big role in shaping their political preferences, especially as they are still in the early stages of understanding political dynamics. Political campaigns that specifically target these social groups—for example, through social media or influencers who have influence in their communities—can be an effective means of increasing the political knowledge of first-time voters. With the right approach, campaigns can build broader political awareness and help first-time voters understand the importance of their role in the democratic process.

In addition to social influence, voters' subjective closeness to a political party can also shape their voting behavior. If the campaign succeeds in creating a positive image of a particular party, novice voters are more likely to develop loyalty and emotional attachment to that party. Digital media is the main means of disseminating information about the party's vision, mission, and programs that can attract the attention of novice voters. In addition, campaigns that highlight a party's ideology or specific policies can also increase young voters' understanding of the fundamental differences between parties and candidates contesting elections. This is particularly important as many first-time voters do not yet have clear political preferences and are still seeking information to determine their choices.

Another factor that influences first-time voters is the personal appeal of candidates. Many of them tend to vote based on first impressions of candidates rather than understanding their policies or ideologies. Therefore, campaigns that highlight a candidate's personality, track record, and communication style can influence how they understand politics and make decisions in elections. In addition, economic factors also play a significant role in shaping novice voters' perceptions of a party or candidate. Campaigns that relate economic policies to everyday life, such as job opportunities for young people or more affordable education costs, can attract their attention and build their understanding of economic policies in politics.

Socio-psychological and socio-structural factors also have a major impact on first-time voters. Campaigns that touch on emotional aspects, such as loyalty to family or role models, can shape their political preferences. If their neighborhood supports a particular candidate, first-time voters tend to follow that view. In addition, religion and social class are also important elements in their political understanding. Campaigns that link religion to social policy can deepen their awareness of the relationship between politics and social values. On the other hand, age as a variable often receives less attention in political campaigns. However, the right approach through the media they use, such as TikTok, Instagram, or YouTube, with simpler language and discussion of issues relevant to them, can significantly improve the political understanding of first-time voters.

Individual Factors

In addition to the societal factors group that can influence vote behavior in novice voters. Furthermore, there are individual factors that can influence the choice of a candidate in political contestation (figure 7).

Table 4. Voting Behavior Analysis

Individual Factors	Description	Author
Personality and Voting Behavior	The five factor model of personality was used to identify four types of voters: loyal, volatile, passive, and unsystematic, with significantly different personality structures influencing voting behavior and mobilization options.	(Turska-Kawa, 2013)
Socio-structural variables and voting behavior	Classic factors like religion and social class, known as cleavage voting, have historically influenced voting behavior, although recent approaches like issues ownership voting and rational-choice models have gained popularity.	(A. C. Goldberg, 2017)
Factors influencing voting decision	Factors such as party identification, problem-solving capacity, social group belonging and preference for a chancellor candidate are decisive for explaining voting behavior.	(Debus, 2007)
Impact of socio-psychological factors on voting behavior	Postgraduate students' voting behaviors were found to be affected by socio-psychological factors such as rationality, loyalty to family and inner circles, and emotional attachment to a political party or candidate.	(Şener et al., 2023)

Various factors influence voter behavior in a political context. Personality and voting behavior play an important role. Personality factors identify four types of voters: loyal, volatile, passive, and unsystematic. Each type has a significantly different personality structure, which affects voter behavior and the mobilization options they choose. In addition, socio-structural variables in voting behavior are also historically influential factors, such as religion and social class, known as cleavage voting. However, newer approaches, such as issue ownership voting and rational choice models, are gaining popularity in explaining voter behavior patterns.

Furthermore, factors influencing voter decisions include aspects such as party identification, problem-solving capacity, sense of belonging to a social group, and preference for the chancellor candidate. These factors become key elements in determining one's political choice. Not only that, the impact of socio-psychological factors on voting behavior also shows that graduate students' voting behavior is influenced by socio-psychological factors such as rationality, loyalty to family and immediate environment, and emotional attachment to certain political parties or candidates.

CONCLUSION

This study provides a comprehensive scientometric analysis of the influence of political campaigns on the political behavior of first-time voters, particularly in the digital era. This study has identified significant trends in political behavior, voter engagement, and campaign strategy efficacy by systematically analyzing 1,099 entries from the Scopus database. Findings indicate that political campaigns significantly enhance political knowledge and engagement among first-time voters. Digital media is emerging as a significant instrument, transforming voter perceptions and campaign strategies. The integration of data science into political outreach has improved campaign initiatives through enhanced voter mobilization and participation rates. Voter preferences are significantly influenced by social factors such as socioeconomic status, peer impact, and ideological alignment.

The studies highlight concerns regarding information manipulation and negative campaigning, which may distort voter perceptions and potentially influence election outcomes. Digital campaigns have raised ethical concerns regarding misinformation and biased narratives, despite enhancing access to political education. Comprehending the evolving nature of political behavior and electoral strategies has been significantly enhanced by scientometric analysis. This study employs clustering and citation mapping methods, revealing that research on social media, political ideology, and voter turnout has gained significance over the past decade.

The increasing dependence on digital platforms for political engagement underscores the necessity for further research on their enduring impact on democratic participation.

Future research should focus on assessing the sustainability of digital political education and its impact on voter behavior over time. Research should also examine ethical considerations in campaign strategies, particularly concerning the mitigation of misinformation and the enhancement of transparency. This study underscores the necessity of informed and responsible voter education programs, contributing to the broader discourse on electoral studies and democratic participation by enhancing the understanding of political engagement mechanisms.

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