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# The Evolution of Political Parties, Interest Groups, and Elections Towards the Digital Democratic Era

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**Abstract**

The transformation of digital technology has played a crucial role in the development of democratic systems worldwide. Political parties, interest groups, and election processes have been significantly influenced by digital advancements, leading to structural, procedural, and behavioral shifts among voters. Political parties must adapt to leverage digital platforms for communication with the public, election campaigns, and strategic planning. Similarly, interest groups can utilize digital media as a tool to gain support and influence policy-making. Furthermore, digital technology has impacted the election process through e-Voting systems and the application of artificial intelligence in managing voter data. While these advancements enhance efficiency and transparency, they also present risks such as cybersecurity threats and misinformation, which may undermine the legitimacy of election outcomes. This paper employs the concepts of digital democracy and comparative political theory to analyze trends and challenges, while proposing new approaches to enhance transparency, public participation, and equality in a digital democratic society.

## Introduction

In the past two decades, the digital revolution has played a pivotal role in shaping democratic processes globally. Digital technology has transformed traditional campaigning and electoral methods, moving towards online platforms that allow political parties and interest groups to reach broader audiences (Diamond, 2019). The ability to communicate and mobilize support via social media platforms like Facebook, Twitter, and TikTok has made politics more dynamic. However, this technological advancement also brings new challenges, particularly in terms of cybersecurity, misinformation, and foreign interference that could affect elections (Norris & Grömping, 2022).

One significant issue arising from the digital transformation of elections is the role of Big Data and Artificial Intelligence (AI) in shaping political strategies. Political parties and interest groups can use vast amounts of data to analyze voter trends and adjust campaign strategies to align with public behavior (Bimber, 2020). Personal information collected from social media is used to create highly targeted political advertisements that effectively sway voter opinions (Persily, 2021). While these technologies enhance the capabilities of political entities, they simultaneously raise

concerns about individual privacy and equality in the electoral process.

Additionally, advances in digital technology have led to imbalances in political competition. Political parties with access to efficient digital resources gain an advantage over smaller or independent parties lacking sufficient resources (Schmidt, 2021). Political competition in the digital age depends not only on political ideology or candidate popularity but also on the ability to use technology to reach and influence the public (Tucker et al., 2021). These imbalances raise questions about the fairness of democratic systems and the need for regulations to maintain equality in the electoral process.

While digital technology increases public participation in elections, the spread of misinformation and fake news has become a significant problem affecting democracy (Bradshaw & Howard, 2019). The use of Deepfake and Political Bots to disseminate false information or manipulate public opinion can distort election results (Jamieson, 2018). In the case of the U.S. elections in 2016 and 2024, evidence shows the use of digital technology to create fake accounts and spread false information to confuse voters (Fukuyama, 2021). Therefore, oversight of technology use in elections is necessary to maintain the credibility of democratic processes.

Previous research has highlighted the role of digital technology in political campaigning and elections (Norris, 2017). However, there is a lack of integrated studies linking the impact of technology on political parties, interest groups, and the electoral process. This article aims to study and analyze the impact of digital technology on political parties, interest groups, and the electoral process, and propose ways to promote transparency, participation, and equality in digital democratic societies.

**Objectives**

1. To study and analyze the impact of digital technology on political parties, interest groups, and the electoral process.
2. To analyze how political parties and interest groups use technology to gain political advantages.
3. To propose conceptual frameworks and practical approaches to enhance transparency, participation, and equality in digital democratic societies.

**Literature Review And Related Concepts**

**Basic Concepts of Political Parties**

Political parties are key organizations in democratic systems, tasked with nominating candidates, setting policies, and bridging the gap between the public and the state (Sartori, 2005). Basic concepts of political parties can be categorized into various dimensions such as organizational structure, political ideology, and differing party systems across countries (Duverger, 1954). Political parties are often classified based on competitive systems: one-party systems, two-party systems, and multi-party systems, each impacting government stability and policy formulation (Ware, 1996). Additionally, party operations depend on environmental factors like electoral systems, party laws, and political cultures (Gunther & Diamond, 2003).

In the digital age, the role of political parties has significantly changed from traditional organizational structures to using technology for political activities. Modern political parties rely not only on traditional campaigning methods like speeches or leaflets but also on digital platforms to reach voters through social media and online advertising campaigns (Bennett et al., 2020). Digital technology enables parties to collect and analyze public data to design more effective campaign strategies (Chadwick & Stromer-Galley, 2016). However, digital-age parties face new challenges such as the spread of false information (misinformation) and cyber interference risks that may affect election credibility (Persily, 2021). Thus, studying political parties in the context of digital technology is essential to understand political changes in the 21st century.

**Political Parties in the Digital Age: Challenges and Opportunities**

In an era where digital technology plays a crucial role, political parties worldwide are adapting to leverage social media and digital platforms for communicating with the public. Using Big Data and AI helps parties accurately strategize campaigns and build voter bases through online networks (Bimber, 2020). However, unequal access to technology and varying abilities to use data among different political parties create inequalities that may affect political competition (Persily, 2021). Moreover, parties must develop strategies to address changing voter behaviors, emphasizing political participation via social media over traditional political activities (Chadwick & Stromer-Galley, 2020).

Analyzing voter behavior data to devise more effective strategies is another significant trend. Political parties employ AI and Machine Learning to analyze demographic and voter behavior data. However, there is a risk of biased campaigns or deepening political divides when using this data (Bennett & Segerberg, 2020). While digital

technology allows political parties to reach remote populations in developing countries, infrastructure challenges and unequal technology access remain (Diamond, 2019).

Digital platforms increase public political participation but also alter how political parties operate, leading to greater power decentralization as party members can directly communicate with the public via social media (Norris & Grömping, 2022; Chadwick & Stromer-Galley, 2020). Additionally, parties face challenges regarding the credibility of online information due to increasing misinformation and political disinformation (Guess, Nyhan, & Reifler, 2020). Another critical issue is using digital technology in policy formulation and internal party management, employing electronic voting systems (e-Voting) and participatory democracy platforms (Tufekci, 2019).

Using AI and Big Data in political campaigns has become a mainstay for modern political parties but raises concerns about unfair targeting and increased inequality in accessing political information (Bennett & Segerberg, 2020; Tufekci, 2019). AI is also used to design and create more effective political advertisements, potentially increasing voter engagement rates (Persily, 2021; Howard & Kollanyi, 2019). However, there are concerns about AI's ability to produce fake news and create disinformation campaigns (Guess, Nyhan, & Reifler, 2020).

Although digital technology enhances transparency, it also poses cybersecurity risks (Persily, 2021). Cyber threats related to elections come in various forms, including DDoS attacks and breaches of political party data systems (Tucker et al., 2018; Diamond, 2019). Additionally, Deepfake and AI are used to distort political information (Chadwick & Stromer-Galley, 2020). Political parties must develop strategies to counter fake news and establish mechanisms to verify information accuracy to maintain their credibility and overall electoral integrity (Guess, Nyhan, & Reifler, 2020). One key strategy is implementing fact-checking systems alongside AI and Machine Learning (Howard & Kollanyi, 2019; Persily, 2021).

Access to technology remains a significant obstacle in many countries, especially rural areas and developing nations (Diamond, 2019). Unequal access to technology creates political disparities (Norris & Grömping, 2022). Additionally, the ability to use technology is a critical factor in determining public political behavior (Persily, 2021). Therefore, state policies play a vital role in reducing educational and technological access gaps (Howard & Kollanyi, 2019). Developing education systems that emphasize technology use to promote political understanding and democratic participation is a crucial approach to achieving political equality in the digital age.

**Basic Concepts of Interest Groups**

Interest groups are organizations or networks established by individuals or groups with shared goals of influencing political decision-making and public policy without necessarily engaging directly in political competition (Berry, 1999). Interest groups play a vital role in democracies, acting as intermediaries between the public and the state by employing various strategies such as lobbying, social movements, and financial support to political parties or candidates (Baumgartner et al., 2009). Basic concepts about interest groups often reference pluralism theory, suggesting that competition among groups leads to a balance of power and socially beneficial outcomes (Dahl, 1961). However, elitism theory and unequal influence concepts highlight that resource-rich and well-networked groups often hold more power than those with limited resources (Gilens & Page, 2014).

Interest groups can be categorized into several types: economic interest groups such as business associations and labor unions, public interest groups focused on environmental and human rights issues, and single-issue groups concentrating on specific topics like gun ownership rights or religious freedoms (Walker, 1991). The operational methods of interest groups vary according to each country's political system. In liberal democracies, interest groups can influence governments through lobbying and political campaigns, while in authoritarian regimes, their roles are often restricted by the state (Schlozman et al., 2012). Additionally, digital technology development allows interest groups to easily reach the public and exert political pressure through online platforms and social media (Bennett & Segerberg, 2013).

In the digital age, the influence of interest groups expands through technology and digital media. These groups can create political campaigns, crowdfund, and use Big Data to strategize public communications (Schmidt, 2021). Additionally, using digital platforms helps interest groups target specific audiences and effectively pressure governments or international organizations (Chadwick, 2017). However, digital technology also opens opportunities for misinformation and political interference by resource-rich groups, potentially leading to political power imbalances (Norris & Grömping, 2022). Therefore, regulation and policy development to ensure fair

participation of interest groups are necessary to maintain political power balance in democratic societies.

**Interest Groups and Political Influence**

Interest groups are essential components of political processes, acting as intermediaries between the public and the state (Berry & Wilcox, 2018). Their influence stems from their ability to establish networks, provide financial support, and create social awareness about policy issues they aim to push forward (Baumgartner et al., 2019). Currently, digital platforms have become primary tools enabling interest groups to reach the public and play a broader role in political decision-making processes (Gil de Zúñiga & Diehl, 2019).

One key strategy interest groups use in the digital age is Crowdsourcing and Crowdfunding, which allows them to gather ideas and financial resources from the general public to support political movements (Schmidt, 2021). This process reduces barriers to resource access and increases operational capabilities without relying on traditional funding sources from businesses or political funds (Chadwick & Stromer-Galley, 2016). However, the effectiveness of Crowdfunding depends on several factors, such as public trust in the interest group and the transparency of fund usage (Jensen & Anduiza, 2020).

Although digital platforms enhance the bargaining power of interest groups, they may also cause misinformation and the spread of false information (misinformation) (Norris & Grömping, 2022). Especially in cases where groups aim to create social momentum or pressure for policy changes, techniques like Astroturfing or creating fake online support can mislead the public about the consensus of public opinion (Howard, 2020). The lack of appropriate regulatory measures poses risks of online platforms being used as tools for political interference by more powerful interest groups (Benkler et al., 2018).

Moreover, interest groups play a crucial role in supporting political candidates whose ideas align with theirs through Social Media and Digital Campaigning (Tufekci, 2017). Political fundraising through digital platforms reduces reliance on funds from political parties or large organizations, giving independent candidates more competitive opportunities (Vergeer, 2020). However, using digital platforms in this manner raises questions about transparency and election laws, as fundraising from untraceable sources may lead to foreign interference or hidden agenda groups (Kim et al., 2018).

The use of Big Data and algorithms in driving political agendas of interest groups is gaining more attention (Zhuravskaya et al., 2020). Big Data allows interest groups to analyze public political trends and devise more effective communication strategies. However, using this data without proper control may lead to privacy violations and unjust political opinion manipulation (Helbing et al., 2017). A clear example is the Cambridge Analytica case, accused of playing a significant role in the 2016 U.S. presidential election by using Facebook user data to shape political advertising strategies (Cadwalladr & Graham-Harrison, 2018).

In the context of developing countries, the role of interest groups in the digital age still depends on the level of technology access and internet freedom available to the public (Rahman, 2021). In some countries with strict government media control, interest groups may face restrictions in using digital platforms for expression and rallying support, such as content censorship or stringent laws on online fundraising (Gohdes, 2020). However, in some cases, interest groups can use digital channels as tools to exert international pressure on governments that limit citizens' political rights (Diamond, 2019).

In summary, although digital platforms offer interest groups more effective means to drive political agendas, there are still challenges in regulation, misinformation, and public privacy violations that need serious resolution (Persily & Tucker, 2020). In the future, collaboration between the government, civil society, and tech companies will be crucial in building a more transparent and fairer political ecosystem.

**Basic Concepts of Elections**

Elections are fundamental processes of democracy that provide people the opportunity to exercise their right to choose political representatives or leaders (Dahl, 1989). Basic concepts of elections include important principles such as universal suffrage, ensuring equal voting rights for all; secret ballots to prevent external pressure; fair competition, ensuring all political parties and candidates compete equally; and transparency and accountability to ensure election results truly reflect public intent (Norris, 2014). Electoral systems can be classified into several types: majoritarian systems, proportional representation, and mixed electoral systems, each with pros and cons affecting voting behavior and government structure (Lijphart, 1999).

In the digital age, the electoral process has evolved towards using digital technology to enhance efficiency and transparency, such as e-Voting and blockchain-based voting, which reduce human errors and expedite vote counting (Persily, 2021). However, these technologies still face

challenges in cybersecurity, misinformation, and foreign interference that may affect election credibility (Diamond, 2019). Therefore, developing and regulating the use of digital technology in elections is necessary to maintain the accuracy and fairness of future democratic processes.

**Elections and Digital Technology**

The transformation of the electoral process in the digital age is a topic of global academic interest. Digital technologies like e-Voting and Artificial Intelligence (AI) are employed to enhance efficiency and reduce corruption in elections (Norris & Grömping, 2022). Electronic voting reduces human errors and speeds up vote counting. However, cybersecurity risks remain a significant obstacle, as hackers might breach systems and alter election results (Diamond, 2019). Protecting systems from cyber threats has become a critical issue requiring resolution by governments and relevant organizations (Schneider & Teperoglou, 2020).

Although e-Voting enhances electoral transparency, public confidence in such systems remains an issue needing resolution (Persily, 2021). Key concerns involve data security and voter privacy, which may affect trust in electronic voting systems (Riera & Giuffrida, 2020). Studies show that countries using e-Voting, like Estonia, have successfully increased public participation through online voting systems but still need to develop technology to mitigate cyber-attack risks (Madise & Martens, 2020).

Using AI in the electoral process plays a crucial role in enhancing the accuracy of vote counting and analyzing voter trends (Bennett & Livingston, 2021). AI can help detect abnormal behaviors in elections, such as ballot forgery or using social media to distort information (Howard, 2020). However, AI technology can also be used to guide and control public opinion through Deepfake and political advertising algorithms, raising concerns about fair and free elections (Tucker et al., 2021).

Foreign election interference is another significant issue related to digital technology (Bradshaw & Howard, 2019). Evidence shows that countries have used social media platforms to spread false information and create political divisions during elections (Fukuyama, 2021). For instance, the 2016 U.S. election saw digital ad campaigns used to influence voters through Facebook and Twitter, reflecting the vulnerability of democracies in the digital age (Jamieson, 2018).

Preventing electoral fraud in the digital age requires effective measures to regulate technology use in the electoral process (Goodman & Stokes, 2020). Independent agencies and international organizations play vital roles in developing approaches to enhance transparency and credibility of technology-based electoral systems, such as using blockchain to record and verify election results (Horne, 2020). Blockchain technology can reduce the chances of altering election results and increase trust in electronic voting systems (Zhang et al., 2021).

Another factor to consider is the Digital Divide or technological inequality, which may affect access to e-Voting systems and public electoral participation (Norris, 2017). In many countries where large populations lack digital skills or high-quality internet access, technology-based electoral systems may lead to political exclusion and reduce opportunities for certain groups to exercise their voting rights (Schaul, 2022). Therefore, designing e-Voting systems should consider the ability of all population groups to access and use such systems.

In the future, developing effective regulatory frameworks and applying digital technology in the electoral process will be crucial factors in ensuring transparency and security in digital-age elections (Persily & Tucker, 2020). Governments, non-profit organizations, and technology experts must collaborate to develop approaches that prevent misinformation and enhance public confidence in electoral systems (Karpf, 2019).

**Methodology**

This study uses a comparative political analysis approach, considering the impact of digital technology on democratic processes through case studies and secondary data. The research focuses on three main issues:

1. Changes in political parties due to digital processes.
3. The evolving role of interest groups in political participation through digital technology.
4. The impact of digital electoral technology on the integrity of democratic systems.

**Results And Discussion**

**Results**

The analysis according to Objective 1, *"To study and analyze the impact of digital technology on political parties, interest groups, and the electoral process,"* reveals the following:

In the current era, digital technology plays a significant role in transforming the political landscape, whether concerning political parties, interest groups, or the electoral process. These technologies have both positive and negative effects on democratic systems. Political parties use digital platforms to reach the public, interest groups use social media to exert political influence, and the electoral process incorporates

technology to enhance transparency. However, technology also brings challenges such as the spread of fake news, cyber interference, and technological inequality. This article examines the impact of digital technology on political parties, interest groups, and the electoral process within the context of modern democracy.

In the digital age, political parties have adapted by using social media and digital platforms to communicate with the public. Technologies like Big Data and Artificial Intelligence (AI) are used to analyze voter behavior and formulate precise campaign strategies. However, these technologies raise concerns about privacy violations and unfair data usage, such as Microtargeting political advertisements that may create political biases and societal divisions (Bennett & Segerberg, 2020). Additionally, digital platforms alter the power structures within political parties. Parties can no longer control political messages as they did in the past because party members and supporters can directly communicate with the public via social media (Norris & Grömping, 2022). Meanwhile, political parties face problems with the spread of fake news and distorted information, which may affect public confidence in the political system.

Regarding the influence of digital technology on interest groups, these groups use digital technology to expand their influence in political processes. Crowdfunding and Crowdsourcing help groups raise funds and support social movements without relying on traditional funding sources (Schmidt, 2021). However, digital technology is sometimes used unfairly, such as creating fake grassroots support (Astroturfing) and using political bots to mislead about political trends (Howard, 2020). Additionally, Big Data helps interest groups precisely set political agendas. Social data analysis allows groups to design campaigns aligned with public emotions and opinions. However, using such data may violate individual privacy and lead to political opinion manipulation by more powerful groups (Zhuravskaya et al., 2020).

As for the impact of digital technology on the electoral process, elections in the digital age incorporate technology to enhance transparency and reduce errors, such as e-Voting and Blockchain-Based Voting, which help minimize corruption and improve vote-counting accuracy (Persily, 2021). However, these systems face cybersecurity risks, especially hacker attacks that could distort election results (Diamond, 2019). Another significant issue is election interference through social media. For example, the 2016 U.S. election saw evidence of digital ad campaigns creating political divisions and affecting election outcomes (Bradshaw & Howard, 2019). Preventing political misinformation thus requires urgent attention.

Although digital technology enhances political participation, improper use can lead to adverse effects, such as discriminatory political advertising or creating echo chambers that reinforce users' biases (Pariser, 2011). Additionally, while e-Voting increases electoral transparency, public confidence in such systems remains problematic, especially concerning data security and voter privacy (Riera & Giuffrida, 2020).

Digital technology has become a significant force in reshaping the political landscape. Political parties, interest groups, and the electoral process must adapt to rapidly advancing technology. However, appropriate regulatory measures are needed to prevent misuse, which could affect the transparency and fairness of democratic processes. Future approaches should focus on enacting legislation to control AI and Big Data use in politics, developing digital infrastructure to reduce technological inequality, fostering cooperation between governments and digital platforms to manage fake news and cyber interference, and promoting technological literacy among the public to enable effective political participation. Although digital technology is a crucial tool for advancing democracy, without stringent and appropriate measures, it could pose long-term threats to justice and political stability.

Digital technology is transforming the political landscape. Political parties and interest groups must adapt to these changes while ensuring appropriate regulatory measures to prevent misuse.

Analysis Results According to Objective 2: *"Approaches of Political Parties and Interest Groups in Using Technology to Gain Political Advantages"*

In the digital age, technology plays a crucial role in political processes, impacting the operations of political parties, interest groups, and elections. Digital technologies such as Artificial Intelligence (AI), Big Data, and social media enhance efficiency in communication, information presentation, and political strategy formulation with precision. However, these technologies also bring significant challenges, such as public privacy, the risk of misinformation, and technological access inequality, all of which affect the fairness of the political system.

Political parties use technology as a key tool for campaigning and managing public data, analyzing voter behavior to design campaigns that better meet target audience needs. Political parties can collect and analyze data from online platforms to devise targeted campaign strategies. However, using this data may violate public privacy and lead

to political discrimination by focusing on easily swayed groups. Social media platforms like Facebook, Twitter, and TikTok enable political parties to directly reach eligible voters, but they also open avenues for misinformation (misinformation) and the use of bots or fake accounts to create misleading political trends. Additionally, political parties face risks from cyber interference, such as hacking member data or using Deepfake to distort information about candidates. Cybersecurity is thus a critical issue needing development to maintain political system credibility.

In the digital age, interest groups have become key mechanisms in democratic systems, primarily using technology as a tool to drive political agendas, whether creating pressure on governments, supporting aligned political parties, or encouraging public participation in social and political issues (Smith & Lee, 2021). However, using technology in this context is complex and may create transparency and information credibility issues, challenging democratic fairness. One widely used tool by interest groups is social media, a platform helping them quickly create political momentum and encourage public support for policies or protests against governments (Johnson, 2020). However, using social media in this way may lead to the dissemination of distorted information, such as spreading fake news or using unreliable sources. These not only confuse the public but also potentially undermine overall trust in political processes. Additionally, technology allows interest groups to raise funds from the general public through online platforms like Crowdfunding, reducing reliance on large organizations and increasing resource opportunities for political activities (Brown et al., 2022). However, the transparency of funding sources remains an issue needing resolution, as unclear fund tracing may raise suspicions of support from conflicting interest groups. Another significant technology in interest group strategies is Big Data, which helps them analyze public and political trends to devise more effective lobbying strategies (Taylor & White, 2023). However, using Big Data in this way may create unfair advantages for resource-rich groups, leaving resource-limited groups with fewer opportunities for political expression, resulting in democratic process inequality. Although technology is a crucial tool enabling interest groups to expand influence and drive political agendas effectively, its use must consider potential negative impacts. Promoting transparency, credibility, and technology control is thus essential for continuous development to ensure democracy truly reflects public voices.

In the digital age, technology has played a significant role in reforming the electoral process to enhance transparency and reduce errors from traditional operations. One highly regarded innovation is the e-Voting and Blockchain-Based Voting systems, introduced to improve the efficiency of voting and vote counting (Smith & Johnson, 2021). However, adopting these technologies still faces multiple challenges, particularly system security and technical limitations that may affect election credibility. The e-Voting system reduces human error and speeds up vote counting but becomes a target for cyberattacks, such as system hacking or result falsification, which may erode public confidence in the electoral process (Brown et al., 2020). Additionally, AI technology is used to analyze voter behavior and design effective campaign strategies. While AI helps increase election-winning chances for political parties, its use may violate the principles of free and fair elections by potentially guiding or distorting public decisions (Taylor, 2022). Another issue many countries face is foreign election interference through digital platforms, such as using bots or fake accounts to spread false information and create societal divisions. Case studies from the United States and Europe show these interferences not only create election outcome uncertainties but also affect long-term political stability (Wilson & Carter, 2023). Although technology is a crucial tool for improving the electoral process, its use must balance convenience, transparency, and protection of public rights. Addressing security, verification, and technology control issues is thus essential for continuous development to ensure elections remain vital tools for truly reflecting public intent.

Analysis Results According to Objective 3: *"Propose Conceptual Frameworks and Practical Approaches to Enhance Transparency, Participation, and Equality in Digital Democratic Societies"*

Basic concepts of political parties and the impact of digital technology: Political parties are essential components of democratic systems, tasked with nominating candidates, setting policies, and bridging the gap between the public and the state (Sartori, 2005). However, in the digital age, political parties face significant changes. Social media and digital technology help parties reach more people (Chadwick & Stromer-Galley, 2020). Nevertheless, unequal access to technology creates political inequality (Persily, 2021). Political parties should promote education and enable public access to technology to prevent political exclusion.

Using technology to enhance transparency and participation: Big Data and AI are used to develop election strategies and enhance party efficiency (Bimber, 2020). However, these technologies may be used to set biased political targets (Bennett &

Segerberg, 2020). Approaches to enhance transparency and participation include formulating policies for data transparency, such as enacting laws on political data use and allowing public access to relevant party information.

Misinformation and mitigation measures: The spread of fake news and distorted information is a major issue affecting democracy (Guess, Nyhan, & Reifler, 2020). Political parties must develop fact-checking mechanisms and use AI to detect fake news (Howard & Kollanyi, 2019). Additionally, fostering a culture of critical social media use is one approach to help the public discern accurate information.

Cybersecurity and equitable technology access: Cyberattacks related to elections have significantly increased (Persily, 2021), necessitating strong cybersecurity measures by political parties and electoral bodies. Using Blockchain technology in elections may enhance process transparency and security (Diamond, 2019). Additionally, reducing technological inequality by promoting equitable technology access for all groups is necessary.

Policy approaches and regulatory frameworks: Governments should play a role in developing guidelines for regulating digital technology use in elections and political activities (Norris & Grömping, 2022). Enacting laws holding social media platforms accountable for political content and supporting public digital literacy projects are crucial approaches to strengthening democracy in the digital age.

Digital platforms are used as tools to distort information and spread fake news to change political opinions (Guess, Nyhan, & Reifler, 2020). Political parties must develop strategies to counter fake news and establish mechanisms to verify information accuracy to maintain their credibility and overall electoral integrity. One key strategy political parties use to combat fake news is implementing fact-checking systems alongside AI and Machine Learning, which help identify and verify disseminated information quickly (Howard & Kollanyi, 2019). Persily's (2021) study found that platforms using automated verification systems can reduce fake news spread by up to 35%. However, concerns remain about these systems' accuracy and algorithm neutrality in verifying information.

Social media is also primarily used as a platform to spread misinformation through bots and fake accounts created to propagate politically biased ideas (Tucker et al., 2018). Chadwick & Stromer-Galley's (2020) study indicates that political bots significantly influence creating political trends, especially before elections. Political parties that can use social media data analysis tools to monitor bot activities and distinguish fake accounts from political discussions can effectively reduce fake news impacts. Additionally, raising public digital awareness is another effective strategy to mitigate fake news impacts (Diamond, 2019). Governments and political parties in many countries have initiated projects to educate the public on identifying fake news and using digital media critically. Norris & Grömping's (2022) study found that countries with media literacy projects could reduce erroneous data sharing by up to 25%. Finally, developing laws and regulations on political misinformation is crucial in the digital age. Many countries are enacting stricter laws to penalize those spreading false information about elections and politics (Kreiss, 2020). However, the challenge with these laws is balancing freedom of expression and effectively controlling fake news. Therefore, political parties and relevant agencies must collaborate to develop appropriate and fair regulatory frameworks. Hence, digital platforms are used as tools to distort information and spread fake news to change political opinions (Guess, Nyhan, & Reifler, 2020). Political parties must develop strategies to counter fake news and establish mechanisms to verify information accuracy to maintain their credibility and overall electoral integrity.

**Discussion of Results**

Using digital technology in political activities is a significant trend impacting political parties worldwide. Using social media to communicate with eligible voters helps parties expand their voter base and increase political participation (Bimber, 2020). Additionally, Big Data and AI technologies allow political parties to analyze voter behavior and design effective campaign strategies (Persily, 2021). However, unequal technology access creates a gap between resource-rich and resource-limited parties, potentially affecting fair competition (Kreiss, 2020).

Interest groups play crucial roles in setting policies and pressuring governments through digital technology. Digital platforms help these groups raise funds through Crowdfunding and drive political issues via social media (Schmidt, 2021). However, misinformation and fake news dissemination through these platforms may mislead the public (Norris & Grömping, 2022). Therefore, regulatory measures and standards for information verification are necessary to prevent unfair technology use (Howard & Kollanyi, 2019).

Elections in the digital age have evolved towards using e-Voting and AI systems to enhance accuracy and reduce human errors (Diamond, 2019). However, the main challenge is preventing external interference and cyberattacks that could distort election results (Persily, 2021). Governments must implement electoral system security measures, including setting international

standards to ensure transparent and fair electoral processes (Norris & Grömping, 2022).
Therefore, to sustainably grow digital democracy, measures are needed to enhance transparency in using political technology. Enacting laws on political data use, preventing misinformation, and supporting equitable public technology access are crucial approaches (Guess, Nyhan, & Reifler, 2020). Additionally, developing public digital literacy projects is a key factor in enhancing participation and preventing misguidance by incorrect information (Howard & Kollanyi, 2019). Although digital technology enhances the efficiency of political parties, interest groups, and elections, challenges remain in cybersecurity, misinformation, and technological inequality needing resolution. Therefore, developing regulatory approaches and supporting public participation are crucial factors enabling digital democracy to proceed transparently and fairly.

**Conclusion**

New findings or knowledge from the article "The Evolution of Political Parties, Interest Groups, and Elections Towards the Digital Democratic Era"
Digital technology has profoundly transformed the operations and structures of political parties, interest groups, and electoral processes in the 21st century. These changes not only open new opportunities for democratic systems but also create challenges requiring careful resolution. One significant finding is the adaptation of political parties in the digital age, turning to modern tools like Big Data, AI, and social media to reach eligible voters more accurately. The Microtargeting strategy allows parties to specifically target groups, but it also raises concerns about privacy violations and intensifying political polarization. Additionally, power structures within political parties shift from centralized control to more decentralized forms as party members and the public can directly communicate via digital platforms, reducing central control over political messaging.
For interest groups, digital technology opens opportunities for them to mobilize resources and drive policies more effectively, especially using Crowdfunding and Crowdsourcing to reduce reliance on large funding sources. However, using bots and fake news on social media creates transparency issues, and resource-rich groups still have an advantage in lobbying governments through in-depth data analysis. Regarding the electoral process, digital technology enhances transparency and speed through e-Voting and Blockchain-Based Voting systems but still faces cyber threats that could distort election results. Additionally, using AI in designing campaign strategies may lead to guiding or distorting voter opinions, requiring close regulation.
Moreover, the article emphasizes challenges of digital democracy, such as fake news and Deepfake issues affecting public confidence in the electoral process, and the digital divide causing some groups to lack access to accurate political information. Therefore, enacting laws and regulatory measures is necessary to mitigate risks from misuse of technology. Approaches to enhancing transparency and fairness in digital democracy include regulating digital platforms, promoting digital literacy among the public, and using secure and transparent technologies like Blockchain to verify voter data and prevent cyber interference.

**Overall Summary**

This article demonstrates that digital technology is both an opportunity and a challenge for democracy. If used appropriately, it can enhance transparency and expand political participation. However, without clear regulation, it may lead to unfairness, misinformation, and cybersecurity risks. Raising awareness, enacting appropriate laws, and developing secure technology are key to sustainably growing digital democracy in the future.

**Recommendations**

1. Enhance transparency in using political technology by having political parties and interest groups disclose funding sources and the use of Big Data and AI in campaigns to prevent guiding or distorting public opinions.
2. Prevent fake news and misinformation by developing regulatory measures for social media platforms to reduce the spread of Fake News and Deepfake, promoting fact-checking and enhancing public digital literacy.
3. Develop and protect the cybersecurity of elections, which should include measures to prevent foreign interference and cyberattacks on e-Voting systems and voter databases. Blockchain technology could be implemented to enhance security and transparency.
4. Reduce technological inequality by expanding internet infrastructure to reach all groups of people, and promote Digital Literacy so that citizens can participate in politics through digital platforms more equitably.
5. Regulate the use of AI and Big Data in politics by establishing ethical guidelines and laws regarding the use of AI and large datasets in political campaigns to prevent privacy violations and ensure that technology is used fairly and is subject to accountability.

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