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INNOVATIVE INFORMATION TECHNOLOGIES IN ELECTION POLITICAL COMMUNICATIONS

Abstract

The article delves into the transformative role of digital technologies in modern electoral campaigns. The author emphasizes the role of social media in shaping public opinion. The study uses examples such as Joe Biden's and Kamala Harris's campaigns to illustrate how these tools can enhance visibility and engagement. The article notes that while social media significantly impacts voter awareness and fundraising, it does not guarantee electoral victories. Mobile applications are highlighted as another critical component of political strategies. The study examines India's Namo app, which showcases how technology can foster direct communication between political leaders and citizens while collecting valuable data for campaign strategies. The author also addresses the risks associated with these technologies. The use of AI to create deepfakes and spread disinformation poses ethical and security challenges. The text concludes that while digital technologies offer immense opportunities for enhancing electoral communication, they also require robust ethical guidelines and regulatory oversight. By analyzing various tools, practices, and case studies, the article underscores the dual role of innovative information technologies in electoral communications: as catalysts for engagement and as potential vectors for manipulation. This duality necessitates a balanced approach that leverages technological benefits while safeguarding democratic principles.

Keywords: digital technologies, artificial intelligence, electoral campaign, social media, mobile application.

ІННОВАЦІЙНІ ІНФОРМАЦІЙНІ ТЕХНОЛОГІЇ У ВИБОРЧИХ ПОЛІТИЧНИХ КОМУНІКАЦІЯХ

Анотація

Стаття досліджує процеси трансформації політичних процесів в умовах впровадження інноваційних аналітико-статистичних технологій. Завдяки стрімкому розвитку соціальних мереж, мобільних додатків та штучного інтелекту політична комунікація зазнала докорінних змін. Ці інструменти дозволяють політикам і партіям охоплювати ширші аудиторії, взаємодіяти з виборцями в режимі реального часу та проводити глибокий аналіз даних для налаштування своїх кампаній. Особливу увагу автор приділяє ролі соціальних медіа у формуванні громадської думки. Такі платформи, як TikTok, Instagram та X, стали основними майданчиками для політичних повідомлень. Використовуючи приклади кампаній Джо Байдена та Камали Гарріс, авторка ілюструє, як ці інструменти можуть підвищувати видимість і залученість. Наприклад, TikTok став ключовим інструментом для мобілізації молодіжного електорату, хоча сам по собі не гарантує перемоги. Камала Гарріс, попри масову підтримку в соціальних мережах, не змогла здобути переконливої перемоги на виборах 2024 року. Це свідчить про обмежену спроможність соціальних платформ впливати на кінцеві результати голосування.

Мобільні додатки, на кшталт індійського додатку Namo, стали ще одним важливим елементом виборчих стратегій. Авторка акцентує увагу на тому, як технології можуть забезпечити пряме спілкування між лідерами і громадянами, водночас збираючи цінні дані для оптимізації виборчих кампаній. Штучний інтелект в сучасних політичних кампаніях також відіграє важливу роль. Наприклад, у Великій Британії був використаний аватар на базі ШІ, що дозволяє індивідуалізувати

підхід до виборців. В Індії ШІ використовується для автоматичного перекладу промов на регіональні мови, що дозволяє досягти електорату навіть у найвіддаленіших куточках країни.

Однак у статті також висвітлюються ризики, пов'язані з використанням цих технологій. Зокрема, авторка акцентує увагу на проблемі поширення дезінформації та маніпуляцій через штучно створений контент. Прикладом є фейкові фотографії та відео, що використовувалися під час президентських перегонів у США у 2024 році. Авторка наголошує, що такі технології можуть суттєво спотворювати публічний дискурс, підриваючи довіру до виборчих процесів.

У підсумку автор зазначає, що цифрові технології пропонують величезні можливості для підвищення ефективності виборчих комунікацій, але водночас потребують чітких етичних стандартів і регуляторних механізмів. Аналіз інструментів і практик дозволяє зрозуміти, як інноваційні інформаційні технології стають водночас каталізаторами залучення та потенційними векторами маніпуляцій. Це вимагає збалансованого підходу, що враховує як переваги технологій, так і необхідність захисту демократичних принципів.

Ключові слова: цифрові технології, штучний інтелект, виборча кампанія, соціальні медіа, мобільний додаток.

Introduction.

With the development of information technologies and the globalization of internet access, digital technologies have become an integral part of modern electoral processes. They allow political actors to interact more effectively with voters, increase the level of public engagement, and quickly respond to political events.

This trend has become particularly noticeable over the past decades, when social networks, mobile applications, and other digital tools have become the main platforms for political communications. Their use allows politicians and parties to quickly and effectively convey their messages to voters, cover wide audiences, shape public opinion, and carry out precise analysis of electorate moods.

The issues related to innovative information technologies in electoral political communications have attracted significant attention from both domestic and international experts. These topics are widely discussed in professional communities, business forums, and are also within the scope of state regulatory frameworks [Kiberbezpeka v informatsiinomu suspilstvi 2024; Nastanovy z vidpovidalnoho vprovadzhennia 2023; Tsyfrovi tekhnolohii ta vyborchyi protses 2022]. This theme has been explored in the works of scholars such as V.Andriyash [Andriyash 2023], A.Hachevych, M.Nykolyshyn [Hachevych, Nykolyshyn 2023], M.Dvorovyi, A.Lyudva [Tsyfrovi tekhnolohii ta vyborchyi protses 2022], M.Lepskyi, I.Kudinov, N.Lepska, A.Rusetsky [Lepskyi, Kudinov, Lepska, Rusetsky 2023], I.Sklyaruk, L.Hvenetadze [Sklyaruk, Hvenetadze 2023], L.Terenyak [Terenyak 2024; Tereniak, Kizilov 2024], among others. Practical implementations of these concepts are documented in the studies of D.Kobak, S.Shpilkin, M.Pshenichnikov [Kobak, Shpilkin, Pshenichnikov 2016], I.Kudinov, Y.Yatsyna [Yatsyna, Kudinov 2023; Yatsyna 2023], and other professionals.

Despite the substantial body of academic and professional research in this area, the limited progress in the adaptation and practical application of these technologies, as well as the promising prospects for their development in Ukraine, underscore the relevance and necessity of further investigation and innovation in this field.

Purpose of the article.

The purpose of this article is to analyze the tools and practices of using innovative information technologies in modern electoral communications, as well as the advantages and challenges of their use.

Results.

1. Main digital tools of electoral communications.

One of the main ways to use innovative information (digital) technologies in election campaigns is to engage voters through social networks and other online platforms. Political parties and candidates use Facebook, X, Instagram, YouTube, TikTok, as well as specialized apps to spread their messages. These platforms not only allow spreading information but also engaging

voters in discussing political issues. An important feature of such platforms is their interactivity. Voters can interact with political candidates in real time, ask questions and participate in polls, making the process of political communication bilateral. This significantly differs from traditional forms of political agitation such as television or radio where information is presented unilaterally.

In 2020-2024 TikTok became a popular platform for political campaigns. For example, Joe Biden's campaign collaborated with influential TikTok creators to attract a young audience. Famous TikTok influencers created content that supported J.Biden, spread information about his policy and encouraged young people to vote. The sudden nomination of Vice President Kamala Harris for the presidency after Joe Biden's self-removal in July 2024 sparked a meme explosion on TikTok, Instagram, and X, providing invaluable advertising a few months before the election. K.Harris entered the internet trends of 2024. This happened after British pop star Charli XCX showed her support for K. Harris, tweeting "kamala IS brat" shortly after President Joe Biden announced he was dropping out of the White House race and supported his vice president. Brat is the title of Charli XCX's sixth studio album, and her tweet about Vice President Harris was viewed nearly 9 million times in just 4 hours. TikTok users note that the term brat is used for women who can "choose their own path and shape the agenda" [Counts, Clanton 2024].

The trend with #bratsummer counts almost a million publications on TikTok, and the theme of green lime is used by thousands of people and companies (Fig. 1).

Riding the wave of TikTok's popularity, the vice president herself created an account on the social network, which gained over 5.4 million followers after the debate with D.Trump on September 11, 2024, and entered internet trends (Fig. 2).

Also, the vice president raised a record $81 million in the first 24 hours after launching her presidential campaign, including $1.5 million raised during a single Zoom call attended by 44,000 black women on the night when President D.Biden declined to run in the 2024 election [Counts, Clanton 2024].

Politicians often use social media to try to win over young voters, and there is a good reason for this. Over 170 million Americans log into TikTok from ByteDance Ltd. every month, many of them aged 18 to 27. Instagram from Meta Platforms Inc. and Snapchat from Snap Inc. are also widely used by young voters. However, this does not guarantee active political activity and offline actions. Social media has long been considered an effective tool for fundraising and raising awareness, but its ability to sway voters is more ambiguous. For example, Katie Porter, a US representative and former Senate candidate who is one of the most prominent politicians on TikTok, expanded her account to over 500,000 subscribers and has some videos with over 3 million views. However, in March 2024 she lost the Senate primaries in California [Counts, Clanton 2024]. Moreover, we see that social media couldn't secure a victory for Kamala Harris, although they allowed her to gain significant support during the electoral campaign itself.

In addition to social media, mobile apps are gaining significant importance in modern political communications and electoral technologies. To understand the future of apps for political campaigns, it is useful to look at the experience of India. Indian Prime Minister Narendra Modi launched his Namo app in 2015 (Fig. 3). Since then, it has become one of the most popular apps for politicians in the world with over 10 million downloads on Google Play Store. The app was pushed through official state channels and for years collected large volumes of data through opaque phone access requests. At the end of 2019, it received updates that included live events, "stories" about Modi similar to Instagram, engagement strategies, ways to accept micro-donations and promises of a direct line with the prime minister [Gurskyarchive, Woolleyarchive 2020].

Mobile apps and SMS marketing are becoming important tools in political campaigns, allowing politicians to communicate directly with voters, provide relevant information and mobilize support. These technologies increase campaign efficiency, help attract young voters and create opportunities for active interaction with supporters.

2. The use of artificial intelligence in modern electoral communications.

Artificial Intelligence (AI) is becoming an increasingly important element of modern election campaigns, providing political actors with tools for optimizing interaction with voters, analyzing large volumes of data, and creating personalized strategies. AI allows political campaigns not only to expand their reach but also to adapt their messages to the individual needs and expectations of different segments of the electorate. This makes AI an important factor in the digital transformation of political communications.

For example, in the general elections in the UK in 2024, a new artificial face appeared: AI Steve, created based on artificial intelligence (Fig. 4-5).

The person behind the AI candidate is Steve Endacott. He is an entrepreneur from southern England who wants his avatar to be present in the House of Commons as a representative from the Brighton constituency. Neural Voice, an artificial intelligence company headed by S.Endacott, powers the artificial intelligence of Steve. "I'm trying to use technology for direct communication with my constituents. You don't need to know anything about AI because all you do is press a button to talk to the character," explains Steve Endacott [Desmarais 2024].

On the official website, the candidate asks visitors if they want to join his team of "creators" who will help him create new policies. Potential voters do this by clicking the option "talk to AI Steve", and then fill out personal information before interacting with the bot. Supporters can also spend just a few minutes a week evaluating each policy proposal from 1 to 10.

Digital technologies and the future of participatory democracy can make communication with voters not just personalized but also dialogic so that voters can share their demands and experiences directly with their representatives – quickly and on a large scale. India can serve as an example of how recently free inter-party communications using AI have gone beyond politics. The government is already using these platforms to provide public services to citizens in their native languages. With safe and ethical use, this technology can become an opportunity for a new era of representative governance, especially for the needs and experiences of people in rural areas.

For example, in the 2024 elections to the Indian Parliament, the capabilities of artificial intelligence were widely used. Voters received calls from their local representatives to discuss local issues – except that the leader on the other end of the phone was an AI imitation. Employees of the Bhartiya Janta Party (BJP), such as Shakti Singh Rathor, often visit artificial intelligence startups to send personalized videos to specific voters about state benefits they received and ask them to vote via WhatsApp [Shukla, Schneier 2024].

Modern information technologies and artificial intelligence technologies contribute to the broad coverage of different categories of electorate, contributing to the so-called "Multilingual boost", especially in the context of a large number of languages and dialects. For example, long before the start of the 2024 elections, Indian Prime Minister Narendra Modi addressed a densely packed crowd, noting the connections between the state of Tamil Nadu in southern India and the city of Varanasi in the north of Uttar Pradesh. Ordering his audience to put on headphones, N. Modi proudly announced the launch of his "new artificial intelligence technology", as his Hindi language was translated into Tamil in real time.

In a country with 22 official languages and nearly 780 unofficial recorded languages, BJP used artificial intelligence tools to make N. Modi's personality accessible to voters in regions where Hindi is difficult to understand. Since 2022, N.Modi and his BJP have been using the Bhashini AI-based tool, embedded in the NaMo mobile app, to translate N. Modi's speeches with dubbing in Telugu, Tamil, Malayalam, Kannada, Odia, Bengali, Marathi and Punjabi. As part of their demonstrations, some AI companies have spread their own viral versions of N.Modi's famous monthly radio show "Mann Ki Baat", which loosely translates as "From the Heart", which they dubbed in regional languages [Shukla, Schneier 2024].

3. Analytics and audience targeting.

Innovative information technologies also allow for much more effective audience targeting. Modern data analysis tools allow political teams

to segment the electoral electorate based on demographic, geographic, behavioral and other characteristics. This not only allows adapting political messages to different groups of voters but also predicting their behavior during elections. Donald Trump actively uses AI to create personalized messages. His campaign uses machine learning algorithms to analyze huge arrays of data from social media, which allows accurately determining the interests and moods of voters. For example, with the help of AI, D.Trump's team found that economic and security issues concern his electorate the most, and made these topics central in his rhetoric. K.Harris used AI for analytics and forecasting. Her team used technologies to model likely voting outcomes in different states, which helped optimize resource allocation and focus efforts on the most important regions. For example, AI analysis showed that young people in key states are inclined to support K.Harris, so her campaign was activated in these regions with specific proposals for young voters.

4. Risks and challenges of using digital technologies in modern political communications.

Along with numerous advantages of using digital technologies in electoral communications, certain risks arise. One of the main ones is the spread of disinformation and manipulation. Due to the open nature of the internet and the anonymity of users, digital platforms can become a tool for spreading false information that can affect the electoral process. Thanks to the power of AI, political campaigns can target messages to specific groups of voters with the aim of manipulating their decisions, using emotional or controversial topics.

The issue of data confidentiality is also a challenge. AI works on the basis of large volumes of information, which often includes personal data of voters. The leakage of such data or its unethical use can negatively affect the electoral process and citizens' trust in the political system.

Another challenge of using AI is the creation of deepfakes and the spread of disinformation. D.Trump during the 2024 presidential race often used artificially generated content to spread deepfakes. For example, he published a fake photo where Taylor Swift, dressed as Uncle Sam in a patriotic image, falsely implies that she supports Republican Party presidential candidate Donald Trump. The image is forged and accompanied by other images of young women in t-shirts with the inscription "Swifties for Trump", some of which are also obviously created by artificial intelligence. D.Trump shared such an image on his social network Truth Social. A few days later, D.Trump admitted that the images were fake [Bond 2024].

Platforms like Facebook and X (formerly known as Twitter) have rules against image, audio, and video manipulation, but it's hard for them to ensure compliance with these rules as AI-generated content floods the internet. These platforms are more focused on content labeling and fact-checking rather than removing posts. D.Trump has repeatedly spread AI-created content on social media (Fig. 6).

Typically, he shared posts from his supporters who have used AI tools that easily convert quick text descriptions into images, both plausible and fantastic [Bond 2024].

D.Trump often used AI-generated images that mock or ridicule his opponents. For example, a recent forged image he posted showed Vice President K. Harris speaking at a Soviet-style rally with a communist flag with a sickle and hammer (Fig. 7).

Many of these artificial intelligence images do not seem to be taken literally true. They are often spread as jokes or parodies. They are aimed at an audience of people who are already fans of D.Trump, that is in line with the long history of D.Trump, who published crude memes, gave derogatory nicknames and joked about his opponents. D.Trump falsely condemned the activities of K.Harris, claiming that the Harris-Waltz campaign used artificial intelligence to fake a crowd at a rally in Detroit on August 7, 2024.

Artificial intelligence is becoming an important tool in electoral communications, allowing political campaigns to interact more effectively with voters, personalize messages and use analytical data to predict voter behavior. However, its use also poses risks that require an ethical approach and legal regulation. In the future, the impact of AI on political processes will only increase, so it is important to find a balance between innovation and the protection of democratic principles.

Conclusions.

The digital age opens up new opportunities for political communications, and with the constant development of technology, its impact on the electoral process will only increase. Innovative information technologies already play a key role in political electoral processes today, and their significance will only increase in the future. They allow political campaigns to be more effective, accessible and interactive. However, new challenges arise at the same time, related to data security, ethics and manipulation, which require appropriate regulatory and control measures. Given the development of artificial intelligence, virtual and augmented reality, as well as blockchain technologies, we can expect significant improvements in political communication methods in the near future.

Fig. 1 – The Harris campaign includes Generation Z memes
Source: [Counts, Clanton 2024].
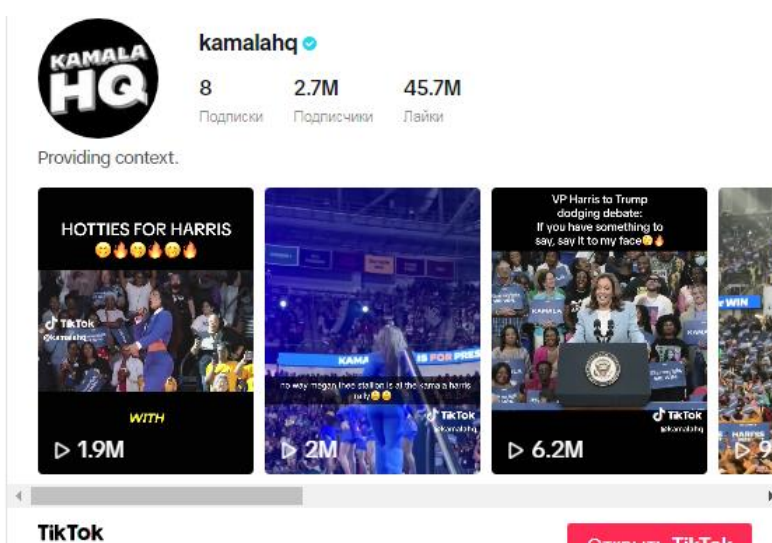
Fig. 2 – Official page of US Vice President K.Harris
Source: [Harris Kamala The official page 2024].

Fig. 3 – Mobile application Narendra Modi App.

Fig.4 Official website of AI Steve.
Source: [Andriiash 2023].

Fig. 5 – Official website of AI Steve.
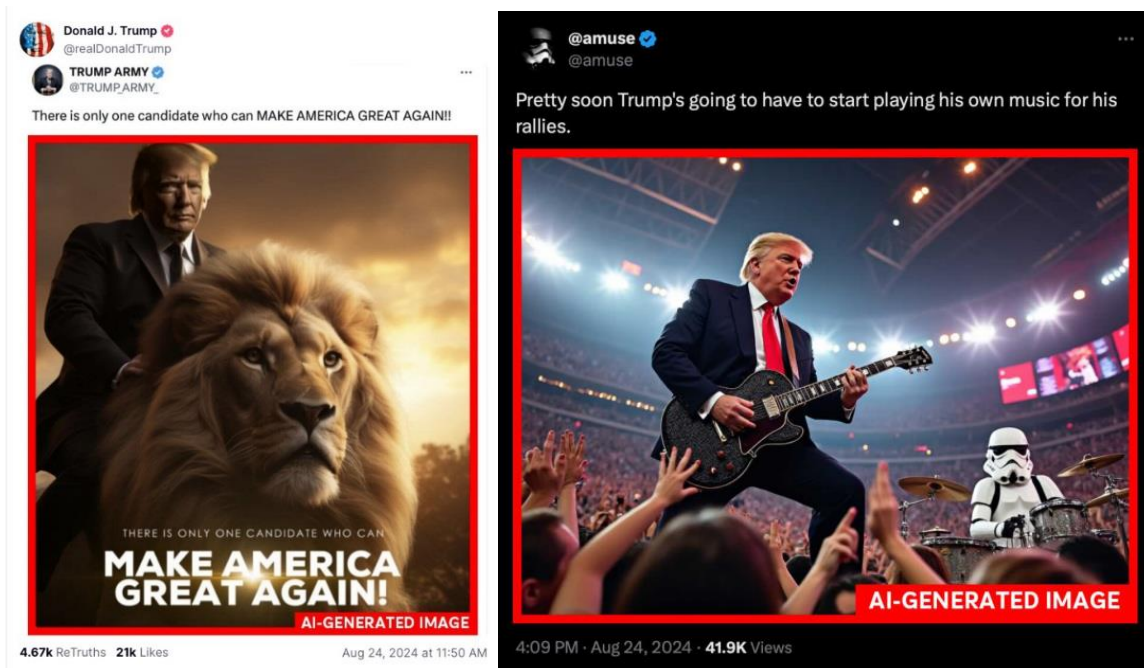Source: [Andriiash 2023].

Fig. 6 – AI-created images of Donald Trump. The image was first published by a D. Trump supporter on X before D. Trump reposted the image on his Truth Social account.
Source: [13 Bond 2024].

Fig. 7 – Image created by artificial intelligence, published by D.Trump's X account, depicting Vice President Kamala Harris speaking at a political convention in Soviet style.
Source: [13 Bond 2024].

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