

Report I

Democracy – Technological Change – Society (DeTS)

22/01/2025

A. Research problem (what is at stake)

The research project titled “**Democracy – Technological Transformation – Society (DeTS)**” aims to analyse the impact of Artificial Intelligence (AI)-co-moderated language on liberal democracy and to investigate how AI can strengthen or weaken democratic processes. DeTS is funded by the Jagiellonian University and being implemented by a consortium led by the Jagiellonian University (which also funds the project) and composed of a group of four European Universities and two other research (non-academic) organizations¹. It will last two years, beginning in November 2024, and is focused on Europe and the European Union, in particular, on the European countries the consortium members represent.

2024 was a voting year: 76 countries – where around half of the world population lives – held elections, including the US, India, and 13 EU countries (at the national level²), and non-liberal democratic countries (e.g. Russia and Venezuela) (the Economist 21/12/24, p. 11). The emerging overall trends concerning the strength of democracies are not that clear. Authoritarian systems are not considered to be in good shape, especially given the fall of the dictatorship in Syria and the economic difficulties in Russia and China. However, democracy in European countries – and their political center parties – are also facing challenges (The Economist, 21/12/24, p.11; see also Wike et al. 2024, World Economic Forum). Concerns about the future of "democracy's health" are of utmost importance and cannot be overlooked, especially considering that some observers stress the growing number of authoritarian systems worldwide (Juhola 2023) and the increasing level of dissatisfaction with democracy. In general, it can be expected that the pressure of global crises such as the Great Recession, the COVID pandemic, re-emerging conflicts, and rising inequalities will challenge the governance of democratic systems and possibly the level of public support they enjoy (Foa et al. 2020, Kundnani 2020, Kriesi 2020, Sorsa and Kivikoski 2023, Foa et al. 2022, and Youngs 2023, World Economic Forum). **Understanding the role of AI in the political arena is crucial**, particularly concerning information and mass media, the formation of public opinion, and the political orientation of citizens and voters.

¹Beyond Jagiellonian University the other academic partners are: University of Salamanca, Spain, University of Oulu, Finland, University of San Raffaele, Roma, Italy; the two non-academic partners are: Knowledge and Innovation, Italy, and Cooperantis - Association for Social Development and Intercultural Dialogue, Poland

² See https://en.wikipedia.org/wiki/List_of_elections_in_2024, accessed on 22/01/2025, Election Guide of the International Foundation for Electoral Systems, <https://www.electionguide.org/elections/type/past/>, accessed on 22/1/2025, The Guardian <https://www.theguardian.com/world/2024/feb/23/2024-global-elections-tracker-voting-dates-us-india-indonesia-belarus-haiti-pakistan-full-list> (accessed on 22/1/25)

B. How the problem is being discussed and approached

Studying the impact of AI on liberal democracy must consider the current and **long-lasting debate over the crisis of democracy**. The issue has been debated since at least the 1970s and still is, even if the content, definition, and, of course, interpretation of such a crisis have changed over time.

Back in the 1970s, the crisis of democracy was conceptualised in terms of ineffectiveness and lack of resources “in the face of growing demands, which were either ‘excessive’ or the ‘inevitable result of the contradictions within which the state is enmeshed’” (Kriesi 2020). When discussing current times, Kundnani (2020, p. 5) lists the following as **indicators** - used in the literature - to describe the **dysfunctions of democracy** in Europe:

1. declining satisfaction with democracy;
2. changes in the party system(s) with the increase of the overall number of parties in various countries and a relative radicalisation that bring about a decrease of effectiveness and ideological coherence of governments;
3. a general decline in voter turnout in many European countries especially among the younger generations, and a decline in the membership of political parties.

The phenomena described by these indicators must be interpreted with **caution**. They are undoubtedly signs of critical situations, but the origins of the crisis, such as the causes of dissatisfaction with democracy, cannot simply be understood as aspects of a decline in democratic sentiment. A **further interpretation** is needed, as proposed in the literature about the rise of populism in Europe, which some see as possibly working as a “democratic corrective” (Kriesi 2020). Democracy should not be seen as a static reality but as an ever-evolving governance system, and the crisis should be interpreted in this framework (Kundnani 2020).

It does not mean that the signs of crises have to be dismissed as irrelevant: **dangers for democratic life do exist**, such as threats to the freedom of the press or the independence of the judiciary. Rather, they should be seen as the context in which technological change – particularly AI – is having an impact. Generally speaking, democracy evolution is to be understood as an open process, and how AI interacts with it could determine the direction it takes, i.e. expansion and strengthening of democracy or the opposite.

The evolution of democracy – its reaction and adaptation to its current crises – depends a lot on **advances in communication technologies**. Recent developments have amplified concerns, particularly regarding the potential impacts of AI. After an initial enthusiasm for social media, which seemed to be a tool for democratising information, it has been realised that they could be detrimental to democracy. As Kundnani (2020, p.12) says by quoting Kavanagh and Rich (2018), “social media ‘makes it possible for disinformation and misleading information to spread quickly and widely (...) enabling the blurring of the line between information and fact and magnifying the relative volume and effect of opinions and beliefs over objective facts’”.

In this context, the latest developments in AI – including its **accessibility** – raise concerns about the possibility of the so-called “**computational propaganda**”, deepfakes (audiovisual materials produced with AI), and the combination of nudging³ augmented by the use of AI (therefore through big data and

³ I.e. “gently” influencing behavior, a practice that, under certain conditions is welcome, as when used for diffusing healthy behaviors. According to Thaler and Sunstein (2008, p. 6), a nudge is “any aspect of the choice architecture

machine learning, already widely diffused for marketing purposes on the internet). All these appear as possible tools “**to control political preferences** in a way that could undermine democracy” (Kundnani 2020, p.14).

There is no widely accepted **definition of AI**. Here we refer for convenience to the operational definition proposed by the European Commission's Joint Research Centre and used in a dedicated policy document by the European Parliament, according to which “AI systems are seen as software systems designed by humans that decide the best action to take to achieve a certain goal, by acquiring data and processing the information derived from this data” (Adam and Hocquard 2023, p. 2). Citizens and voters are used to AI as it is a common tool adopted “to provide to people personalized recommendations based on their previous searches or other online behavior” (Adam and Hocquard 2023, p. 2). In November 2022, an “AI research company OpenAI made available to the public its chatbot ChatGPT a generative AI system designed to generate text after a human user enters a prompt” (Adam and Hocquard 2023, p. 2). The currently available systems – after the initial launch, other rival generative solutions entered the market – are expected to become more and more powerful in their capacity to generate texts, sounds, and images. The European Parliament stressed the **opacity** of these systems as for how they collect data and are “trained” (Adam and Hocquard 2023). AI can be used as a powerful tool to produce and spread **misinformation** (i.e. “false and inaccurate information”), **malinformation** (i.e. “when genuine information is shared to cause harm, often by moving information designed to stay private into the public sphere”, Wardle and Derakshan 2017, p. 5) and **disinformation** (i.e. “information having as its intention to mislead”) (Adam and Hocquard 2023, p. 3). In general, as stressed by the European Parliament’s Briefing on the matter, Generative AI has become an ever more powerful tool for impacting public opinion and the policy-making process, mainly because it can “undermine trust in the information environment” and in democratic institutions, and also because the new generative AI tools are widely accessible and do not imply huge resources by the users (Panditharatne and Giansiracusa, 2023).

The relation between **AI and democracy has become a hot topic**, including within research communities. Jungherr (2023) argues that AI has – or is supposed to have – “a strong effect in each area it touches” and, consequently, touches “the very idea and practice of democracy”: the examples that this author takes from the literature, beyond the already mentioned impacts on the communication environment and the information process, are the “algorithmic stimulation of political conflicts”, the “AI’s impact on international human rights law”, “the future of work and AI’s role in the replacement of jobs and related automation driven unemployment”, and the “AI’s impact on shifting the competitive balance between autocracies and democracies”.

C. The connection between democracy and AI merits further research

The issue warrants further research. How and why AI should be approached to safeguard democratic principles and practices are still unanswered questions, and for important reasons. Overall, the implications of this technological and social process remain unclear. **Changes are occurring rapidly and the process is fully ongoing**, making it difficult to predict its evolution, especially considering its interaction with broader social and political trends that affect liberal democracies. Furthermore, part of the research effort should be dedicated not just to documenting the present and the past, but also to

that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting the fruit at eye level counts as a nudge. Banning junk food does not”.

defining criteria for choices “concerning the interface between technology and democracy” (Jungherr, 2023).

AI’s impact on democratic life is not necessarily direct, as it was assumed concerning voting – probably exaggeratedly – after the Cambridge Analytica scandal (Jungherr 2023, Kundnani 2020). Neither can it be assumed that it is necessarily **detrimental**. Possible help to democratic life could come from AI for improving the quality of political activities (e.g. summarising complex problems, deepening policymakers’ knowledge and providing expertise to elective assemblies, democratising lobbying activities, see Adam and Hocquard, 2023), and facilitating deliberative democracy initiatives (Landemore, 2023).

Coming to the **threats to democratic life**, it is important to distinguish between completely new phenomena directly connected to AI and those interacting with it, which may make AI’s impact on democracy more complex to understand and deal with. For example, “critiques of the quality of media in democracies abounded well before digital media became prevalent” (Jungherr 2023, p. 4).

Approaching the issue of democracy and AI, therefore, needs **reframing old conceptual scaffolds, putting AI in the picture and interpreting things consequently**. This also holds for other problems. The exercise of self-rule (i.e. the making of autonomous choices by citizens and voters) has always relied on informational shortcuts or on social structures. Jungherr (2023, p. 4) suggests that “research needs to consider not only information environments but must also look at whether and how AI affects the structural and social factors that mediate the impact of political information on self-rule”. AI is also changing how information is produced and not just distributed among citizens and used, probably producing further changes in the “Economics of news” and the related problems of access to political information along socio-economic divides, as well as trust in news industry reliability (Jungherr, 2023).

A very sensitive issue is how AI outputs are **generated**. This is connected with one of the most relevant characteristics of AI: it is based on systems “trained” on existing “natural” (i.e. found in the online environment) data and texts and on the identification of patterns, evidently with the risks of **incorporating social biases** – sometimes even without the awareness of the bot creators – (Cristianini, 2023, p. 91ff). As Jungherr (2023, p. 3) indicates, this is inherently challenging since democracies are systems through which “societies strive to decrease discrimination and increase equality. In fact, many policies are consciously designed to break with past patterns of discrimination. AI-based predictions and classifications based on past patterns risk replicating systemic inequalities and even structural discrimination”. This risk is also relevant to democratic speech, whereas AI leans “toward averages” and “**will favor common positions**, concerns and expressions. Outsiders and minority positions, concerns, and expressions will in unadjusted AI-shaped communication environments end up submerged and become invisible” (Jungherr 2023, p. 5). In general, the widespread use of AI tools and the public perception of how they are being used, especially for what concerns various forms of manipulation, could lead to an **increase of distrust in fundamental aspects of public discourse and democratic life**, such as the election process (Jungherr 2023).

AI is profoundly changing the public sphere and the various types of social interactions implied by democratic life. Evidently, there is a need to explore these changes and the possible scenarios that are being created. The fact that not all the changes are detrimental and that some could be beneficial for social and democratic life means that **principles of action and regulation should be identified**. The possible outcome of this effort is relevant to the very technological development of AI.

The **principles** for regulating this matter are currently under discussion. In 2021, UNESCO issued ten recommendations (see Morandín-Ahuerma 2023)⁴ on the matter that were meant to form the foundations for future regulation. The issues raised apply to AI in general but are, of course, relevant also to any use of AI that could impact democratic life. They are wide-ranging, going from proportionality and safety (AI should be developed and used so as to fit its intended purposes, that should not cause harm to people and the environment) to privacy, equity in access, and transparency. Among these principles, there are also principles patently relevant to democracy, for example: responsibility, i.e. “the ability to identify who is responsible for the decisions of AI systems” (Morandín-Ahuerma 2023); explainability, i.e. “the ability to make the results of AI systems understandable” (including “the input, output, operation and contribution of each algorithmic building element to the final product” (Morandín-Ahuerma 2023). In this framework, it is suggested that it is important to **promote responsibility in their definition and use**: “AI systems must be designed taking into account responsible practical considerations, such as transparency, accountability and respect for human rights” (Morandín-Ahuerma 2023, p. 91).

There is an ongoing debate and research work on **how to mitigate the risks to democracy coming from the use of AI systems** in the political sphere. Adam and Hocquard (2023), for example, list the so-called “guardrails” that would help to control certain types of speech, or automated detection tools that could flag AI-generated content, but they stress that such tools could easily be circumvented. The same holds for “watermarking”, i.e. systems for adding visual labels that add visual labels to indicate that content is AI-generated. As Adam and Hocquard (2023) also stress, other approaches are being produced (also using EU fundings), such as instant fact-checker for social media users, the introduction of human detection of AI-generated content or the identification of fake accounts on social media platforms.

Adequate legal frameworks should also be put in place to control possible dangers to democracy coming from extensive use of AI. Some of the above-quoted UNESCO recommendations or the regulatory activities of the EU (e.g. the Code of Practice on Disinformation, the Digital Service Act – DSA – the negotiations on political advertising or on the AI Act, see Adam and Hocquard 2023) are efforts in that direction concerning both the principles to be followed and the regulatory tools to be used to put such principles into practice.

The response to the need to control AI’s negative impacts on democracy is hurdled by the risk of producing unexpected and unwanted results. As Adam and Hocquard (2023, p. 6) stress, AI itself could be “a powerful tool to improve content moderation and detect fake news on social media. However, reducing the visibility of content also entails risks of blocking legitimate forms of expression, limiting the circulation of legitimate content, restricting democratic debate and **limiting pluralism** during electoral periods”. Jungherr (2023) also emphasizes the same risk.

In general, the entire issue of the impact of AI on democracy **needs ongoing research** to enhance our knowledge of how such impacts occur, and – considering the ever-changing social, technological, and political context – also to identify emerging phenomena we are still not aware of. A major challenge is to define fair and effective regulations for a range of phenomena that are technological as well as political and social in nature, and whose impacts and scope are not yet fully understood (also because of their ongoing evolution). This research effort should, therefore, **develop ethical and legal**

⁴ The English text is a translation of the original version in Spanish, Morandín-Ahuerma, F. (2023). *Diez recomendaciones de la Unesco sobre ética de la inteligencia artificial*. In: F. Morandín (ed.), *Principios normativos para una ética de la inteligencia artificial* (86-94). Concytep. ISBN: 978-607-8901-78-4. <https://t.ly/1AMpI>.

considerations, not just to control undesired outcomes of technological development but also to drive them (e.g. when it is recommended to introduce responsibility concerns in technology design, see Morandín-Ahuerma, 2023).

In this framework, special research emphasis should be placed on the **interaction of various actors** in the public sphere each having a particular stake and interest in how the relationship between AI and democracy is being dealt with. By definition, the issue is not exclusively technological, and **solutions will have to come from cooperation** between not only AI developers, companies that fund and exploit AI technologies, but also from policymakers such as political authorities and political parties, media industry companies and professionals, grassroots and civil society organisations. A relevant actor, in this framework, is represented by the **scientific community**. The core of this cooperation is how scientific and technological knowledge on AI has to be implemented to preserve democratic principles and therefore the scientific community is a crucial actor to involve in its varied disciplinary components, so as to properly assess different angles (technological, social, economic, juridical, etc., as suggested by Jungherr, 2023).

Cooperation is possible only through **dialogue** (that also implies conflicting approaches, especially when it comes to effective controls of the use of AI) among these various actors each having **different but not exclusive reference values** (e.g. promoting civil rights, pursuing economic success, advancing social justice, affirming democratic principles, fostering knowledge, promoting technological innovation). Any cooperation should be understood by starting from this assumption.

D. Investigating this research topic is in the public interest

The research on “**Democracy – Technological Transformation – Society**” addresses one of the most urgent issues affecting the public sphere. The investigated area encompasses several phenomena and trends that deeply impact European citizens and the governance of our society. Democratic life is an unfolding process over which advanced knowledge is needed, including how current developments could be directed toward desired and democratic configurations. Understanding the evolution of democracy - a complex process where various social and political change factors interact - requires diverse approaches. For this reason, DeTS project consists of several work packages that address the research issues from multiple perspectives. This research project is of interest not only for the scientific community and the various disciplines that are called to cooperate in the effort but also for the common citizens, who are affected by the ongoing changes in democratic life. Consequently, one of the concerns of the research consortium will be to inform those outside the scientific community about the research, its findings, and the project's overall results.

by Fabio Feudo & Andrea Declich,
Knowledge & Innovation
In cooperation with
Monika Banaś
Jagiellonian University

References

- Adam, M., Hocquard, C., (2023) Artificial intelligence, democracy and elections, Briefing PE 751.478 – October 2023 | European Parliamentary Research Service, (see [https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/751478/EPRS_BRI\(2023\)751478_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/751478/EPRS_BRI(2023)751478_EN.pdf), accessed on 28/12/2024)
- Cristianini, N. (2023). La scorciatoia, Il Mulino, Bologna
- Foa, R., Klassen, A., Slade, M., Rand, A., & Collins, R. (2020). The global satisfaction with democracy report 2020.
- Foa, R.S., Romero-Vidal, X., Klassen, A.J., Fuenzalida Concha, J., Quednau, M. and Fenner, L.S. (2022). “The Great Reset: Public Opinion, Populism, and the Pandemic.” Cambridge, United Kingdom: Centre for the Future of Democracy. <https://doi.org/10.17863/CAM.90183>
- Juhola, A. (2023), How is democracy doing globally, according to democracy reports?, Demo Finland 23.3.2023, see <https://demofinland.org/en/democracy-according-to-democracy-reports/>, accessed on 27/12/2024.
- Jungherr, A. (2023). Artificial intelligence and democracy: A conceptual framework. *Social media+ society*, 9(3), 20563051231186353.
- Kavanagh, J. and Rich, M. D. (2018), *Truth Decay: An Initial Exploration of the Diminishing Role of Facts and Analysis in American Public Life*, Santa Monica: RAND Corporation, pp. 110–21.
- Kriesi, H. (2020). Is there a crisis of democracy in Europe?. *Politische Vierteljahresschrift*, 61(2), 237-260.
- Kundnani, H. (2020). The future of democracy in Europe. *Technology and the Evolution of Representation*, Research paper, March 2020, Chatam House.
- Landemore, H. (2023). Fostering more inclusive democracy with AI. *Finance & Development*, 60(4), 12-14.
- Morandín-Ahuerma, F. (2023, September 28). Ten UNESCO Recommendations on the Ethics of Artificial Intelligence. <https://doi.org/10.31219/osf.io/csyux> available at <https://osf.io/preprints/osf/csyux>, accessed on 30/12/2024.
- Panditharatne, M., Giansiracusa, N (2023) “ [How AI Puts Elections at Risk — And the Needed Safeguards](#)”, [Brennan Center for Justice July 21, 2023](#), (accessed on 29/12/2024)
- Sorsa, V. P., & Kivikoski, K. (2023). COVID-19 and democracy: a scoping review. *BMC Public Health*, 23(1), 1668.
- Thaler, R., & Sunstein, C. (2008). *Nudge: Improving decisions about health, wealth and happiness*.
- The Economist, December 21st 2024, p.11
- Wardle, C., & Derakshan, H. (2017). Council of Europe. Information disorder. Toward an interdisciplinary framework for research and policymaking. Council of Europe report DGI.
- Wike, R., Fagan, M., & Clancy, L. (2024). Global Elections in 2024: What We Learned in a Year of Political Disruption, See <https://www.pewresearch.org/global/2024/12/11/global-elections-in-2024-what-we-learned-in-a-year-of-political-disruption/> (accessed on 21/01/2025)
- World Economic Forum, “5 charts that show the state of global democracy in 2024”, 26 July 2024, <https://www.weforum.org/stories/2024/07/global-democracy-charts-2024-trends-insights-election/> (accessed on 22/01/2025)
- Youngs, R. (2023). COVID-19 and democratic resilience. *Global Policy*, 14(1), 149-156