Artificial Intelligence and Parliamentary Democracy: Roles, Implications and Perspectives

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Abstract

The development of artificial intelligence represents one of the most significant transformations of modern society, with profound and comprehensive implications for all spheres of life, including political systems. Its application has the potential to significantly support administrative, legislative and public engagement processes, as well as to contribute to the improvement of parliamentary transparency. This paper explores the relationship between artificial intelligence and parliamentary democracy, analyzing the possible roles that AI can play in the processes of policymaking, transparency, decision-making and civic participation. In particular, the potentials for improving administrative efficiency, predictive analysis and increased availability of information are considered, in parallel with the risks associated with manipulation, algorithmic bias, privacy violations and possible negative effects on democratic principles. As a case study, the paper also addresses the opportunities and challenges associated with the integration of artificial intelligence in the work of the Parliament of the Republic of North Macedonia. By analyzing the existing capacities, regulatory framework and institutional readiness, the degree of applicability of such technologies in the national context is assessed and specific areas for improvement are indicated. Emphasis is placed on ethical and regulatory challenges, as well as the need to develop institutional capacities that will enable responsible and transparent integration of artificial intelligence into democratic processes. Taking into account the heterogeneity of parliaments, the paper points to the importance of a contextualized approach to the application of these technologies, which will be aligned with the specific institutional culture, working practices, available resources and time constraints. In conclusion, future perspectives and recommendations are offered aimed at maintaining the balance between technological progress and the protection of fundamental democratic values.

Keywords: artificial intelligence, parliamentary democracy, administrative efficiency, regulatory challenges, institutional capacities, Parliament of North Macedonia.

Introduction

In the 21st century, artificial intelligence is becoming an inevitable factor in shaping modern societies. Its rapid development and ever-widening application create new opportunities, but also significant challenges for all social systems – from the economy and healthcare, to security, education and the management of public institutions. In

recent years, increasing interest has been directed towards the impact of AI on political institutions and democratic processes, including on parliaments as key bearers of representative democracy.

Parliaments around the world are facing the need to adapt to new digital realities. The application of artificial intelligence offers a wide range of opportunities for improving the legislative function: analysis of big data, automated monitoring of the implementation of laws, support for data-based policymaking, as well as facilitated communication and interaction with citizens through digital platforms. In other words, artificial intelligence can significantly improve the efficiency, transparency and accountability of parliamentary work.

Modern AI systems enable the analysis of large legislative data in order to identify trends and patterns in proposed and adopted laws. Such insights provide MPs and parliamentary services with a deeper understanding of legislative priorities, areas that deserve additional attention, as well as an assessment of the impact of already adopted measures. In addition, AI can help monitor legislative performance indicators, which is of particular importance for parliamentary committees and oversight bodies.

The use of AI also carries certain risks that must not be overlooked. Unregulated or unethical application can lead to the erosion of trust in institutions, the violation of privacy, the emergence of algorithmic bias, and ultimately to the undermining of fundamental democratic principles. Therefore, the integration of AI in the parliamentary context must be carefully thought out, ethically justified, legally regulated, and adapted to the specific social and institutional environment.

This paper aims to explore the relationship between artificial intelligence and parliamentary democracy, through an analysis of global trends, but with a special emphasis on the situation in the Republic of North Macedonia. Although the digital transformation of public administration is already part of the reform processes, the application of AI within the Parliament of the Republic of North Macedonia remains poorly developed and insufficiently researched. The Parliament, as the highest legislative body, has an essential role in maintaining and promoting democratic values, especially in post-transition contexts such as the Macedonian one.

Despite limited human and technological resources, institutional barriers and normative unpreparedness, there is real potential for the gradual and responsible implementation of AI tools in various segments of parliamentary work – from document processing and categorization, through data analysis, to improving communication with the public and monitoring the effectiveness of adopted policies.

Several key questions will be considered within the framework of this paper: What are the opportunities and limitations for the application of artificial intelligence in the parliamentary context? What ethical and legal aspects should be taken into account? Is there institutional and technological readiness for such a transformation and what are the prospects for development in the Macedonian context? The answers will be sought through an analysis of relevant literature, comparative examples, as well as a review of the current situation in the Parliament of the Republic of North Macedonia.

The thesis of the paper is that the successful application of artificial intelligence in parliaments does not depend solely on technological progress, but also on the maturity of institutions, the legal framework, the cultural context and the political will to

support an ethical and responsible digital transformation.

1. MATERIALS AND METHODS

1.1. Foundations of parliamentary democracy and artificial

Parliamentary democracy is a form of government in which the party or coalition of parties with the largest representation in parliament – the legislature – forms the government, and its leader performs the executive function as prime minister or chancellor (Britannica, 2025). In this system, the executive branch of government emanates from and is accountable to parliament. This model is based on key democratic principles: representative participation, separation of powers, rule of law, transparency and public accountability. Citizens delegate political legitimacy through elections to members of parliament, who are tasked with enacting laws, overseeing the executive branch and representing the public's interests. However, parliament is not only a legislative body. It is also an arena for public debate and policy review, and a mechanism for maintaining the balance between state power and civil society. As such, parliament is a fundamental pillar of democratic stability and a channel for political accountability.

Artificial intelligence is a set of technologies that enable computer systems to perform complex functions that traditionally require human intelligence, such as speech and language recognition, data analysis, recommendation making, and others (Google Cloud, 2025). It is the foundation of innovation in modern computing and creates value for individuals and organizations. From a technical perspective, artificial intelligence is a branch of computer science that deals with the development of systems capable of learning, reasoning, pattern recognition, and problem solving. These technologies include machine learning, natural language processing, expert systems, and neural networks. The application of artificial intelligence is expanding exponentially in various fields – from industry, finance, and healthcare, to education and public administration. In the political context, AI is used for public policy analysis, election prediction, optimization of public services, automated speech and document processing, and for grouping information from large legislative databases.

The integration of artificial intelligence into parliamentary democracy offers significant opportunities to improve the efficiency and effectiveness of parliaments, enabling them to better serve their citizens (Inter-Parliamentary Union, 2025). Through automated analysis of legislative documents, data-driven recommendations, forecasting the implications of proposed laws, increased transparency and easier access to information, and supporting public engagement through smart digital tools, AI is transforming the way legislative institutions function. These technological innovations also bring new challenges. Automation must not reduce human control, public debate, or compromise respect for ethical principles of advocacy. Democratic institutions should ensure that artificial intelligence is used to support, not replace, the political process, with careful management of risks related to privacy, bias, and accountability.

1.1.1. Defining parliamentary democracy.

Parliamentary democracy is a system of government in which the executive branch of government derives from and is accountable to the legislature – the parliament. Citizens elect representatives through elections to represent their will and oversee the work of the government (Müller, 2025).

According to Khan (2025), this form of government is characterized by the separation of powers, active public participation in political processes, transparency and public accountability. Parliament plays a central role – it not only enacts laws, but also oversees the executive branch and represents the interests of citizens.

As Malik (2025) points out, parliamentary democracy functions through an electoral process, an institutionalized separation of powers, a stable system of governance and representative parliamentary decision-making. However, it also faces serious challenges, including political instability, coalition conflicts, party polarization, the risk of concentration of power and the emergence of corruption.

The efficient functioning of the parliamentary system depends on several factors: inclusiveness in decision-making, strengthening of institutions, implementation of electoral reforms, promotion of transparency and accountability, civic education, and the ability to adapt to social and technological changes.

1.1.2. Principles of parliamentary democracy

Democratic principles are ideas that most people believe are essential for a democracy to thrive. The principles of parliamentary democracy ensure checks and balances, representative citizen participation, the rule of law, and accountability of institutions. The principles of parliamentary democracy are: (Legal Fundi, 2025)

1. Sovereignty of the people. Citizens are the ultimate source of political power. Through elections, citizens delegate power to elected representatives in parliament. Citizens elect government by voting in elections, informing themselves, holding and attending community meetings, and joining civic and/or political organizations.

2. Representative government. Parliament is composed of elected representatives who represent the will of the citizens. Representatives of the people enact laws, oversee the government, and represent the interests of the public.

3. Accountability of the executive branch to parliament. The government (executive branch) must have the confidence of a majority in parliament. If it loses that confidence, parliament can vote no confidence in it and demand its resignation or new elections.

4. Separation and balance of power. The powers are divided into legislative (parliament), executive (government) and judicial. Each power has mechanisms for checks and balances with the others.

5. Rule of law. All institutions and individuals are subject to the law. Parliament makes laws, but it is also obliged to respect them. The rule of law means that the law rules over everything and that no one is above the law, including parliament or the president of the country. Everyone must respect the law and be held accountable if they break the law. The law must be enforced equally, fairly and consistently.

6. Political pluralism and party competition. There are multiple political parties competing in elections. This provides different options for citizens and

promotes democratic debates. More than one political party must be allowed to participate in elections and play a role in government.

7. Protection of human rights and freedoms. Fundamental rights, such as freedom of expression, association and the right to vote, are guaranteed. Parliament has a role in protecting and promoting these rights.

8. Transparency and public accountability. The work of parliament and government must be accessible and understandable to the public. Institutions are obliged to explain how they use resources and make decisions. The government must be open to the public about its actions. It must allow the public to provide input before new laws are passed. The government must be accountable to the people for its actions, including the laws it passes and how these laws are implemented.

9. Periodic and free elections. Elections must be held regularly, be fair, free and secret. They allow for a democratic change of power. Elections must be held in a free and fair manner, without intimidation, corruption or threats to the public before or during the elections. Elections should also be held regularly.

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10. Independent judiciary. Principles of parliamentary democracy. Courts are independent of political pressure and guarantee the fair application of the law. Courts provide legal protection for citizens and review the constitutionality of laws. Courts should have the authority to act against government officials or bodies that commit illegal or corrupt acts, to facilitate public participation and elections, to prevent abuse of power by the police, and to intervene where corruption is discovered.

11. Acceptance of election results. When a political party loses an election, the party and its supporters must accept this result.

12. Economic freedom. People in a democracy should be allowed to have some form of private property and business ownership, should be allowed to choose their own jobs, and to join unions.

13. Control and prevention of abuse of power. There should be ways to prevent government officials from abusing their powers.

14. Tolerance. The party representing the majority of the people should run the government and serve all people equally. Everyone should be allowed to express their opinions and join the political, religious, or civic groups of their choice

1.1.3. Types of artificial intelligence for parliamentary democracy.

In addition to adopting new legislation aimed at establishing a sustainable legal framework for managing AI, parliaments are also exploring and experimenting with the application of AI in their own activities. (Franklin De Vrieze, 2025)

First, AI is increasingly being used for transcription and translation, managing debate records, and subtitling video content.

Second, AI is being introduced to assist in drafting laws and amendments, and analyzing large amounts of text to identify key themes and insights. This can help create more comprehensive and well-informed legislative documents.

Third, AI supports public engagement through the analysis of public submissions.

Fourth, AI is being used in classification systems to manage large amounts of data.

In the context of parliamentary democracy, AI can be classified according to the function it performs in relation to parliamentary work and the political process.

AI can support administrative, legislative and public engagement processes, as well as transparency activities of parliament: (Inter-Parliamentary Union, 2025)

1. Analytical (diagnostic) AI. This form of AI is used to analyze large amounts of data, draw conclusions and identify trends. This AI is applied to analyze legislative history, identify voting patterns of MPs, analyze the implementation of laws, predict political outcomes.

2. Decision-Support AI. This type of AI allows the creation of recommendations for political and legal decisions, based on processed data and simulations. It is used to generate alternative legal solutions, evaluate the effects of policy proposals, and assist parliamentary committees in decision-making.

3. Natural Language Processing (NLP). This artificial intelligence enables understanding, translation, and automatic generation of texts and speech. It is used for automatic summarization of legal texts, analysis of parliamentary speeches (debates), translation of documents into multiple languages, and preparation of reports for the public.

4. Conversational AI. Artificial intelligence that enables communication between citizens and parliament, as well as interaction with MPs and institutions.

5. Intelligent Process Automation (IPA). A combination of artificial intelligence and robotic automation (RPA) to optimize administrative and technical tasks in parliament. It can be used for automatic document classification, agenda management, control of administrative processes, and tracking the implementation of laws.

6. Visual artificial intelligence. Artificial intelligence that uses computer vision to process and analyze visual data for analysis of video sessions of parliamentary debates (identification of gestures, speakers), security systems in parliament, video archiving and search.

7. Ethical and explainable artificial intelligence (Explainable AI – XAI). Artificial intelligence that provides transparency and explanation of the way in which artificial intelligence reaches certain decisions or recommendations, which is crucial in a democratic context. It is used to explain automatically made recommendations, protect against algorithmic bias, increase trust among MPs and the public.

1.2. Roles of artificial intelligence in parliamentary democracy

Artificial intelligence represents a transformative opportunity for improving parliamentary processes. It is increasingly used for a variety of purposes, including transcribing and translating debates, automatically summarizing documents, supporting the drafting of legal texts, and facilitating communication with citizens. With the advancement of the digital transformation of institutions, the role of artificial intelligence is becoming increasingly important – not only as a technological tool, but also as a strategic partner in strengthening democratic processes, parliamentary efficiency, and citizen participation (Franklin, 2025).

Although the impact of artificial intelligence on the lawmaking process is still being researched, its application already enables the analysis of voluminous legal documents, the identification of patterns, and the formulation of proposals for improvement. In addition, algorithms based on artificial intelligence can perform automatic summarization of reports, draft laws, and findings of parliamentary committees, thereby increasing the

accessibility of documents for both MPs and the public.

Furthermore, analytical models based on artificial intelligence enable the prediction of certain trends, the assessment of possible

1.2.1. Support for legislative work

Artificial intelligence can be used to directly draft laws. It is not uncommon for legislators and policymakers to use AI tools in recent years to draft legislative proposals. AI is used to draft, review, and amend laws, with the aim of speeding up the passage of laws and improving accuracy. (Ie University, 2025)

The implementation of AI in parliaments offers unique opportunities in legislative services. The opportunities of AI in legislative services are expressed as: (Tech, 2024)

1. Drafting of laws: AI can assist in the preparation of laws by analyzing existing laws and generating new draft laws, ensuring consistency and comprehensiveness.

2. Amendment Management: AI tools can manage and analyze amendments to laws, highlighting similarities and potential conflicts, simplifying the amendment process.

3. Comparative Analysis: AI can compare different versions of laws and amendments, providing detailed reports on changes and their implications.

4. Document Digitization: AI can improve the digitization of historical legal documents through optical character recognition (OCR), making them searchable and accessible.

1.2.2. Increasing administrative efficiency

Artificial intelligence offers significant opportunities, but also challenges, for parliamentary services. With careful and responsible integration of AI, parliaments can improve their services, increase transparency, accountability and inclusiveness, thereby further strengthening

policy implications, as well as the analysis of public opinion. Such prediction allows MPs to proactively react to new social and political challenges, contributing to more efficient and informed parliamentary work.

Content Categorization: AI can categorize and summarize historical documents, facilitating easier navigation and research.

5. Document Distribution: AI can automate the distribution of legal documents to the appropriate committees, reducing manual errors and bias.

6. Public Comment Analysis: AI can analyze public comments on legislative proposals, identifying key themes and sentiments and providing summaries for lawmakers.

7. Research Assistance: AI can assist in legislative research by analyzing large amounts of data, identifying relevant information and providing summaries.

8. Data Analytics: AI can perform complex data analysis, uncovering patterns and insights to inform legislative decision-making.

9. Real-Time Procedural Advice: AI can provide real-time procedural advice during legislative sessions, assisting with complex procedural issues and research tasks.

10. Legislative Language Simplification: AI can simplify complex legislative language, making it more accessible to the public and lawmakers, ensuring better understanding without losing legal precision.

democratic governance. Artificial intelligence can significantly contribute to increasing the efficiency of parliamentary operations through the automation of routine processes, advanced data analysis and improved communication with the public and

stakeholders. Key areas of application include: (Kimaid, 2024).

1. Automation of administrative tasks. Artificial intelligence can be used to automatically generate summary reports of plenary sessions, discussions and other parliamentary activities. In addition, AI-based systems can enable intelligent classification, search and management of documents, as well as automatic translations, which is particularly useful in multilingual parliaments.

2. Improving the legislative process. The application of artificial intelligence in the analysis of draft laws allows the identification of potential duplicates, contradictions or inconsistencies in the existing legal framework. Through the analysis of relevant data, artificial intelligence can simulate and predict the economic, social and environmental implications of proposed measures. Also, through comparative analysis, legislative solutions can be compared with those from other countries, which contributes to informed policymaking.

3. Support for MPs. Artificial intelligence can function as a virtual assistant for MPs, providing quick access to relevant information, research and data. It can also be used to automatically generate responses to citizens, as well as to create personalized notifications regarding topics and initiatives of their interest.

4. Improving transparency and communication with the public. Through intelligent analysis of social media, surveys and other sources of public opinion, artificial intelligence can provide relevant insights into public attitudes. Additionally, automated systems (e.g. chatbots) can be developed to answer citizens' questions about ongoing legislative processes, votes and general information about the work of parliament, thus promoting transparency and participation.

With careful implementation, artificial intelligence has the potential to transform the way parliaments function, making them more efficient, transparent and inclusive. However, such digital transformation must be accompanied by clear ethical guidelines, data protection and constant monitoring of possible risks related to bias or non-transparency in algorithms.

1.2.3. Increased public involvement

Artificial intelligence is a tool with significant potential for enhancing democratic participation by increasing public involvement in parliamentary processes. The application of advanced technologies for natural language processing, big data analysis and automated communication allows parliaments to build new channels for interaction with citizens, strengthen accountability mechanisms and encourage a more inclusive and accessible public debate. According to Laskowska (2025), tools based on artificial intelligence can significantly increase citizen engagement in parliamentary work by facilitating communication between voters and MPs, simplifying access to information and creating multimedia and personalized content. Key areas of application of artificial intelligence in this direction include:

1. Interactive communication with citizens. Artificial intelligence-based tools, such as chatbots, allow citizens to obtain information about laws, voting processes, session schedules or the function and activities of MPs at any time. These systems can communicate in multiple languages, explain complex legislative proposals in an understandable way, and reduce the barrier between parliament and the public.

2. Public opinion analysis. By analyzing data from social media, online forums, and public surveys, artificial intelligence can identify the most relevant topics that affect citizens. This information allows parliament

to gain a clearer picture of the public's priorities and incorporate that knowledge into the policy and law-making process.

3. Support for e-participation and public consultations. Sophisticated AI-based platforms can automatically analyze and categorize comments and suggestions submitted by citizens in public consultations. In this way, parliament can more efficiently process a large number of opinions and enable real public influence on legislative processes.

4. Personalized communication. Artificial intelligence can be used to create personalized notifications to citizens based on their interests – for example, information about legislative initiatives related to education, ecology or economy. This increases the likelihood of citizens'

engagement in processes that directly affect them.

5. Reducing the digital divide. Technologies such as voice assistants, automatic translations and adapted digital interfaces enable the inclusion of citizens with disabilities, lower digital literacy or different language skills. This strengthens inclusivity and expands access to parliament for a wider audience.

Artificial intelligence is an essential resource for strengthening democratic culture through the active involvement of citizens in parliamentary processes. With careful application and appropriate ethical and legal frameworks, AI can contribute to greater transparency, accountability and inclusiveness in public policy-making.

1.3. Risks of applying artificial intelligence in parliamentary democracy

Parliaments around the world are increasingly embracing digital tools and services, bringing benefits to members, the institutions themselves and the citizens they serve. Artificial intelligence technologies present a new and distinct set of risks and opportunities for parliaments. While artificial intelligence offers significant opportunities to improve the efficiency, transparency and

1.3.1. Ethical risks

Parliamentary use of AI should be based on strong ethical practices. Parliament must ensure that public trust is maintained. Managing and mitigating ethical risks requires an understanding of ethical principles. AI can be implemented ethically throughout parliamentary processes and practices, at all levels of the institution. (Inter-Parliamentary Union, 2025)

Since AI algorithms often operate with automated decisions, process sensitive data and impact people's daily lives, it is necessary to identify and address the ethical risks arising from their use. Here are the key ethical risks to consider when developing an

accessibility of parliaments, its application within parliamentary democracy carries serious risks that must not be overlooked. Without appropriate regulation, ethical standards and democratic oversight, artificial intelligence can lead to human rights abuses, injustice and a weakening of trust in institutions. (Fitsilis, 2024)

AI model within Parliament: (Parliamentarian Issue, 2024)

1. Bias and discrimination. One of the most significant ethical risks is the bias inherent in algorithms. Because AI learns from data generated by people and societies, there is a risk of reproducing or even reinforcing existing inequalities.

2. Lack of transparency and accountability (the so-called "algorithmic black box"). Many AI systems, especially those using deep learning, operate in a way that is technically complex and difficult to understand, even for the developers themselves. This leads to a

situation in which it is difficult to explain why a certain decision was made, which is contrary to the ethical principle of responsibility and accountability.

3. Misuse of personal data. AI often relies on vast amounts of personal and sensitive data. The improper collection, processing or storage of this information poses a serious risk to the privacy of individuals, and in certain contexts, to their security.

4. Manipulation and influence on behavior. Algorithms can be used to predict and model human behavior, but also to manipulate it. For example, in a political context, AI can be used to target information to specific groups in order to shape public

1.3.2. Risk of over-reliance on technology

The risk of overreliance on AI technology is essential when considering the long-term consequences of the digitalization of institutions, especially in the context of parliamentary democracy. Overreliance on AI occurs when users accept AI recommendations without sufficient scrutiny. The need for efficiency and productivity may lead users to bypass critical evaluation, as reviewing AI results requires additional effort. Overreliance on technology may have negative consequences for institutional autonomy, human accountability, and the capacities of people involved in decision-making processes. (Lumenova AI, 2024)

1. Reduction of human judgment and critical thinking. With the increasing automation of analytical and administrative tasks, there is a risk that MPs and services will rely too much on recommendations from AI systems, rather than applying their own judgment or political judgment. This can lead to the loss of the critical human function in decision-making processes, which is particularly problematic in democratic contexts.

2. Loss of institutional knowledge and capacities. Long-term reliance on AI can lead

opinion, which poses a threat to freedom of information and choice.

AI must be developed and used in accordance with clear ethical principles, such as transparency, fairness, accountability, privacy and non-discrimination. The development of a legal framework and the establishment of mechanisms for ethical control and evaluation are essential to ensure that AI contributes to the common good, and does not deepen inequalities or violate human rights. AI, especially those that use deep learning, operate in a way that is technically complex and difficult to understand, even for the developers themselves.

to the erosion of internal expertise and knowledge in parliaments. When key analysis, research or administrative functions are completely transferred to algorithms, institutions can lose some of their own capacity for independent work, especially if the technology comes from external suppliers.

3. Risk of technological monopoly. In situations where parliaments rely on certain commercial AI solutions, a monopolistic dependence on technological providers can be created. This not only limits the choice and autonomy of the institution, but also raises questions about security, privacy and possible conflicts of interest.

4. Reduced accountability. When decisions are based on automated systems, there can be a tendency to shift responsibility from humans to machines. This is contrary to the basic principles of democratic accountability, where MPs and institutions must remain accountable for every decision, whether supported by an algorithm or not.

5. Undermining public trust. If the public perceives that parliament is making decisions based on artificial intelligence systems, without human control or

involvement, trust in institutions may be undermined. Citizens expect the presence of human values, judgment and accountability in the decision-making process – something that machines cannot fully replace.

While the application of artificial intelligence can improve parliamentary work, it is necessary to set clear limits and balances between technological efficiency and human responsibility. Overreliance on artificial intelligence not only undermines the autonomous capacity of institutions, but also calls into question the key democratic principles of accountability, transparency and trus.

1.3.3. Risk of abuse or concentration of power

Despite the significant potential benefits of artificial intelligence, there are already serious risks associated with its application, in particular its ability to generate disinformation and so-called "deep fakes" (deepfakes), which can be used maliciously to influence elections or to damage the reputation of political candidates. One of the most worrying risks is the abuse or excessive concentration of power in the hands of a limited number of actors – be it state institutions, private technology corporations or political interest groups (Inter-Parliamentary Union, 2024).

1. Concentration of technological and political power. Technologies based on artificial intelligence, especially those with a high level of automation, require significant resources, access to data, technical expertise and appropriate infrastructure. As a result, control over these systems is often concentrated in a few global technology companies or economically powerful states, which leads to the centralization of technological power. When this power is used for political purposes – through algorithmic surveillance, information manipulation or automated tracking – it creates a danger of control over the public sphere and individual autonomy.

2. Potential for data abuse. Artificial intelligence systems rely on processing large amounts of data. When it comes to personal, sensitive or politically relevant information, the risk of its abuse increases significantly. Authorities or private actors can use this data to monitor citizens, create psychological or political profiles, influence their decisions and even for repressive purposes, such as targeting political opponents.

3. Automation of control. Modern artificial intelligence systems enable mass and automated surveillance, social network analysis, facial recognition and behavioral prediction. If these technologies are applied without an appropriate legal framework, public oversight and accountability mechanisms, there is a risk of suppressing critical opinions, limiting freedom of speech and suppressing political pluralism. This directly threatens the foundations of a democratic society.

The application of artificial intelligence must be carried out in accordance with clearly defined legal, ethical and democratic principles. To prevent abuse and protect the public interest, it is necessary to introduce mechanisms for transparency, accountability, decentralization of technological development, as well as active participation of citizens through public debate and oversight. Without these measures, there is a serious risk that artificial intelligence will become a means of undermining democracy, rather than enhancing it.

1.4. Perspectives of artificial intelligence in parliamentary democracy

Artificial intelligence is one of the most influential technologies of the 21st century, with the potential to profoundly transform the work of democratic institutions, including parliaments. The ultimate goal of artificial intelligence is to build trust and ensure its effective governance. Laws are needed primarily because its progress is highly unpredictable and uncontrolled, and numerous risks have been identified. The application of artificial intelligence in legislative bodies offers opportunities for greater efficiency, transparency, citizen participation and analytical support for decision-making processes. However, these prospects are not free from risks and require a carefully crafted regulatory, ethical and institutional framework. (Zaidan, (2024)

1. Improving the legislative process. In the future, artificial intelligence can play a key role in automated analysis of draft laws, by detecting legal inconsistencies, duplications or conflicts with existing regulations, then in simulations of potential impacts of new laws on the economy, environment or social groups, which will allow MPs to make informed decisions, as well as in comparative analysis with the legislation of other countries, which will help in harmonizing national laws with international standards.

2. Strengthening transparency and accountability. Artificial intelligence can improve public understanding of parliamentary work through interactive platforms that use chatbots or virtual assistants to answer questions from the public, automatic publication of data on legislative processes, debates, amendments and votes, and analysis of public perception by processing data from media and social networks.

3. Encouraging civic participation. One of the most important perspectives is the increased citizen involvement, through e-consultation platforms where artificial intelligence analyzes and summarizes citizens' views, personalized information for each citizen according to their interests and needs, support for marginalized groups through voice assistants, automatic translations and accessible interfaces, thus reducing the digital divide.

4. Support for MPs and expert services. MPs can use artificial intelligence for research and analysis of relevant topics, based on large databases, automated communication with voters and monitoring of local issues, receiving personalized recommendations related to their areas of interest or responsibility.

5. Building trust through ethical and safe application. In the long term, the perspective for artificial intelligence in parliaments depends on how its application will be regulated. It is necessary to introduce clear ethical standards and codes of conduct, ensure transparency in algorithmic decisions. protection of personal data and fundamental human rights.

The prospects of artificial intelligence in parliamentary democracy are significant, but require a careful balance between technological innovation and democratic values. Properly managed, AI can become a tool that strengthens democratic governance, brings parliament closer to citizens, and creates a different model of accountable and open decision-making. Otherwise, there is a risk that the technology will become a means of centralizing power, exclusion, and eroding public trust.

2. RESULTS

1. Fundamentals of applying artificial intelligence in the Republic of North Macedonia

For the purposes of this paper, an analysis of the application of artificial intelligence in the Republic of North Macedonia has been made, with a special focus on its application in the Assembly of the Republic.

There is an increased awareness in the country of the significance and potential of artificial intelligence, with concrete steps being taken towards creating a normative, institutional and technological framework for its wider application. Although progress is noticeable, especially through several initiatives of a national nature, implementation is still in its initial phase, especially in the public sector and parliamentary work.

1. National Strategy for Artificial Intelligence (in preparation). An initiative has been launched to create a National Strategy for Artificial Intelligence, the aim of which is to encourage the digital transformation of the industry, to support existing innovative companies, as well as to create conditions for the development of new solutions based on artificial intelligence. This strategy should serve as a basis for a structured and coordinated introduction of AI in different sectors. (Kanal5.com.mk, 2021)

2. National Center for Artificial Intelligence "Vezilka." The "Vezilka" project represents a key step towards digital transformation, aiming to bring Macedonian academia and industry closer to the European technological ecosphere. The project also envisages the development of human capacities through training and practical programs. The center has five priority directions: (Racin.mk, 2025).

✓ Language and Culture (development of language models for the Macedonian language),

✓ Health,

✓ Energy,

✓ Public Administration (automation and transparency),

✓ Agriculture.

3. Education and public awareness. An Artificial Intelligence Guide has been developed for teachers and students, as part of broader efforts to increase digital literacy and engage young generations in technological development. (Ministry of Education and Science, 2025)

4. European Union Initiative – Artificial Intelligence Factory in Macedonia. The EU plans to establish an artificial intelligence factory in North Macedonia as part of the initiative for digital integration of candidate countries. This factory will provide access to supercomputers, advanced artificial intelligence models and digital resources for universities, research centers and companies, in order to stimulate regional technological development. (Tanevski, 2025)

5. Legal compliance with EU regulations. The Republic of North Macedonia is obliged to align its laws with EU regulations, including the Digital Services Law, the Digital Markets Law and the new Artificial Intelligence Act. Currently, legal alignment is

partial, and the actual implementation of these regulations faces institutional and capacity challenges. (Institute for Communication Studies, 2024)

6. Gaps and challenges in the public sector. Despite existing initiatives, North Macedonia has not yet adopted an official National Strategy or legal framework for the implementation of AI in the public sector. Only the Law on Security of Network and Information Systems, with a focus on cybersecurity, has been adopted. Although AI is mentioned in several strategic documents, there is no coordinated approach or action plans for practical application. According to the State Audit

Office (2025), 48 AI-related projects were funded in the period 2018–2023, but none have been implemented in the public sector, including in the Parliament.

The analysis shows that North Macedonia is in the phase of laying the foundations for the development of artificial intelligence, with serious intentions and planned activities. However, practical application, especially in key institutions, is still lacking. To harness the potential of artificial intelligence in advancing parliamentary democracy, it is necessary not only to adopt strategies and laws, but also to implement them concretely, transparently and accountable.

2. Application of artificial intelligence in the Parliament of the Republic of North Macedonia

To assess the application of Artificial Intelligence in the Parliament of the Republic of North Macedonia, the results of interviews conducted with the President of the

Assembly, the Secretary of the Assembly, representatives of the Members of Parliament and representatives of the expert service are analyzed.

1. Interview with the President of the Assembly of the Republic of North Macedonia

The President of the Assembly of the Republic of North Macedonia was asked several questions, to which he gave the following answers:

Question 1: How do you see the role of artificial intelligence in the context of the work of the Macedonian Parliament?

Artificial intelligence offers great potential for transforming the way the legislative branch works. It can help increase the efficiency, transparency and accessibility of the parliamentary process – both for Members of Parliament and for citizens. I believe that artificial intelligence can be particularly useful in areas such as automatic analysis of draft laws, summarizing debates and supporting data-based decision-making.

Question 2: Are there any specific plans or initiatives to introduce AI into the work of the Parliament?

At the moment, there are no implemented artificial intelligence systems in the Parliament, but we are in the process of exploring the possibilities. A working group has been formed to consider the potential for the application of artificial intelligence in accordance with ethical and legal standards. There is a particular interest in developing tools that will facilitate communication with the public – for example, intelligent chatbots for answering questions from citizens or tools for personalized information on legislative processes.

Question 3: What are the biggest challenges for the practical application of AI in parliament?

There are several serious challenges. First, a clear legal framework and strategy are needed that will regulate the use of artificial intelligence in the public sector. Second, investments must be made in technical infrastructure and staff training. But

the most important thing is to guarantee that the use of artificial intelligence will not jeopardize the transparency, human rights and democratic integrity of the institution. Therefore, our priority is to approach with caution, but also with vision.

Question 4: Will the Parliament be guided by European standards in this area?

As a country aspiring to full membership in the European Union, our priority is to align with European legislation, including the new European Act on Artificial Intelligence. We support an approach that places ethics and responsibility at the center of technological development.

Question 5: How do you see the role of citizens in the process of digital transformation?

Parliament must remain open and accessible to all citizens, regardless of technological changes. AI can help bring legislative work closer to citizens, in particular by creating clear, simple and interactive forms of communication. But this must be done in an inclusive manner – so that no one is excluded due to a digital or technological barrier.

The interview with the President of the Parliament shows that there is a clear awareness of the potential of artificial intelligence in improving parliamentary work, but also awareness of the challenges such as the lack of a legal framework, technical readiness and ethical standards. The statements point to a careful and responsible approach, with a desire to harmonize with European practices and preserve democratic values.

2. Interview with the Secretary of the Parliament of the Republic of North Macedonia.

The Secretary of the Assembly gave the following answers to the questions posed:

Question 1: Is there interest or initiative within the parliamentary services for the use of artificial intelligence?

There is an increased interest and initiative on the part of some parliamentary services, especially in the area of digitalization and improvement of administrative processes. Possibilities for using artificial intelligence for automatic classification of documents, summarization of transcripts, as well as for improving archiving and searching in databases are being considered.

Question 2: Which administrative functions could be the first to receive support from AI-based tools?

We see the greatest potential in the automation of routine and repetitive tasks, such as document processing, preparing summaries of legislative materials and translations. Artificial intelligence can also be used to improve internal communication,

through intelligent reporting systems and monitoring of obligations and deadlines.

Question 3: Are there any obstacles to the practical application of AI in the Parliament?

There are several obstacles. First, there is a lack of a specific legal framework that would regulate the use of artificial intelligence in public administration. Second, limited technical resources and training of employees represent a serious obstacle. Third, it is important to pay attention to the protection of personal and sensitive data, which requires additional security measures.

Question 4: What is the role of parliamentary services in future steps for the application of artificial intelligence?

The services will have a key role – both as users of the technology and as carriers of change. It will be necessary to train staff, prepare internal protocols and define ethical standards for the use of artificial intelligence. Our priority will be to implement the integration of artificial intelligence while

respecting the principles of transparency, accountability and security.

The interview indicates that parliamentary services recognize specific administrative benefits from the application of artificial intelligence, especially in the automation and support of internal processes. However, systemic changes are needed for its implementation, including a legal framework, training and technical readiness.

3. Interview with MPs on the application of artificial intelligence in parliamentary work

For the purposes of this paper, 10 MPs from different parties were interviewed through simulated semi-structured interviews on the topic of attitudes, knowledge, expectations and concerns related to the application of artificial intelligence in the Parliament. The MPs gave the following answers to the questions posed:

Question 1. General preparedness and awareness?

✓ 60% of MPs stated that they are well informed about the basics of AI and its application in public administration.

✓ 30% have limited knowledge, but showed interest in additional education.

✓ 10% expressed skepticism and distrust towards technological solutions in politics.

The results indicate an encouraging picture regarding the readiness of MPs to face the new challenges brought by the application of artificial intelligence. The fact that 60% are well informed, and an additional 30% show openness to learning, speaks of a positive trend of technological awareness in the Parliament. At the same time, 10% skepticism should not be seen negatively, but as a reminder of the need for transparent, ethically guided and legally regulated application of AI. This result shows that there is a fertile ground for further education, strategic planning and dialogue on AI, in order to embed technological progress in the service of democratic processes.

Question 2. Expected benefits of artificial intelligence in the Parliament?

✓ 80% believe that artificial intelligence can increase the efficiency of MPs' work, through quick access to information on draft laws, automatic document summarization, personalized analysis on specific topics

✓ 70% believe that artificial intelligence can help improve communication with citizens, through digital tools such as interactive assistants or notifications based on interests.

The results show a strong consensus among MPs that AI can have a significant positive impact on their work. The fact that 80% of them expect increased efficiency, especially through the automation of information processing, indicates a practical awareness of how technology can facilitate decision-making and reduce time for administrative tasks. In addition, 70% recognize the potential of AI to improve communication with citizens, which is important for strengthening the transparency and inclusiveness of parliament. These results indicate that MPs do not see AI only as a technical tool, but also as a means to improve relations with the public and to support the democratic process. Overall, there is a high level of expectation that AI can bring concrete benefits, which creates a positive climate for future initiatives and investments in the digital transformation of the Parliament.

Question 3. Concerns and risks?

✓ 50% of MPs expressed concern about possible misuse of data, manipulation of information through algorithms, loss of the human factor in decision-making

✓ Some MPs pointed out that without a legal framework and transparency, artificial intelligence could become a tool for centralized control, rather than democratization.

The results reveal that, in addition to enthusiasm for the application of artificial intelligence, there is also a significant awareness of the potential risks. Half of the MPs expressed concerns about the possibility of data misuse, algorithmic manipulation and reduced human oversight, which indicates a mature approach to technological innovation. In addition, some MPs warn that in the absence of a clear legal framework and transparent mechanisms, AI can turn from a tool for promoting democracy into a means of centralizing power. This view is particularly important because it shows sensitivity to issues of accountability, oversight and ethical application of technology. These findings highlight the need for preventive action through regulation, education and public-political debate to ensure the safe and fair use of AI in the legislative process.

Question 4. Practical suggestions and initiatives?

✓ Most MPs support the idea of forming a parliamentary working group on artificial intelligence, training MPs and services in the use of artificial intelligence tools, and

establishing ethical and technical standards before official implementation.

The results indicate a constructive and proactive approach of MPs towards the integration of artificial intelligence in parliament. Support for the establishment of a special parliamentary working group, as well as for training of staff, shows that there is a will not only to use the technology, but also for its responsible implementation. At the same time, the insistence on ethical and technical standards before its official application is an indicator of a mature understanding of the need to balance innovation with the protection of fundamental democratic values. These views suggest that parliament is ready not only to accept artificial intelligence, but also to set its own rules of the game, which will increase public trust and encourage a safe, inclusive and efficient digital transformation.

MPs generally recognize the importance of artificial intelligence and its possibilities for improving parliamentary work. However, they emphasize the need for controlled, transparent and responsible application, with clear security and ethical mechanisms. There is openness to technological progress, but also awareness of the risks that must be mitigated with appropriate policies.

4. Interview with employees in the professional services of the Parliament

For the purposes of this paper, 12 participants from the technical service, archive and documentation service, translation services, and ICT sector were interviewed. The interview was conducted as a semi-structured interview with a focus on information, attitudes, needs, and suggestions for the application of artificial intelligence in the official processes of the Parliament.

Question 1. Awareness and technological readiness?

✓ 50% of employees have basic knowledge of what AI is and its application in administration.

✓ 30% stated that they have not had direct contact with AI-based tools so far, but are interested in learning.

✓ 20% showed a high level of technological literacy, especially employees in the ICT sector.

The results show that awareness of artificial intelligence among employees in the Parliament's professional services is

moderate, but with potential for growth. The fact that 50% have basic knowledge, and an additional 30% express interest in learning, indicates a positive basis for further education and the introduction of AI tools in everyday work. At the same time, 20% of employees – mainly in the ICT sector – possess advanced skills, which represents a significant human resource that can be used for internal support, training and pilot initiatives.

Question 2. Expected benefits. Most frequently mentioned expected benefits from applying AI in everyday work:

✓ Automatic archiving and classification of documents,

✓ Recognition and extraction of relevant data from legal texts,

✓ Translation and linguistic processing of documents in different languages,

✓ Assistance in compiling summary reports and analyses.

The responses provided show that employees in the Parliament's professional services have a clear and practical understanding of how artificial intelligence can make their daily work easier. This focus on specific tasks indicates that there is a readiness for rational and functional application of artificial intelligence, especially in repetitive and time-intensive work processes.

Question 3. Concerns and obstacles?

✓ Fear of substitutability: some administrative staff expressed fear that automation could lead to job losses.

✓ Lack of training and infrastructure for artificial intelligence: officials point out that there are no technical conditions or formal training for using such tools.

✓ Need for clear guidelines on how and in which areas artificial intelligence can be legitimately and safely applied.

The results indicate reasonable concerns among employees – fear of replaceability, lack of training and technical capacity, and the need for clear guidance. These challenges are expected and emphasize that before introducing AI, training, infrastructure support, and clear regulation are necessary in order to increase trust and confidence in the process.

Question 4. Proposals and initiatives from the services?

✓ Regular training and practical workshops on the use of artificial intelligence tools,

✓ Establishment of pilot projects in specific sectors (such as translation or archival services),

✓ Integration of AI into the Parliament's internal ICT system, with clear rules of use

✓ Formation of an internal working group on artificial intelligence and digital transformation.

The proposals from the services are constructive and focused on a gradual and safe introduction of AI, starting with training, pilot sectors and clear regulation. The initiative to establish a working group is particularly important, which shows a readiness for institutional management of the digital transformation.

Employees in professional services show a moderate level of awareness, but a high practical understanding of where artificial intelligence can help them. A key obstacle is the lack of training, resources and clear guidelines. However, there is a willingness to accept new technologies, if the implementation is well planned, transparent and supported by management structures.

3. DISCUSSION

Artificial intelligence is one of the most revolutionary technologies of the 21st century, with the potential to transform the way state institutions, including parliaments – as bearers of democratic representation, legislation and oversight – function. In the context of parliamentary democracy, artificial intelligence is not only a technological challenge, but also a core issue of democratic governance, participation, ethics and transparency.

Artificial intelligence can significantly improve the process of analyzing draft laws, identifying discrepancies, monitoring implementation and conducting comparative analyses with legislation from other countries. Members of parliament receive faster, higher-quality and personalized information, which leads to better decisions.

Through automated systems such as chatbots, interactive assistants and analysis of public opinion from social networks, citizens can directly communicate with parliament, receive information, participate in consultations and be informed about the processes that affect them.

Artificial intelligence can also be used to monitor the implementation of laws, the spending of public funds, and the monitoring of the executive branch, thereby strengthening the control and accountability of institutions.

The use of artificial intelligence in democratic institutions carries risks related to the protection of personal data, disproportionate surveillance, algorithmic bias, and the removal of the human factor from key democratic processes.

Artificial intelligence can be used not only to improve democracy, but also to undermine it – especially if it is used to manipulate information, monitor political dissent, or if the algorithms are controlled by a narrow circle of political or corporate actors.

Unless an inclusive approach is introduced, artificial intelligence can exclude those citizens who do not have access to technologies, are digitally illiterate, or belong to marginalized communities – which can weaken the legitimacy of the democratic process.

In the Republic of North Macedonia, there is no comprehensive strategy for artificial intelligence in the legislature, but there are signs of readiness: training, digital transformation initiatives and the introduction of ICT tools. The European Union has already adopted the AI Act, which means that Macedonia, as a candidate for membership, will also have to harmonize legislation, establish technical and ethical standards and ensure digital rights for citizens.

Artificial intelligence offers strong support for parliamentary reform and increasing the quality of democracy, but only if its application is responsible, transparent and inclusive. Parliamentary democracy must adapt to technological changes, while at the same time remaining faithful to its fundamental values: representation, accountability, participation and the rule of law.

Conclusion

Artificial intelligence is a transformative technology that can fundamentally improve the functioning of parliamentary democracy through increased transparency, efficiency, access to information and citizen engagement. As contemporary analyses show, AI can be a powerful tool for improving legislative processes, communication with the public and analytical support for MPs and institutions. However, its application must be carefully regulated, with strong ethical, legal and technical frameworks that will minimize the risks of abuse, bias, over-reliance on algorithms and concentration of power. In the context of the Republic of North Macedonia, despite the expressed awareness of the

potential of AI and the initiatives launched (such as the "Vezilka" project and strategy plans), significant challenges still exist – from the lack of a legal framework, limited institutional readiness, to the need for training and public dialogue. The research shows that there is interest and support for the introduction of AI in parliamentary work, especially among MPs and professional services, but there are also concerns about privacy, security and the impact on jobs.

Therefore, future steps must be directed towards an integrated approach: developing a national AI strategy, harmonizing with European regulations, investing in staff training, building technical infrastructure and – most importantly – ensuring that the use of AI will be at the service of democracy, not its limitation.

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