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Principles and Methods of Political Forecasting: Theoretical Constructs and Practical Cases

Zasady i metody prognozowania politycznego: konstrukty teoretyczne i zastosowania praktyczne

Abstract

The article explores the methodological and applied foundations of political forecasting as a branch of modern political science. It reveals the content of key forecasting principles – alternativity, systematicity, continuity, and verification – within the context of political processes as dynamic and complex systems. Special attention is devoted to an overview of forecasting methods: extrapolation, analogies, scenario analysis, machine learning, and hybrid approaches. A case study of the Russia–Ukraine war illustrates the practical application of forecasting in a geopolitical pentagon comprising Ukraine, Russia, the US, the West, and the Global South. Electoral forecasting is examined separately as a specialized type of political prediction. The article emphasizes the importance of ethical responsibility, methodological transparency, cognitive flexibility, and reflexivity in forecasting. Practical recommendations are offered for scholars, government forecasting units, think tanks, and institutions of higher education.

Key words: *political forecasting, scenarios, alternativity, machine learning, electoral forecasting, verification, strategic analysis.*

Abstrakt

Artykuł analizuje metodologiczne i aplikacyjne podstawy prognozowania politycznego jako dziedziny współczesnej nauki o polityce. Przedstawiono istotę kluczowych zasad prognozowania – alternatywności, systemowości, ciągłości i weryfikowalności – w kontekście procesów politycznych jako dynamicznych i złożonych systemów. Szczególną uwagę poświęcono przeglądowi metod prognozowania: ekstrapolacji, analogii, analizy scenariuszowej, uczenia maszynowego oraz podejść hybrydowych. Studium przypadku wojny Rosji z Ukrainą ilustruje praktyczne zastosowanie prognozowania w geopolitycznym pięciokącie obejmującym Ukrainę, Rosję, USA, Zachód oraz Globalne Południe. Prognozowanie wyborcze omówiono osobno jako wyspecjalizowany typ przewidywań politycznych. W artykule podkreślono znaczenie odpowiedzialności etycznej, przejrzystości metodologicznej, elastyczności poznawczej i refleksyjności w prognozowaniu. Sformułowano również praktyczne zalecenia dla naukowców, państwowych jednostek prognozowania, think tanków oraz instytucji szkolnictwa wyższego.

Słowa kluczowe: *prognozowanie polityczne, scenariusze, alternatywność, uczenie maszynowe, prognozowanie wyborcze, weryfikacja, analiza strategiczna.*

Problem statement and rationale for relevance

In today's world, where political dynamics are marked by extreme volatility and complexity, the need for scientifically grounded forecasting of political processes is steadily increasing. The ability to anticipate probable scenarios of future developments is a key prerequisite for effective strategic planning in politics. However, without a clear adherence to forecasting principles and the application of appropriate methods, such forecasts may prove inaccurate – and therefore dangerous – for the decision-making process.

Analysis of scholarly research

In the British tradition of political forecasting, significant influence is exerted by studies conducted by the *Future of Government Group* (UK Civil Service) and analytical reports by *Chatham House*, particularly those focused on risk assessment and the strategic environment. In the United States, noteworthy contributions include the work of the *National Intelligence Council* (2021), as well as reports by the *Brookings Institution* and political analyst Nate

Silver, the founder of the *FiveThirtyEight* platform, who specializes in electoral forecasting. (Tetlock & Gardner, 2015)

In the Francophone academic tradition, prominent contributions include the work of *Hervé de Jouvenel* (de Jouvenel, 2004), who explored the nature of political uncertainty, and *Jacques Lesourne* (Lesourne, 1976), who analyzed long-term scenarios of public policy development. These approaches often integrate elements of poststructuralist methodology and strategic foresight (*prévision stratégique*).

In the German-speaking context, significant attention to political forecasting methods is given by the Stiftung Wissenschaft und Politik (SWP), as well as the analytical departments of the Bundestag. The works of Jos Grin, Jan Rotmans, and Johan Schot (Grin, Rotmans, & Schot, 2010) focus on forecasting political stability in Central and Eastern Europe through comparative analysis and risk modeling.

In Poland, political forecasting is actively developing at the intersection of public policy, strategic studies, and social governance. A systematic analysis of contemporary forecasting approaches in Polish social sciences was offered in the collective monograph *"Prognozowanie w naukach społecznych. Wymiar narodowy i międzynarodowy"* (Forecasting in the Social Sciences: National and International Dimensions), (edited by Halina Świeboda (Świeboda, 2018)) recognized as a foundational contribution in this field. The authors outlines the interrelation between forecasting techniques, the institutional capacity of the state, and the security dimensions of strategic planning.

A methodologically significant contribution is also found in the article by Adrian Gorgosz (Gorgosz, 2014), which explores the role of forecasting in shaping public sector policies. The author systematizes forecasting methods and highlights the importance of institutionalizing forecasting components within state governance cycles.

In the context of interdisciplinary models, the work of Łukasz Donaj (Donaj, 2017) deserves attention. He analyzes the application of grey system theory in the social sciences, emphasizing the need for flexible and adaptive methods in forecasting political behavior and decision-making. This approach has proven relevant amid increasing uncertainty in the world security environment.

A major contribution to the development of the Polish school of strategic thinking was made by Mirosław Sułek (Sułek, 2010), the author of the first advanced Polish textbook on forecasting and simulation in international relations. In his work, he combines social science methodology with strategic analysis practice, focusing on modeling international processes and assessing state power.

Complementing this is the monograph by Dariusz Kondrakiewicz (Kondrakiewicz, 2021), which systematizes the theoretical and practical aspects of forecasting in international relations, including methods, stages, and institutional mechanisms for implementing forecasts. The author also analyzes case studies of international forecasts related to environmental, demographic, and political change.

These publications form the academic foundation for the development of a Polish school of strategic foresight, combining foresight methodology with applied analysis of political risks.

In Ukrainian political science, attempts to systematize the principles and methods of political forecasting became active in the early 2000s. A fundamental role in shaping the conceptual framework, typology of methods, and justification of forecasting functions was played by the works of Volodymyr Horbatenko (Горбатенко, 2006), who, in his monograph «Political Forecasting: Theory, Methodology, Practice», proposed a conceptual framework for the Ukrainian school of political forecasting. He substantiated key principles – alternativity, systematicity, continuity, and verifiability – and classified forecasting methods based on formalization, time horizon, and sources of information.

Considerable attention to the practical dimension of forecasting, particularly within public administration, was given by Vasyl Palokha (Пальоха, 2014) and Vasyl Dereha (Дерега, 2008). They examined the functioning of the forecasting component in Ukrainian institutions, emphasizing its insufficient integration into public policy processes. Their research focuses on the use of forecasting scenarios in the politico-administrative environment of Ukraine.

The institutional dimension of strategic forecasting, particularly in the United States, is thoroughly analyzed in the works of Nina Rzhevska (Ржевська, 2012), who offers comparative approaches to organizing forecasting activities in foreign systems. Strategic forecasting in politics is also comprehensively examined in the monograph by Zaporizhzhia-based scholar Maksym Lepskyi (Лепський, 2012). The work of Iryna Butovska-Iliushko (Бутовська-Іллюшко, 2005) was among the first to raise the issue of forecasting effectiveness criteria and propose their empirical application.

Other notable Ukrainian researchers include Hanna Bei (Бей, 2011; 2015), Serhii Teleshun and Anatolii Baronin (Телешун, Баронін, 2001), as well as the general approaches of O. Rafalskyi, who highlights the role of forecasting in transformational research. Significant attention to scenario thinking is also paid by Kostiantyn Vashchenko (Ващенко, 2008). The Kharkiv school of political science is represented in this area by Viktor Rubanov (Рубанов, 2016).

However, the interaction between forecasting principles, their adaptation to rapidly changing political realities, and the practical application of hybrid methods in real time remains insufficiently explored. At the same time,

the Ukrainian academic tradition lays a foundation for the development of applied and critical branches of political forecasting, grounded in local challenges and transitional processes.

Main content presentation

In political forecasting, as in any other type of scientific prediction, it is essential not only to formulate assumptions about the future but to do so based on specific logical frameworks that allow for assessing the reliability and validity of such assumptions. For this reason, the principles of forecasting – general methodological foundations on which the process of building forecasting models is based – play a key role. (Горбатенко, Бутовська, 2006; Андрусів, 2006)

Forecasting principles serve as the "rules of the game" that define the boundaries and possibilities of analytical imagination. They guide how we should think about the future: whether it should be considered merely as a continuation of the present or as allowing for alternative pathways; whether political reality is predictable, or if complex interrelations and feedback loops must be considered. (Бутовська-Ілюшко, 2005; Бей, 2011)

A distinctive feature of political forecasting is that it deals not only with objective trends but also with the actions of conscious actors–individuals, parties, states – who can change the course of events based on new information or shifting interests (Bei, 2015). This makes the political future especially sensitive to the quality of the forecast – its systemic nature, adaptability, substantiation, and openness to alternatives. (Ващенко, 2008)

Therefore, forecasting principles are not merely technical norms. They form the foundation of the forecaster's analytical ethics and responsibility. Adhering to these principles helps reduce the risks of manipulation, improve the accuracy of forecasts, and enhance their value for decision-making. (Ковальчук, 2020)

Political forecasting defines the main directions of policy development by reflecting the complex system of external and internal connections, dependencies, and interactions among various spheres of political life. (Пальоха, 2014) It relies not only on fact analysis but also on understanding the structural features of political processes, allowing for the formulation of scientifically grounded assumptions about future developments. (Дерега, 2008) The classical principles underpinning political forecasting include alternativity, systematicity, continuity, and verifiability. (Ржевська, 2012)

The principle of alternativity involves recognizing that political life is not a linear or deterministic process but can develop along various trajectories depending on the interaction of numerous factors – domestic political, social,

economic, and international. In political forecasting, this requires modeling not just one likely scenario but a spectrum of potential future developments. Each such scenario is not merely "what will happen," but a conditional projection based on a particular set of assumptions, decisions, and responses.

This principle has been operationalized in analytical practice through scenario-based thinking, which lies at the heart of many strategic research initiatives conducted by leading institutions such as the RAND Corporation (RAND, 2024), the OECD Strategic Foresight Unit (OECD, 2020), and the Good Judgment Project (Tetlock & Gardner, 2015). Alternativity is a way of envisioning the political future not as a single upward-growing tree, but as an entire forest with diverse pathways, branches, and unexpected turns.

A clear example of this principle in action is the post-war development scenario planning for Ukraine, as proposed by the Wilson Center. (Wilson Center, 2023) Analysts outlined three primary scenarios:

Optimistic scenario:

- Complete military victory for Ukraine;

- Active reconstruction supported by the EU and the US;

- Successful reforms and anti-corruption efforts.

- Integration into the EU and NATO by 2030;

- Stable economic growth at 5–6% annually.

Most likely scenario:

- Status quo on the frontlines (frozen conflict);

- Partial Western support, dependent on allies' political will;

- Delayed structural reforms;

- Risks of internal political polarization;

- Modest economic growth at 2–3% annually.

Pessimistic scenario:

- Decline in Western support;

- Political instability and snap elections;

- Rise of radical political groups;

- Economic downturn and a migration crisis.

All of these scenarios stem from the current state – war, economic instability, and high external dependence. Yet, the principle of alternativity discourages fixation on a "middle ground" scenario and instead promotes readiness for any turn of events. Accordingly, the government, civil society,

and international partners can develop a range of strategies tailored to each potential future.

Thus, the principle of alternativity not only facilitates a more nuanced understanding of uncertainty but also prepares governance systems for agile responses to future developments. It is critically important for political systems undergoing transformation, crisis, or rapid evolution.

The principle of systematicity reflects the view of politics as a complex and holistic system composed of numerous interrelated elements: institutions, norms, political elites, public consciousness, social networks, economic resources, and external political challenges. Within this paradigm, the political system is seen not as a collection of isolated components but as an organic whole, where a change in one element can trigger shifts throughout the entire structure.

In English-language academic literature, this approach is known as complex systems thinking. It has gained popularity in interdisciplinary research that integrates political science, systems analysis, cybernetics, and social dynamics. (Бей, 2015; Grin, Rotmans, & Schot, 2010) According to this logic, political systems are viewed as nonlinear adaptive systems – those that evolve, adapt to their environment, exhibit feedback effects, and are sensitive to initial conditions.

In particular, modern methods of adaptive forecasting use models based on iterative analysis, meaning continuous updates of the forecast that take into account interdependencies between subsystems. For example, if public opinion changes, it may influence the behavior of political parties. If new legislation is introduced, it reshapes the institutional landscape. If the international economic environment deteriorates, this can weaken currency stability – and, consequently, trust in government. (Ващенко, 2008)

A good illustration of this is the forecast concerning government stability in the United Kingdom in 2019. Analysts employing a systemic approach considered not only Boris Johnson's electoral ratings but also:

● internal conflicts within the Conservative Party;

● pressure from business sectors over the risks of a hard Brexit;

● shifts in public opinion regarding EU membership;

● the position of the European Commission;

● media discourse in leading news outlets.

Based on the interaction of these elements, forecasters modeled several scenarios – minority government retention, snap elections, and a second referendum. The most likely scenario turned out to be early elections, which were indeed held in December 2019 and led to a consolidation of power by the Conservatives. (OECD, 2020; Runciman, 2018)

This example demonstrates that if political processes are considered in isolation, systemic shifts may go unnoticed. In contrast, systemic thinking allows for the identification of key nodes of interconnection and provides a more accurate assessment of how one process may influence others – particularly through feedback mechanisms or indirect effects.

Thus, the principle of systematicity, is not merely a methodological requirement but also a tool for constructing realistic forecasts in conditions of political complexity.

The principle of continuity implies that forecasting should not be viewed as a one-time act or a completed study "frozen" in time. On the contrary, given the highly volatile nature of contemporary political reality, any forecast is merely a provisional approximation of the future – one that requires constant revision. Continuity means the ongoing updating of the analytical base, incorporating new sociological data, shifts in political discourse, international developments, and unexpected or crisis events. (Пальоха, 2014; National Intelligence Council, 2021)

In Western academic and practical frameworks, this idea is conceptualized as dynamic updating. It refers to the regular adjustment of forecasting models in near real-time through the use of streaming data, sociological monitoring, media analysis, signals from social networks, shifts in macroeconomic indicators, and more. In certain approaches – such as the practices used by the Good Judgment Project (Tetlock & Gardner, 2015) – the forecast itself becomes a "living document," continuously revised as the situation evolves or as new expert insights emerge.

An illustrative case is the forecast of political stability in Chile during 2019–2020.

In mid-2019, most analytical centers considered Chile a model of political stability in Latin America. Economic indicators were positive, and President Sebastián Piñera enjoyed relatively high approval ratings. Forecasts based on conventional models did not anticipate serious social unrest.

However, in October 2019, massive protests erupted – initially triggered by rising public transportation costs but ultimately driven by deep-seated social dissatisfaction. Centers that promptly updated their forecasting models (e.g., CIPER Chile, América Economía) (Ващенко, 2008) quickly integrated new variables – protest escalation, government rhetoric, and social media dynamics – and outlined multiple scenarios, one of which anticipated the initiation of a constitutional reform process. This scenario was realized in 2020, when preparations began for a national referendum on a new Constitution.

This case illustrates that only continuous updating of forecasts enables analysts to respond adequately to rapid societal changes. A static forecast based solely on a "snapshot" analysis would have failed.

Thus, the principle of continuity is not only a methodological imperative but also a reflection of responsibility toward an ever-changing reality. It requires flexibility, adaptability, and a willingness to revisit prior assumptions factors that are critically important in complex political environments.

The principle of verification requires that political forecasts undergo both empirical and logical validation. Empirical verification involves comparing predicted events with actual outcomes, while logical verification assesses the internal consistency of arguments, assumptions, and conclusions within the forecast itself. (Андрусів, 2006; Бей, 2015)

In Western analytical practice, this principle is implemented through procedures such as back-testing and post hoc evaluation. Forecasts are commonly assessed according to two main criteria:

- the degree to which the forecast accurately anticipated a particular event or trend;

- whether the forecast was useful for decision-making, even if the event ultimately did not occur (for example, if it helped prevent an undesirable scenario). (National Intelligence Council, 2021; Tetlock & Gardner, 2015)

A case in point is the evaluation of electoral forecasts in the United States during the 2016 presidential election. Prior to the election, most major forecasting platforms – including The New York Times Upshot, Princeton Election Consortium, and HuffPost Pollster – predicted Hillary Clinton's victory with high probability (in some cases, over 90%). However, the actual outcome was a victory for Donald Trump via the Electoral College, despite receiving fewer nationwide votes.

Following the election, academic researchers and forecasting institutions conducted retrospective verifications of these models. They examined whether key variables had been sufficiently accounted for (e.g., the mobilization of white voters without college degrees, misestimates of swing state support), reassessed algorithms for aggregating polls and correcting errors, and evaluated the communicative responsibility of forecasters – specifically, whether they had adequately conveyed the uncertainty embedded in their models. (Runciman, 2013; Tetlock & Gardner, 2015)

In addition to empirical and logical checks, a critical tool for verification is cross-method comparison – also known as triangulation – which is widely used in Western research on complex political processes where no single method can guarantee complete accuracy. (de Jouvenel, 2004; RAND Corporation, 2021)

The core idea is as follows:

- if several methods (e.g., scenario analysis, statistical modeling, expert polling) yield similar results, confidence in the forecast increases;

- if discrepancies emerge between methods, this highlights uncertainty and identifies areas that require further clarification or multiple scenario planning.

For instance, in forecasting the consequences of the war in Ukraine (2022–2023), different think tanks employed various methods: some used the Delphi method, others applied conflict escalation models, and still others conducted elite sociological surveys. (Wilson Center, 2023) Common assumptions included a decline in Russia's economy, rising Western support for Ukraine, and strengthening of defense alliances. However, the models diverged in estimating the war's duration and the likelihood of negotiations.

Such parallel forecasting helped establish a "corridor of possibilities" and clarified the conditions under which specific scenarios might materialize. It also mitigated the risk of methodological bias and enhanced flexibility in future assessments.

In this sense, verification through multi-method approaches strengthens the robustness of forecasting and ensures its adaptability to a dynamic and fast-moving political environment.

Verification is therefore not formality, but a necessity. It helps identify the strengths and weaknesses of forecasts and improves future modeling. Moreover, verification prevents the emergence of self-fulfilling prophecies or, conversely, the devaluation of forecasting due to excessive skepticism. Only systematic post hoc evaluation preserves the credibility of forecasters and enhances the scientific quality of analytical work.

In addition to the core principles discussed above, several other forecasting principles are increasingly recognized within the Western tradition and are gradually being integrated into Ukrainian political analytics:

The principle of cognitive flexibility acknowledges that political reality changes rapidly and that forecasting should avoid dogmatism. It emphasizes the ability to reassess hypotheses in light of new data. (Bishop, Hines, & Collins, 2007; Tetlock & Gardner, 2015)

The principle of transparency stresses that the forecasting process must be open and understandable to its users – whether government officials, the public, or the media. This includes publishing methods, data sources, and the logic behind scenario construction. (National Intelligence Council, 2021)

The principle of bias reduction requires conscious efforts to mitigate cognitive distortions such as confirmation bias or groupthink. This principle is often implemented through blind evaluations, anonymous expert polling, and Delphi methods. (Wilson Center, 2023)

The principle of reflexivity is particularly important in politics, where the forecast itself can influence the behavior of actors. Analysts must therefore

account for the impact of the forecast on the political environment. (RAND Corporation, 2024)

Together, these principles form a foundation for viewing forecasting not only as a predictive tool, but also as an instrument of action – enabling orientation within a volatile political environment and the formulation of informed strategic decisions.

The ongoing Russia–Ukraine war provides a unique case study for the application of comprehensive political forecasting under conditions of extreme uncertainty and multi-level geopolitical interaction. The geopolitical "pentagon" – Ukraine, Russia, the United States, Western Europe, and the "rest of the world" (including China, Turkey, India, and the Global South) – constitutes a complex political system of conflicting interests, information warfare, and strategic power projections.

The principle of alternativity is implemented through the construction of divergent scenarios for the war's development, ranging from escalation to frozen conflict or gradual peaceful settlement. Scenario matrices developed by RAND Corporation (2024) and methodologies used by analytical centers such as ICDS, CSIS, and Chatham House help identify bifurcation points – moments when a change in a single parameter (e.g., arms supply or sanctions pressure) can significantly alter the course of events.

The principle of system thinking is reflected in the analysis of interconnected political, military, economic, and communication factors. For instance, the interplay between Russia's energy policy, its mobilization capacity, Western sanctions, and Ukraine's domestic political dynamics is modeled as a single complex adaptive system. (Grin, Rotmans, & Schot, 2010)

The principle of continuity is realized through continuous updating of forecasts based on developments on the battlefield, diplomatic visits, arms delivery patterns, and signals from countries such as China regarding potential support for either side. Forecasts are updated weekly by expert groups including GLOBSEC, ISW, and the Ukrainian Foresight Community. (JRC EU, 2022; Wilson Center, 2023)

The principle of verification is implemented by comparing forecasts produced through different methods – expert assessments (e.g., Delphi), neural network analysis of political rhetoric, and economic models of sanction impacts. Verification is based on real-world developments such as the pace of military offensives, NATO decisions, or emerging diplomatic formats. (OECD, 2020; Tetlock & Gardner, 2015)

Following the analysis of the core principles of political forecasting, it is appropriate to turn to the methods that enable their practical implementation in research and analytical work.

We begin with the ***method of extrapolation***, arguably the most widely used in forecasting. This method involves projecting current trends into the future by analyzing existing data – such as sociological surveys, trends in electoral support, protest frequency, and more. Its main advantage lies in its simplicity and the possibility of generating quantitative forecasts. It is frequently used to predict election results or changes in public trust toward political institutions, assuming a continuation of the status quo (Mullins & Walker, 2020). However, the method has a significant limitation: it fails to account for unexpected disruptions, "black swan" events, or trend reversals. For instance, a forecast of steadily declining approval for the ruling party can be drastically altered by an unforeseen international crisis, major personnel changes, or the charismatic emergence of a new political leader who reshapes voter dynamics. Thus, extrapolation proves most effective under conditions of political stability and should be complemented by other methods. (National Intelligence Council, 2021)

The ***interpolation method*** seeks to fill the gaps between known data points or events to understand how the political situation may have evolved between two established states. While extrapolation is oriented toward the future, interpolation enables more accurate reconstruction and analysis of transitional periods, especially when data is incomplete or fragmented. It operates on the assumption that, if the broader context and key patterns are understood, the development of political processes between two points can be reasonably inferred. (Godet, 1993)

The ***analogy method*** is based on the assumption that similar socio-political conditions can produce similar political outcomes. Forecasters examine well-documented historical or international precedents, identify event structures, key drivers, and outcomes, and then draw parallels with contemporary situations. For example, if a political crisis is accompanied by declining institutional trust, growing protest sentiment, and the emergence of an alternative political force, it can be compared to analogous cases in other countries. This allows for informed projections about possible developments – whether escalation, regime change, or stabilization through compromise.

Analogies are often drawn between events in different countries or regions. For instance, the Rose Revolution in Georgia (2003) served as a precursor to several so-called "color revolutions" in the post-Soviet space – most notably the Orange Revolution in Ukraine (2004) and the Tulip Revolution in Kyrgyzstan (2005). Analyzing the similarities in civil society mobilization, the role of youth movements, and external geopolitical influences allowed analysts at the time to anticipate a potential "domino effect". (OECD, 2020)

However, it is crucial to note that analogies must not be transferred mechanically without considering local contexts, as this may lead to erroneous conclusions. The analogy method is only effective when structural similarities are carefully compared, rather than superficial ones.

Machine learning and Big Data analytics have opened new horizons for political forecasting, significantly expanding the available analytical toolkit. These technologies make it possible to process vast volumes of heterogeneous data in real time, revealing latent patterns that traditional methods might overlook.

Machine learning is an approach where computer algorithms "learn" from historical data and improve over time as forecasting tools. Unlike rigidly programmed rules, these systems can adapt to new conditions and detect non-obvious interdependencies. In the political domain, this means that models can:

- analyze trends in electoral behavior;

- forecast shifts in public sentiment;

- detect the likelihood of protest waves or changes in political loyalty.

Natural Language Processing (NLP) methods allow for the analysis of the content and tone of millions of texts – from social media posts and political speeches to media publications. For example, fluctuations in the frequency of terms such as "threat", "reform", "migration" or "war" can help model shifts in the political agenda or the public's attention. This is especially valuable in contexts of information turbulence and hybrid threats.

Sentiment analysis is another widely used method, enabling the assessment of the general emotional climate of a society (e.g., levels of fear, anger, enthusiasm), which can serve as an early indicator of political instability or radicalization.

Graph-based modeling (graph ML) of social networks is an emerging field that analyzes the relational structures among political actors, opinion leaders, and organizations. These approaches are particularly useful for identifying centers of influence or assessing risks of political polarization.

Hybrid forecasting combines algorithmic models with human intuition. One of the most well-known examples is the Good Judgment Project, where "superforecasters" compete to predict geopolitical events. Their success has demonstrated that combining machine-generated data with expert judgment significantly enhances forecasting accuracy. (Bishop, Hines, & Collins, 2007; Tetlock & Gardner, 2015)

Another important initiative is the IARPA Forecasting Tournament, where participants test a variety of forecasting methods – from traditional polling to mathematical models, neural networks, and simulation games. This approach allows for empirical testing of which combinations of methods yield the most accurate predictions. (Wilson Center, 2023)

Globally, there is rapid development of:

- adaptive algorithms that automatically modify their structure based on new data;

- explainable AI (XAI) systems that provide clear explanations for their predictions;

- real-time alert systems that issue warnings about political crises or shifts in voter sentiment around the clock.

Thus, the digital age brings a new level of precision and speed to political forecasting, while simultaneously requiring greater transparency, critical evaluation, and model validation.

Other commonly used forecasting methods – well documented in both scholarly articles and textbooks – are outlined below in concise form, with practical references.

Expert panel assessment involves reaching a consensus among experts about the prospects of political developments, particularly in areas where empirical research is difficult or infeasible. This method typically includes forming a working group, designing questionnaires, systematizing responses, and synthesizing findings. It is widely used in strategic security assessments and the development of foreign policy "white papers". (Андрусів, 2006; Ващенко, 2008)

Brainstorming activates the creative capacities of experts through free-flow idea generation followed by critical evaluation. It is especially effective in crisis forecasting or in unpredictable scenarios, such as responses to hybrid threats or information warfare. (Godet, 1993)

The Delphi method involves multi-round anonymous surveys of expert groups, with feedback between rounds. Its main advantage is the elimination of authority bias and the development of a balanced expert judgment. It has been used, for example, in the Global Trends project by the U.S. National Intelligence Council, which forecasts key global challenges through 2040. (National Intelligence Council, 2021)

Scenario forecasting is aimed at constructing verbal descriptions of alternative futures. This method allows analysts to explore best-case, worst-case, and most likely outcomes. For instance, Ukraine's future post-2022 was modeled in scenarios such as EU integration (best case), protracted conflict with stalled reforms (most likely), or governance failure with escalating threats (worst case). (Wilson Center, 2023)

Modeling allows analysts to explore the simulated structure and dynamics of political phenomena rather than the phenomena themselves. For example, models of coalition behavior in parliaments based on game theory or social choice theory require validation against real-world political cases – such

as interactions between CDU/CSU, SPD, and FDP blocs in Germany. (Lesourne, 1976; Mullins & Walker, 2020)

Content analysis and semantic forecasting are applied to analyze media discourse, official statements, and party platforms. These methods help identify latent trends or discursive shifts not yet reflected in elite behavior. For example, an increase in terms such as "threat", "terrorism" or "mobilization" in official discourse may signal preparation for military escalation. (JRC EU, 2022; de Jouvenel, 2004)

Ultimately, the choice of method depends on the specific objective, time frame, available resources, and information access. The ideal forecast is not one that predicts events with perfect accuracy, but one that enables sound, evidence-based political decision-making.

To illustrate how methods and principles are applied in practice, we now turn to the domain of electoral forecasting.

Electoral forecasting constitutes a distinct – yet highly popular and in demand – branch of political forecasting, characterized by its own methodological specificity. Its primary goal is to predict election outcomes, voter turnout, and the likelihood of victory for parties or individual candidates. In this context, the principles of extrapolation, systematicity, and verification gain particular practical relevance.

The method of extrapolation is widely used to assess trends in electoral support based on polling data (polling-based forecasting), as exemplified by platforms such as FiveThirtyEight, YouGov (Tetlock & Gardner, 2015), or, in the Ukrainian context, research groups like Rating, SOCIS, and KIIS.

Machine learning further enhances forecasting accuracy by integrating not only direct polling data, but also secondary signals such as social media activity, media coverage, and historical voting patterns. In the United States, hybrid models are increasingly utilized, combining polling data, voter registration records, economic indicators, and behavioral variables. (OpEx90, 2023)

The principle of systematicity, in electoral forecasting requires careful consideration of the broader political context: changes in electoral legislation, media campaign dynamics, party mobilization resources, and the organizational efficiency of campaign headquarters.

The principle of verification is implemented through ensemble forecasting – comparing the results of several independent models – or through post hoc evaluation of forecasting accuracy after elections. For instance, following the U.S. presidential elections of 2016 and 2020, detailed audits of forecasting models were conducted to evaluate their precision and underlying assumptions. (Runciman, 2013)

In the Ukrainian context, electoral forecasting faces additional challenges: limited access to independent polling data, significant regional heterogeneity,

wartime conditions, high electoral mobility, and the growing impact of online campaigning. As a result, there is an increasing need for locally adapted hybrid approaches that integrate traditional forecasting techniques with digital tools such as Telegram analytics, electoral chatbots, and semantic mapping.

Conclusions

The analysis conducted in this study confirms that effective political forecasting is based on adherence to a set of fundamental principles – alternativity, systematicity, continuity, and verification – which ensure the coherence and scientific validity of forecasts. Political forecasting serves not only as an analytical tool but also as a mechanism for improving the quality of decision-making under conditions of increasing uncertainty.

Contemporary analytical practice demonstrates that the combination of classical methods (such as extrapolation, analogical reasoning, and scenario modeling) with cutting-edge approaches (such as machine learning, big data analytics, and hybrid forecasting) offers new opportunities for generating accurate and adaptive predictions.

The study further demonstrates that forecast effectiveness increases when the following conditions are met:

- continuous updating of the analytical model,

- multi-channel verification of results (especially through triangulation),

- cognitive flexibility of forecasters and openness to alternative scenarios,

- transparency of methodology and minimization of analytical biases.

Recommendations:

1. Government institutions should actively establish forecasting units focused on scenario analysis, risk assessment, and long-term strategic trends.

2. Think tanks and academic institutions are encouraged to adopt advanced machine learning methods, integrating them with expert evaluations in a hybrid forecasting framework.

3. Forecasters and analysts should uphold standards of analytical ethics: validating assumptions, avoiding groupthink, and publicly disclosing the rationale behind forecasts.

4. In the field of education, political forecasting should be incorporated into political science curricula, with emphasis on practical case studies, strategic thinking, and foresight methodologies.

5. Media and the public should cultivate critical thinking in relation to political forecasts–distinguishing between analytical hypotheses and political propaganda.

Future research directions. To further develop the conceptual framework presented in this article, future studies may explore:

- the development of cognitively adaptive forecasting models that incorporate shifts in public opinion in real time.

- investigation into the reflexive impact of forecasts – i.e., how the publication of a forecast influences' actor behavior and the political process.

- refinement of integrated analytical methodologies, combining sociological data, big data, simulation models, and expert assessments.

- examination of forecasting effectiveness in post-conflict states, where risks of instability are particularly high.

- study of ethical dimensions of political forecasting, especially regarding risks of manipulation, undue influence on public opinion, and the responsibilities of forecasters.

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