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# THE IMPACT OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES ON DEVELOPMENT OF LEGAL SYSTEMS

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#### **ABSTRACT:**

**Objective:** The study aims to highlight the stages of lawmaking in which artificial intelligence can be used and determine the principles on which this process should be based.

**Methods:** The research methods include the analysis of a limited number of studies selected according to special parameters and comprehensively reviewed, as well as analogy and comparative analysis.

**Results:** Based on the study results, the authors identify the main stages of lawmaking activity in which the use of AI seems justified. These stages include collecting statistical data; forecasting the effectiveness of legal norms; planning expense items on the development and implementation of legal norms; creating legal norms; customizing legal norms; legal expertise; and anti-corruption examination.

**Conclusion:** The study concludes that activities that the use of AI should be guided by the following principles: respect human rights when using AI, maintain the principle of equality and justice, and ensure the security, neutrality, and controllability of AI.

**Keywords:** artificial intelligence; lawmaking activities; legal expertise; digitalization; legal status; statistics; customization.



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INTRODUCTION

Rapid digitalization in all areas makes it necessary to analyze this process but

special attention should be paid to the digitalization of jurisprudence and the use of

artificial intelligence in lawmaking (Bench-Capon, 2022; Filipova, Koroteev, 2023).

The use of AI in the legislative process is a promising direction for de-

bureaucratizing rule-making and optimizing the adoption of new legal acts. According

to the Ministry of Economic Development of the Russian Federation, it takes about 300

days to implement one legislative initiative at the federal level. With the help of AI, the

turnaround time can be reduced significantly (Zhilkin, 2018).

Experts positively assess the use of AI in lawmaking activities since it eliminates

grammatical errors, duplication of legal provisions, and defects in regulatory

requirements, identifies corruption factors, and ensures the unification of terms (Amelin

et al., 2023; Akhmetshin et al., 2020). Besides the obvious advantages of using Al in

lawmaking, some problems need to be solved when introducing digital solutions into

conservative areas of jurisprudence.

The main problems of using AI in lawmaking include:

- The use of AI to prepare laws without determining its legal status and legal

personality;

Differentiation between human activities and AI and competent distribution of

roles.

According to preliminary forecasts, only 10% of legal norms regulating about

50% of all legal relations can be effectively algorithmized by AI (Blinova and Belov,

2020). It is also a challenge to translate legal norms into a machine-readable form so

that AI can process these documents. Therefore, new legal acts should be written in a

unified program language, and the previously adopted laws should use a meta-text

markup that will allow AI to work with legal acts. However, not all legislative acts can

be presented in a machine-readable form.

The main objective of the study is to highlight the main stages of rule-making in

which AI can be used and to determine the principles on which the optimization of

lawmaking activities using AI should be based.

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#### LITERATURE REVIEW

The use of AI in lawmaking opens up new opportunities for improving the quality of adopted legal acts. AI is a digital technology that has an end-to-end nature and allows to imitate human cognitive functions to solve specific problems (Ukhanov, 2020). Experts justify the need to use AI in lawmaking with due regard to the following factors:

- The emergence of a legislative initiative is associated with constant flows of large-volume information that can be processed by AI (Ovchinnikov et al., 2020);
- The prohibitions, permissions, and obligations contained in laws should not contradict each other and be repeated, which can be tested by AI (Dolgopolov et al., 2022);
- The effectiveness of adopted laws can also be assessed using AI (Zenin et al, 2022).

As the current practice shows, the quality of adopted legislative acts depends on their preparation and preliminary development. The use of AI in the preliminary development of legislative acts opens up new opportunities (Akhmetshin et al., 2019). AI has the following advantages: the ability to process large arrays of data, perform many tasks, and possess numerous analytical abilities (Erahtina, 2023). Due to these characteristics, AI can scan a large amount of regulatory legal acts, detect repetitions, gaps, and collisions, and systematize according to specified parameters (Gurinovich et al, 2023). Indeed, legislators are also capable of solving similar problems but with greater labor costs and the risk of making mistakes (Volosova, 2023). Consequently, it is high time to use AI in rule-making. Digital solutions will reduce costs and free up intellectual resources for solving other problems that are beyond the capabilities of AI.

Lawmaking activities are effectively optimized through the use of AI in many countries of Western Europe. For example, the Datafication project is used for algorithmic analysis of the frequency of legal acts in Italy. Germany, New Zealand, and other countries are rewriting legislation into a machine-readable format to involve AI in the analysis of rulemaking. Thus, the use of AI in rule-making seems to be a promising area of digitalization (Shchitova, 2020).



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#### **METHODS**

This research analyzes the positions of specialists familiar with legislative processes and the work of legislators. Its conclusions are based on the analysis of open data and expert assessments in the field of LegalTech.

To identify the stages of rule-making in which AI can be used, we selected expert works from different countries whose research has a long-term impact on the corresponding research trends. This study used a desk review of such works and their comparative analysis. For a comprehensive analysis, studies were selected that contained the definitions of AI, lawmaking, and rule-making and AI.

We followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards when searching for documents. PRISMA requires that all steps of searching and reviewing are documented in detail. The PRISMA flowchart consists of four steps: identifying articles, screening articles, deciding on their eligibility, and finalizing the list of studies for inclusion in the systematic review. We selected scientific works on the following topics: lawmaking and AI, the use of AI in rule-making, digitalization of rule-making, and adopting laws with the help of AI. References were retrieved from Scopus, Web of Science, Google Scholar, and official websites where the main international legal acts and judicial practices are posted.

The use of this methodology shows the stages of lawmaking activity in which it is advisable to use AI.

#### **RESULTS**

The above-mentioned experts identified various stages of rulemaking in which AI may be involved (Figure 1).

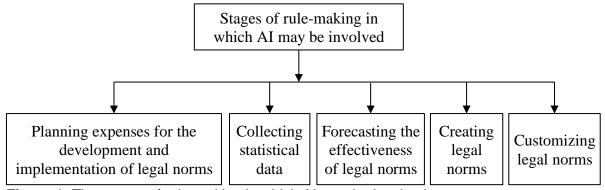


Figure 1. The stages of rule-making in which AI may be involved



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Experts highlight rule-making activities that can be assigned in whole or in part to AI (Koos, 2022; Talapina, 2021). Most of them claim that the stage of optimizing uniform standards for the adoption of legal acts can already be entrusted to Al (Buchholtz, 2020; Drahmann & Meuwese, 2022; Greenstein, 2022). Optimization is the introduction of automated tools into the rule-making process. An example of a large company can show how an electronic register contains information about concluded contracts. With the help of AI, it is possible to prevent repeated transactions. In rulemaking activities, Al can analyze existing legal provisions and eliminate their recreation. Due to such activities by AI, parallel work in the same direction is eliminated, and the conflict of laws is reduced (Zenin et al., 2022).

Some experts propose to use AI in generating statistical data (Araszkiewicz et al., 2022; Sartor et al., 2022; Voskobitova & Przhilenskiy, 2022). This is an important stage in lawmaking, and the effectiveness of AI in this area is beyond doubt. When generating statistical data, it is necessary to process huge amounts of information in a short time, and AI can successfully complete such work (Martin & Freeland, 2021). Thus, human resources will be freed up, and the quality of work will increase significantly.

Other experts suggest using AI to predict the effectiveness of adopted legal acts (Demidov et al., 2021; Raharjo, 2019; Sumantri, 2019). This requires an analysis of adopted laws and their assessment. At this stage, AI can be partially involved. AI can conduct qualitative comparative analysis using empirical materials. However, it is not possible to entrust this task entirely to AI; human participation is mandatory to consider all factors.

Al can be used for budgeting. Many experts emphasize the role of Al at this stage (Gualdi & Cordella, 2022; Metsker et al., 2019; Velasco, 2022). They rightly note that budgeting consists not only of the costs of adopting legal norms but also of the costs of their implementation (Solum, 2019). When creating a prohibitory rule, one should keep in mind the growth of administrative resources to control the implementation of legal norms. Otherwise, legal acts will not function. Al can calculate the budget, predict material costs, and propose an effective financial model for the implementation of adopted legal acts.

Few experts propose to completely delegate the creation of legal norms to Al (Araszkiewicz et al., 2022; Skorobogatov & Krasnov, 2023). Without prejudice to the



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capabilities of AI, when creating a legal norm, it can be used as an auxiliary tool to create a template that will be finalized by specialists and legislators.

Another important stage in the creation of legal acts is customization, and it is important to use AI at this stage (Chumakova et aI, 2023; Leksin, 2021; Liu et al., 2020; Rangone, 2023). Customization allows comparing the adopted legal act with the current norms, which eliminates repetitions, contradictions, and collisions.

The machine learning of AI will automate the legislative process of preparing legal acts. To train AI, it is necessary to collect initial data and conduct training on its basis (Zaloilo & Pashentsev, 2019). The current laws translated into a machine-readable format can be used as source data. The training of AI is divided into the following stages (Figure 2).

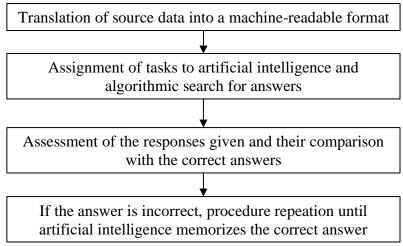


Figure 2. The stages of AI-powered machine learning

With proper training, AI can improve the level of lawmaking activity. To attain this end, it is necessary to determine the stages of rule-making in which the use of AI is most promising and, most importantly, will not harm lawmaking activities. At the current stage of development of AI, it can only act as an additional tool and assistant. Today we cannot completely entrust the creation of legislation to AI. Accordingly, it is advisable to determine the involvement of AI at each stage and the principles on which interaction with AI should be carried out.

Thus, we resume the issue of translating legislation into an appropriate form that will allow AI to analyze, structure, etc. it.



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#### **DISCUSSION**

Experts emphasize the importance of using AI in lawmaking and determine some stages in which AI can be involved. These stages were highlighted in the abovementioned studies selected for this article and summarized in Figure 3.

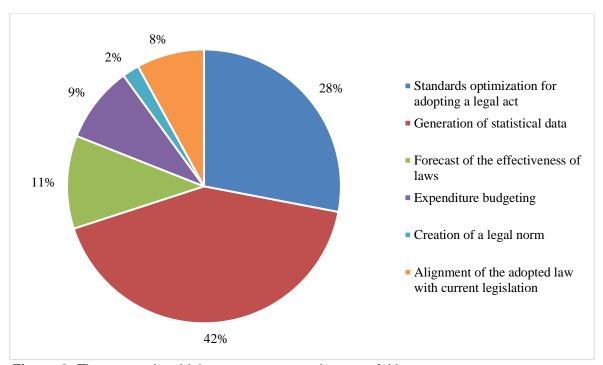


Figure 3. The stages in which experts support the use of AI

In these works, experts emphasize the role of AI in selecting legislative norms to be declared invalid (Altwicker, 2019; Barzilova, 2021; Pashentsev & Alimova, 2019), analyzing legal norms for duplication (Dias & Júlio, 2018; Fitsilis, 2021; Gavrilova, 2021; Surden, 2019), and assessing the regulatory impact of the adopted legislative act (Carrillo, 2020; Walters & Novak, 2021).

While supporting the opinion of experts, we believe that AI in lawmaking is capable of processing a huge array of sociological and statistical data, conducting quantitative analysis, applying mathematical methods for predicting the effectiveness of legal acts, and proposing digital arguments in favor of the adoption of a particular law. However, the use of AI should not be limited to only these areas of activity. The expertise of legislation is vital in the development and adoption of legal norms. Expertise is a mandatory stage in the creation of legal acts. The quality of adopted laws and their effective implementation depend on it. The legal examination of a bill is the process of analyzing and assessing it from the viewpoint of its compliance with



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current legislation, legal principles, and norms, as well as international treaties and agreements to which the state is a party (Gurinovich & Lapina, 2022). A legal examination includes an analysis of a normative act, its goals and objectives, and the procedure for adoption and promulgation.

When conducting legal expertise, Al can be useful in processing collected proposals. If proposals for the development of a legal act come from citizens, Al can effectively group and classify them.

Anti-corruption examination is a type of legal examination and an assessment of legal acts, their drafts, and other documents to identify corruption factors and their subsequent elimination (Kirillova et al., 2021). When conducting an anti-corruption examination, it is advisable to use Al since it requires a lot of work with the text of a legal norm. To conduct an anti-corruption assessment, Al must be trained to predict cases of corruption. The basis of training is regulations, law enforcement practice, judicial statistics, doctrine, and social survey data. Training materials should contain best practices so that the results are based on the most significant conclusions of anti-corruption examinations (Priambudi et al., 2021; Pakshin, 2023).

It is necessary to train AI to assess legal certainty and ensure uniform interpretation of legal acts, including the ability to clarify the context. AI should not be reduced to an algorithm. The strength of AI is its ability to classify, so anti-corruption assessment algorithms should be compatible with classifiers of legal acts, industry glossaries, and the structure of legal norms. AI is capable of amending a legal act in such a way that it ceases to be corruptiogenic. Changes in the scope of rights leading to corruption and inflated requirements, and modeling of corruption situations can become a challenge for AI (Zenin et al., 2023). Determining such factors is a difficult task even for specialists, so only highly qualified experts with extensive experience work in this area. For now, AI can be assigned a narrow range of tasks to cope with efficiently. In the future, it will be possible to expand its range of powers.

In addition to identifying the stages of lawmaking activity in which AI can be used in whole or in part, it is necessary to highlight the principles of such use. Such principles will determine the limits and rules for the use of AI in rule-making (Papysheva, 2023). The first principle is constitutional and obliges to respect fundamental rights, such as the right to life, freedom, personal integrity, etc. (Eflova et al., 2023). The second principle is non-discrimination, which implies a ban on making distinctions, exceptions,



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restrictions, or preferences based on attributes that are irrelevant and inappropriate for purposes not intended for such differentiation (Elliott, 1984). This principle is an important element in protecting human rights and ensuring social equality and justice. The third principle is safety, i.e., Al should not pose a danger to people, regardless of the scope of its involvement (Abiodun & Lekan, 2020). In other words, Al is obliged to maintain neutrality and transparency and be a guarantor of the intellectual integrity of all information to which it is admitted (Chumakova et al, 2023). The fifth principle relates to safety and will determine the controllability of AI by humans. This means that AI cannot make independent decisions that could harm humans or rule-making processes (Araszkiewicz et al., 2022). Many of these principles are reflected in the European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and their Environment (The European Commission for the Efficiency of Justice (CEPEJ) of the Council of Europe, 2018). We believe that these principles can be used with great efficiency in lawmaking activities involving Al.

#### CONCLUSIONS

Based on the study results, we identified the main stages of lawmaking activity in which the use of AI is justified.

Al-driven activities in rule-making should be based on the following principles:

- The principle of respecting human rights when using AI;
- The principle of equality and justice;
- The principle of safety;
- The principle of neutrality;
- The principle of controllability.

The study is limited by the size of the sampling. In total, the article used 216 scientific studies, including monographs, reports, and statistics. After careful sampling, 50 scientific works were selected that described the main stages of rule-making in which AI can be involved fully or partially.

In further research on the use of AI in lawmaking, it is necessary to consider how AI can predict the possible consequences of an adopted legal act: political, legal, social, economic, etc.



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