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ARTIFICIAL INTELLIGENCE IN LEGAL SERVICES: STATE-OF-ART AND USERS' EXPECTATIONS IN RUSSIA

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ARTIFICIAL INTELLIGENCE IN LEGAL SERVICES: STATE-OF-ART AND USERS' EXPECTATIONS IN RUSSIA

Artificial intelligence is having a transformative effect on the business world. Among others, legal services industry is susceptible to these transformations, but being a part of the legal system, it adopts novelties more slowly than other service-based industries.

The issue of AI acceptance for legal services is widely discussed in Russia. The opportunities and threats of AI implementation are the subjects of academic research, business enquires, experts' assessments, and professional community discussions. Still, all those pieces of evidence are biased by the objectives of specific research and methodology used, mostly have no or little empirical data to ground conclusions on. The absence of empirical evidence on the state-of-the-art of AI in legal services and users' expectations on AI implementation hinders further research in various topics – from legal firms' management and legal innovations to the lawyering process and access to justice.

This paper confirms expert opinions regarding AI technologies and their implementations for legal services, suggesting the cooperation of lawyer and AI in legal service rendering rather than competition. Russian lawyers appear to have the experience of using very advanced AI solutions, including those that are unavailable directly on the Russian market. The expectations of lawyers as users of AI technologies could be described as uncertain, which means that further extension of the AI implementation is still a disputable issue.

JEL Classification: O33, O14, D22

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Introduction

Since the term announcement in 1956, artificial intelligence (AI) had experienced ups and downs, survived "AI winter" and nowadays is considered to be "the new electricity", having a transformative effect on the business world (Ng, 2017).

Among others, legal services industry is susceptible to these transformations, but being traditionally dependent on personal professionalism and skepticism of lawyers (Campbell, 2014) it adopts novelties slower than other service-based industries (Marciano, 2017). A cautious approach to technology adoption is also caused by the role of legal services for society (Samuels, 1980). The quality of legal services affects the exercise of human rights and welfare of society; thus, the adoption of new technologies and automation of legal services with a use of AI might be a socially sensible issue.

However, widely advertised AI capabilities to perform tasks or reasoning processes that are attributed to human intelligence exceeding the latter in speed and volume (Gartner, 2017; Horvitz, 2016; Pueyo, 2016; Rossi, 2016), gained the attention of legal community. McKinsey estimates that 22% of a lawyer's job and 35% of a paralegal's job can be automated and AI plays a significant role in this process (LawGeex, 2018). Legal firms and professionals are already familiar to AI technologies, including information retrieval, expert systems and recently emerged cognitive computing (Ashley, 2017). Various AI solutions have been available for a quite a time worldwide (see, for example, LawGeex, 2018a, Chowdhry, 2016; ROSS, n.d.) and in Russia (Interfax, 2017; Reykhard, 2018; Megafon, 2018).

In the given circumstances, AI adoption in legal services deserves special attention, and this fact is widely acknowledged (McCarthy, 1990; Susskind, 2017, Bench-Capon et al., 2012). In Russia, discussion of AI adoption recently became extremely relevant. Professional legal networks and experts share different suggestions regarding the functional opportunities, potential threats and overall usability and necessity of the AI for legal services in the modern world (see, e.g. Bagaev (2018); Horoshilov (2018); Ivanov (2018); Kondrashov et al. (2017); Robogeek.ru (2018). This discussion forms the notion of users' expectations – issue, which is one of the key topics if talk about actual state-of-the-art and future dissemination of AI technologies in legal services. Like worldwide, in Russia attitudes towards new AI solutions appear as a mixture of fear and acceptance (Markovic, 2018; Walters, 2019; Winick, 2017). In other words, it's not clear if the cautious approach to AI adoption in legal services will remain or the quest for new opportunities will change it. While abundant, pieces of evidence that are available in literature and in legal community communication have mostly "experts' discussion" nature. Thus, they

cannot serve as an empirical proof of actual state-of the art of AI in legal services and users' expectations, offering little for further evidence-based studies in the domain and informed development of business strategy in practice.

This study is an attempt to overcome the lack of proper evidence and to portray the state-of art of AI in legal services in Russia through the experience and expectations of professional lawyers as users of AI technologies objectively, on an empirical basis. Two research questions navigate the research:

- What is the state of art of AI in legal services in Russia?
- What are the expectations of users from AI in legal services in Russia?

Driven by these questions, this study is based on the online survey of professional lawyers working in legal services. Being mainly descriptive, this study employs the methodology that is considered most effective in delivering statistics on opinions, and expectations (Creswell, 2009). The quality of the research is ensured by following the common research protocol of the survey.

The expected contribution to the research field of AI in legal services includes empirical evidence that might be used for future evidence-based research on AI adoption in legal services and the instrument (questionnaire) that might be utilized for the survey on extended sample. In its turn, proper empirical evidence might foster the progress in studies in multiple research streams in various fields: from the access to legal aid and justice to innovation management in modern legal service providers and open innovations in legal services. Practical relevance of the research is also rather high in modern reality, when legal service providers, legal firms and advocates face the necessity to keep up with rapid technological changes, uncomfortable for such a conservative industry. This study might also be interesting and useful for managers, computer scientists developing AI solutions, and marketers.

This paper is further divided into four parts: three sections and a conclusion. First section contours the background and theoretical foundations of the research on the basis of literature review. It provides the basics of AI and legal services, explain the approach adopted to define these concepts for the instrument development and forms the context for the empirical data analysis. Second section covers research design and methodology with description of the empirical study and the procedures that research actually follows. "Findings and discussion" section contains the most valuable results, and conclusion summarizes the research outcomes and outlines the ways for future research.

1. Theoretical background

Offering new opportunities, AI transforms the economy. Transportation, healthcare, education, entertainment, banking and finance, retail, telecommunication, oil and gas, and many other industries experience AI impact: the total annual value potential of AI across 19 industries in the global economy supposed to be between $3.5 trillion and $5.8 trillion (Chui, Francisco, & Manyika, 2017). Meanwhile, the level of AI implementation both in terms of volume and the level of technology is sensible to the digitalization level and differs from industry to industry (Bughin et al., 2017).

Legal services are known as a hard case for digitization, when talk about the substance of the service rather than just employing personal computer to type the text of the claim or report. In substance, said services embrace supportive advising and representation activities on a legal matter (WTO, 1998), aimed to help people and organizations to maintain their interests and rights. The central figure of legal service is a lawyer – a trained and licensed professional possessing some unique set of skills (Cox et al., 1982; Cohen, 2017). As knowledge-intensive and human-performed, legal services strongly dependent on personal (unique) skills, and often appear as unique and unstructured, bundled and bespoke.

The factors above might be considered as impeding ones for legal services digitization and, consequently, AI adoption. Nevertheless, the attempts to find a structure and disaggregate bundled legal services in order to find new options of providing and delivering them were successfully undertaken (Engel, 1977; Kimbro, 2012; Mosten, 2012; American Bar Association, 2016). Unbundling and standardization processes reveal the set of legal services which are routine, "conform with some precision to a fixed pattern, model, or example and involve repetition" (Engel, 1977). Routine legal services can be easily reduced to algorithms and steps for a successful delivery (Remus & Levy, 2015), so they were on the frontier of automation and digitization and therefore have significant potential to AI implementation. For example, templates for document drafting, search tools for document review are familiar for lawyers. But the real challenge for digitization and automation are those legal services which are tough case for algorithmization, due to their uniqueness. Unique legal services are viewed as problem-specific, require the exceptional quality, flexibility, and creativity, and entail "forms of legal reasoning involving a potentially infinite number of variables or variables not susceptible precise definitions" (Engel, 1977). Meanwhile, new AI technologies offer new directions of automation suitable for unique and relatively unstructured legal services, albeit currently difficult to execute

or enormously expensive to adopt. The most eloquent example is ROSS attorney, which advertised to perform legal writing – one of the most difficult case for automation.

New opportunities of unique legal services automation using AI technologies provoke a discussion regarding safety of AI solutions, their cost, functionality, and overall usability and necessity in the modern world (see, e.g. Bagaev (2018); Horoshilov (2018); Ivanov (2018); Kondrashov et al. (2017); Robogeek.ru (2018). Among all the questions the most discussed is whether AI technology will replace lawyers, accompanied with ethical considerations and the problem of trust. The latter, while existing in any field of AI implementation sounds louder in legal services because the way a lawyer comes to a decision differs significantly from AI data processing. Moreover, the more complex and advanced AI is, the less is the chance that it is possible to reveal the way to the decision and explain it anyhow (Kirova, 2018).

In summary, legal experts expect that AI can and will:

- perform a routine part of legal service with or without human supervision in decent quality and high speed;
- propose and prepare decisions: collect data from websites of courts and another relevant information sources, process the data of all types to capture patterns (conflicts, similarities), predict the scenarios and outcome of each specific case, prepare a legal opinion, draft a contract or another document;
- eliminate human errors in data processing (by guiding the work of user with AI application and performing data processing).

Still, experts do not expect AI to be able to:

- make final decisions on legal issues;
- offer the unsupervised legal service to a client who cannot formulate relevant wishes or tasks;
- maintain requirements on the level of confidentiality in lawyer's relations and communication with clients;
- perform moral adjustments of the application of law (like jury does).

As illustrated above, there is a kind of contemporary consensus that AI technologies still (and in common understanding always will) require human cooperation (Ashley, 2017).

For lawyers, employing AI in their legal services means adopting special computational technology or computer program in order to increase the service quality and ease the process of

rendering one. The capabilities of the AI solution depend on the algorithms and knowledge base it operates. All AI technologies are built upon several "basic elements" including heuristic search, knowledge representation, common sense reasoning and logic, and specific AI languages and tools (Gevarter, 1983). Being applied and further developed, these elements form such AI technologies as natural language processing, computer vision (or perception), problem solving, planning, and expertise. Machine learning and robotics complete the contemporary picture of AI (Bughin et al., 2017; Mills, 2015). Navigation among AI technologies, especially for lawyers as users, is a challenging task, because these technologies are often kind of bundled or reinforced solutions treated as independent technologies (Bughin et al., 2017; Rao, Voyles, & Ramchandani, 2018). The situation goes worse because of the AI software providers' behavior: they usually keep the actual combinations and details of technologies in secret, reporting just the fact of AI implementation or providing minor vague explanation.

Still, lawyers "an masse" are hardly go deep into the proposed AI software architecture and algorithms, even though a motion of "legal hackers" community, which is particularly interested in specific technologies, do exist. Thus, no matter how advanced they are, for users AI technologies appear as a kind of rational agents in the form of computer program that can act and function appropriately and with precaution in its environment in order to achieve the best or the best-expected outcome (Nilsson, 2010). In fact, to find a relevant AI technology for certain legal service mean to navigate among the variety of existing AI software offerings, not the technologies themselves. Thus, for this study, AI is considered through the lens of users, and the state-of-the-art of AI in legal services is treated as available AI software on the market.

The attempts to portray the state-of-the-art of AI in legal services in Russia per se were not undertaken, but relevant attempts could be found in studies, mapping legal technologies. For example, Arutyunyan & Zscheyge (2018) outline legal software that is offered today and group it according to the performed functions. The groups of software in said legaltech map embrace: document construction, automation of document analysis, legal information and analytic systems, specific applications for particular business models of legal services. Alternative structure of Russian legaltech software market is offered in LegalTech 3.0 report (NAFI, 2018), where legaltech software groups include: eDiscovery[2], legal research, separately indicated "AI decisions", legal tech platforms and online services. This study utilizes the information on available legal technologies provided in those maps to create the collection of AI software that is available on Russian market: first, the list of legaltech software was made and then relevant

[2] eDiscovery refers to as a discovery in litigation regarding information in electronic format

information was collected on the providers websites in order to select software, which employs AI technologies.

In order to portray state-of-the art of AI in legal services, and to classify revealed specialized AI software, legal services types framework was adopted. In fact, advising and representation activities of a lawyer can take different forms, which might be considered as distinct types of legal services. The approach to typology was adopted from Remus and Levy's (2015) study devoted to the perspective of replacing lawyer's work by automation. Using the insights from a practical comprehensive framework called "unified and standard task-based billing system" – UBTMS (Horst-Martz & Leventon, 2018), Remus and Levy had created a study-specific framework that structures the overall law firm activities into 13 types, of which two are of managerial nature and eleven could be employed to describe the variety of legal services that the firm provides.

As far as there is no similar unified frameworks were developed for this purpose in Russia neither in research nor in practice, the framework developed by Remus and Levy (2015) appears to be an appropriate tool for this research to ground empirical study on, with a few minor adjustments: (1) all internal, managerial activities are excluded and (2) two types of legal services of communication nature are merged. Description of the legal services types according to the adopted framework is presented in Table 1.1.

Table 1.1. Legal services types

№	Title	Description
1.	Document review	any review of documents of all types or other material
2.	Fact investigation	collecting facts to develop a consistent and logical representation of a given situation or issue
3.	Due diligence	investigating and reviewing a particular client, entity, or situation to ensure a comprehensive understanding of all factual and legal issues relevant to a proposed deal or transaction
4.	Document drafting or revision	production of legal document that meets the requirements of the law and reflects the implied meaning and/or agreement as precisely and explicitly as possible
5.	Legal writing	production of written work that describes a particular factual situation or issue along with the state of the relevant law and/or its application
6.	Legal research	search for/finding arguments and reasoning stated in the past, to provide the basis for assessment of the chances of success and generate new arguments to use in future
7.	Legal analysis and strategy	the exercise of legal judgment in evaluating a situation and planning accordingly

№	Title	Description
8.	Advising clients, and other communications	any internal or external communications by any mean respectively: with a client; with opposing counsel or other outside counsel not representing the client; with witnesses in the legal matter; with experts associated with the legal matter; with other external parties
9.	Dispute resolution and Court Appearances	participation in the process of resolving disputes between parties, including any appearance for or attendance at a scheduled event related to the matter
10.	Negotiation	the communication process that is intended to reach a compromise or agreement to the satisfaction of parties involved

Source: based on Remus and Levy (2015)

Using the adopted framework above and the information retrieved from legaltech maps and providers' websites, available AI software was allocated to the distinct legal service types in order to preliminary portray the state-of-art of AI in legal services (Table 1.2).

Table 1.2. AI software for legal services

	AI solutions worldwide	AI solutions in Russia
Document review	IBM eDiscovery, EverLaw, Logikcull, Digital WarRoom, Relativity, Concordance by Lexis Nexis, LawGeex, iManage RAVN	Microsoft Advanced eDiscovery; Veritas eDiscovery, Preferentium, File.one, ABBYY FlexiCapture, Comparator and Compreno
Due diligence	Kira Systems, Seal, LinkSquares , LEVERTON, eBrevia Diligence Accelerator	Bankro.Tech
Document drafting or Revision	Contract Express (by Thomson Reuters), HotDocs by AbacusNext, Bloomberg Law's Draft Analyzer, LegalZoom and Rocket Lawyer	EasyLaw, FreshDoc, Doc.one, Pravocard
Legal writing	Ross Intelligence	NO
Legal research	LexisNexis, Practical Law from Thomson Reuiters, Westlaw, Casetext	Caselook, Sutyazhnik
Legal analysis and Strategy	Premonition, Lex Machina Motion Kickstarter, SHYSTER, Neota Logic, Riverview Law Virtual Assistants, Doxly Insights and Reporting assistant, LISA	Casebook, RiskOver

Advising clients and other communications	DoNotPay, KLAiM	Fedor Neuronov" by Pravoved, Pravobot service, Form.One
Dispute resolution and court appearances	Rechtwijzer, HM Online Court (HMOC)	NO
Fact investigation	various solutions for document review and due diligence and search services	various solutions for document review and due diligence and search services
Negotiations	Modria platform, Cybersettle platform	NO

2. Methodology and Approach

This research is designed as an empirical study based on online survey of lawyers – users of AI technologies. Methodology choice was performed according to the principles of research design selection: methodology should be adequate to the problem addressed, useful in processing data and give a real possibility to find an objective answer to the research question.

The background analysis of the core concepts and previous research on the topic proofs legal services and AI to be a complex phenomenon that reflects specific aspects of human activity. Therefore, desktop theoretic research alone cannot be sufficient to answer the research questions and empirical research methodology was adopted. Among the empirical research designs, the methodology of the choice for this study is a survey which allow obtaining the quantitative or numeric description of some aspects of a population by studying a sample of that population (Creswell, 2009).

Survey that is performed in the study utilizes purposively developed questionnaire designed to be completed online and without any direct interaction with the researcher (Rowley, 2014). As inferred from the literature review, there is no empirical research being conducted on the state-of-the-art of AI in legal services and users' expectation from AI in legal services in Russia. Therefore, the questions for the survey were formulated inductively according to the research goals and research questions, using the results of the core concepts operationalization. As far as not directly measurable, three concepts were operationalized: AI, state-of-the-art, and expectations.

The concept of AI was operationalized through the definition of specialized software. For this study, specialized software refers to software that employs AI technologies and considered

to be developed for lawyers. To overcome difficulties that respondents may experience, specific instructions were introduced. First, widespread reference systems and legal databases (like Consultant Plus and Garant) were intentionally excluded from the scope of the survey, as well as general office software. Second, to direct respondents towards AI-related software, they were provided with the list of selected software. The selection criteria were: the presence of AI solution as a main advantage of the software and the superiority of the solution over the prior art of AI (according to developers' reports), and the availability of said software on the Russian market. Grounded on AI operationalization, the experience of users is indicated and measured using the characteristics of the process of using AI software. The fact of using, the particular legal service, the particular software, the intensity and the assessment of software outcomes help to reveal the real state-of-the-art of AI in legal services. The last concept that requires operationalization is the users' expectations. For this study expectations are understood as the respondents' beliefs about the likely state-of-the-art of AI in legal services in the future. Based on the results on concepts operationalization, all survey questions are grouped into three thematic blocks: experience, expectations and socio-demographic information. The latter contains most common demographic questions (gender, age, the region of the residence) and specific questions, determined by the research questions and goals. Specific questions concern the duration of work in the field of legal services and the level of respondent's position within the legal service provider.

After the preparatory stage, the questionnaire was tested during a pilot survey (n=7) and then distributed using the SurveyMonkey web platform. Due to the time and resource limitations and considering the peculiarities of conservative legal profession, selection and recruitment of respondents were carried out using non-probability snowball sampling technique. Even if not generalizable to the whole population of legal experts, providing legal services, data collected using this technique considered more reliable then fragmented interviews and public or expert discussions. As an additional stream of recruitment, active social networks of lawyers ("Lawyers" group; "RuLF, ILF, and In-house" group; and "Colleagues" group in Facebook) were identified, and the members of these networks were approached by survey announcements. To participate in the survey, respondents were selected according to the following criteria: 1) provides legal services 2) holds a degree in law.

After the completion of the survey, the information was imported from the system, encoded and processed. The obtained data were examined and interpreted using the methods of one-dimensional and two-dimensional analysis. Due to the descriptive nature of the study, correlation and regression analysis were not performed: the data collected is sufficient for

preliminary descriptive analysis, but it is quite limited to be the basis of trustable results for the analysis based on multivariate distribution. In spite of all the limitations, the procedures implemented during this study can be regarded as a guarantee of a sufficient degree of reliability of the developed instrument (questionnaire). The quality of the instrument, in turn, makes it possible to obtain the most complete and valid data on the problem under study in given conditions.

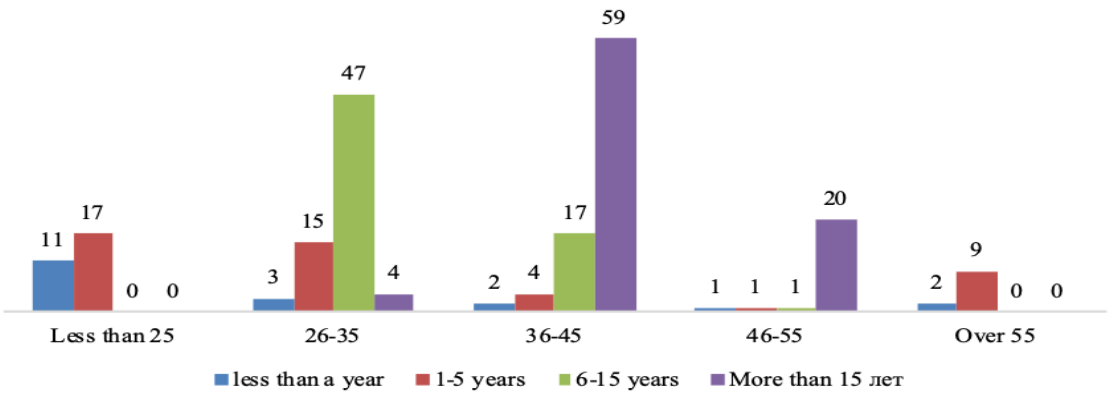
3. Findings and Discussion

Sample: size and structure

Snowball sampling campaign resulted in 357 responses from lawyers representing all the eight federal districts of the Russian Federation. The sampling technique and recruitment procedure do not allow the calculation of the response rate. As anticipated, the significant share of the responses was collected with the first (main) recruitment strategy, when a trusted person invited the respondent. The supplementary strategy of social network invitations resulted in 52 responses only. After the preliminary control, 144 questionnaires (40%) were excluded because they have not been fully completed.

All incomplete questionnaires were deleted, and the final sample consists of 213 respondents. Among them, 53% are male, and 47% are female. Lawyers of all age groups took part in the survey (Figure 3.1). Unsurprisingly, the higher the age of the respondent is, the more experienced he or she is, with one exception: all the respondents of the age over 55 years have the experience in legal services less than six years. This exception might reflect the transition of lawyers from governmental offices and legal departments to legal services.

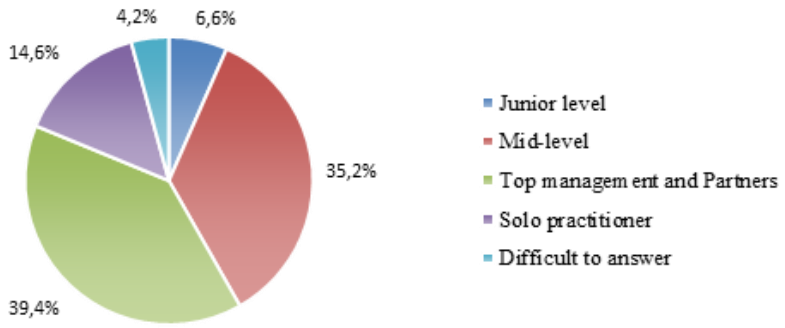
Figure 3.1. Respondents by age groups and the years of experience, %



Source: here and further - author's calculations based on survey data

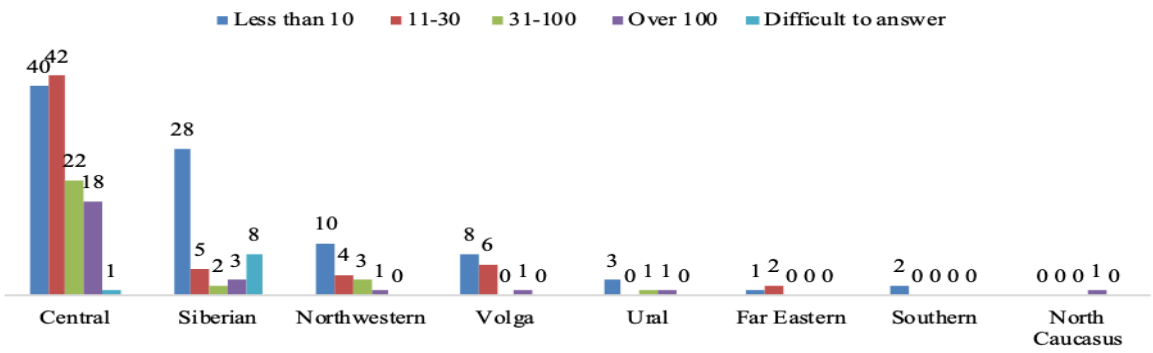
More than a half of the respondents (54%) occupy the highest positions in legal service organizations (partners and top management) or act as solo practitioners (Figure 3.2). Only 6.6% are junior level lawyers and interns; almost all of them are young professionals under the age of 25 years.

Figure 3.2 Respondents by position level, %



Lawyers from organizations of all sizes located in all eight federal districts of the Russian Federation took part in the survey (Figure 3.3). More than a half of the entire sample is from the Central federal district (57,8%), with 82,1% of them being from Moscow. Almost 22% of the questionnaires were received from lawyers reside in the Siberian federal district, and more than a half of them work in the city of Irkutsk. This is mainly due to greater availability of contact data on lawyers of the district and Irkutsk particularly. Northwestern and Volga federal districts are represented by approximately the same share of the total number of the respondents (7% and 8,5%), while the respondents of the rest of federal districts form in sum 5,2%. In this study, the correlation of the number of responses received from each federal district and the regional structure of the Russian legal services market will not be calculated due to the limitations of the research design. Still, the survey data is consistent with the evidence of the concentration of legal services in big cities (Moiseeva & Skugarevskij, 2016).

Figure 3.3 Respondents by federal district and firm size, people



The significant share of the respondents (43%) work in small organizations which employ less than ten lawyers; 20% of them are solo practitioners. Large legal firms with over 100 lawyers employed are presented by 11,7% of the respondents, and most of them reside in Central federal district, particularly in Moscow.

The experience of using AI-related technologies

The shares of the respondents who have experience in using specialized software and of those who do not are rather equal: 46% vs. 43,7 % respectively. Experience of specialized software implementation for legal services seems to be independent of the demographic characteristics of the respondents. In gender groups, the proportion of lawyers who use the software is almost the same (46% for males and 45% for females). By age, the indicator varies from 36,4% (over 55 years) to 50% (less than 25 years and 36-45 years). The indicator for the elderly group is significantly lower than the average (46%). This result is consistent with the evidence of broader research on common computer technology adoption (Mitzner et al., 2019), reporting that older adults usually are less technology experienced than younger ones and have “less developed mental models of how to use technologies (e.g., menu systems)." Regarding the usage of specialized software for legal services, lower level of adoption might also reflect the lower confidence of these group in AI technologies because of the higher level of experience in law and mastery in legal service delivery.

Due to the limitations of the research and sample, it is not possible to make any inferences on the influence of the region of the residence on the level of software implementation. Still, the analysis of the responses from Central and Siberian federal districts (most active in a survey) shows that the region is not likely to be an important factor: for both regions the share of software users is 45%.

The size of the organization in which lawyers work and the level of their position seem to have a more significant impact on software implementation. The maximum share of those who use it for legal service rendering is in large organizations with over 100 lawyers employed (64%). The share of software users working for all other organizations is average and varies slightly from 42,9 to 44,4%. The level of the lawyers' position inside the firm is also eloquent: the highest level of software usage (61,9%) is reported by top managers and partners of law firms, while software users among mid-level lawyers and solo practitioners make only 34,7% and 35,5 % respectively. The possible explanation is that top management and partners of the law firms are responsible for the firm's strategy and productivity; therefore they are interested in advanced and AI-related technologies that could help to build the competitive advantages. Consequently, they might be better informed, more active in the search for the AI solutions, and tend to test the software first by themselves. Meanwhile, solo practitioners, who are by definition in charge for their own strategy and productivity, report the lower experience in software implementation than top management of law firms. Among the reasons that might cause this trend could be the high price of advanced solutions worth implementation: AI-related software is more affordable for organizations than for individuals. As far as the rate of specialized software implementation shown by solo practitioners and small law firms is almost the same, there is no difference found between the adoption of AI-related technology by teams and individuals. The assumption regarding affordability of advanced solutions is supported by the analysis of the responses of the lawyers, who did not use the software for legal services. Almost a half of them (42,5%) report that they do not have access to said software. Other reasons include the lack of skills, required for the software usage (10%), the lack of the confidence in software (11,7%), the inconvenience of use (4,2%), and the lack of the information on specialized software and its features. Only 26,7% of the respondents who do not use specialized software consider it unnecessary for legal service rendering.

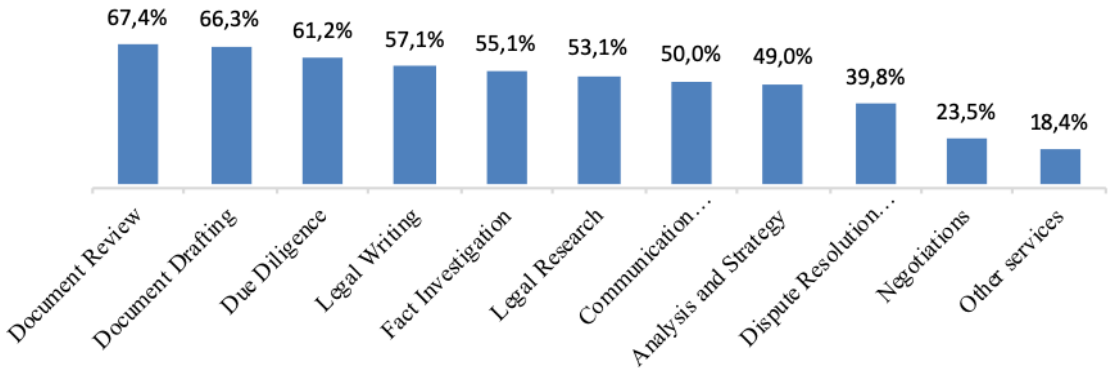
Unexpectedly, the share of software users among junior level lawyers is the lowest – 28% only, while this indicator for the age group of less than 25 years is 50%. The difference is determined by the fact that only 46% of this age group occupy junior-level positions. Notably, the share of software users among young professionals that occupy mid-level positions is significantly higher (70%), and among the top-level and solo practitioners, it reaches 100%. To speculate on the reasons, the high level of specialized software adoption might be one of the factors of professional and career success for young professionals, providing them with competitive advantages.

Data analysis demonstrates a significant difference in the practice of specialized software adoption by lawyers working for organizations with different modes of legal services delivery. Thus, in organizations which provide legal services online, the share of respondents who use specialized software is significantly higher: 68% vs. 44% in firms which do not use this mode. The observation might be explained by the influence of general organizational strategy towards technology adoption on particular software implementation.

Out of the 213 respondents, 98 have an experience of usage of specialized software. The analysis of the answers to the main array of questions is carried out on their responses.

To reveal the state-of-the-art of AI implementations, respondents were asked to specify the types of legal service which they render using the specialized software. The survey shows that the most convenient for software implementation is the following legal services: document review (67,4%), document drafting (66,3%), and due diligence (61,1%). Also, more than a half of the respondents use specialized software for legal writing, fact investigation, and legal research. As expected, the group of legal services which is commonly considered as less ready for AI implementation due to the uniqueness and substantial share of unstructured activity was mentioned by the smallest number of respondents: 23% for negotiations and 40% for dispute resolution. The share of software users regarding the types of legal service is presented in figure 3.4.

Figure 3.4 Software usage by the type of legal service, %



Noteworthy that communication and advising legal service, which has a significant share of unstructured activity too, has a higher rate than other services of this group (50%). This observation is of great importance to the study. First, it provides evidence that conservative legal services industry does adopt the frontier AI solutions. Second, it demonstrates that recent advancements of AI technologies (virtual agents, natural language processing, neural nets architecture, and speech recognition) began to extend the scope of AI implementations in legal

services, moving from the comfortable “tangible” (document-related) services to challenging “intangible” (communication-related) services.

The level of respondents' position seems to have an impact on the distribution of software adoption for a particular type of legal service. Thus, junior-level lawyers occupy top position in using specialized software for document drafting, while the share of this group of respondents in using software for other types of legal services is either zero or the lowest. Top-level lawyers have the highest positions in software implementation for document review, legal writing, analysis and strategy, and fact investigation. Solo practitioners prefer to use specialized software for due diligence, legal research, communication and advice, and dispute resolution. Notably, the share of solo practitioners who use specialized software for communication and advise is 81%, which is significantly higher than average (50%). Such a high value might reflect the increasing role of the software for attracting the clients when technology helps to expand the customer base for solo practitioners. Interestingly, mid-level lawyers show the average level of software adoption for each type of service, with the lowest position in negotiations. There can be a suggestion that mid-level lawyers have little incentives to be a leader in specialized software adoption comparing both to junior level ones, who are at the career start and might use the software to enhance the quality of their service and to expand personal capabilities, and top-level, who are in charge for the strategy and productivity and might search for the AI solutions on behalf of the firm.

The experience in legal service rendering also appears to have an impact on the distribution of software implementation among the legal service types. The most experienced lawyers hold the leading position in utilizing specialized software for negotiations. At the first glance this observation indicates that the most experienced lawyers are ready to implement the most advanced AI. However, the level of 26% is just slightly above the average and might be explained by the fact that more experienced lawyers are more often engaged in negotiations than others. Respondents new to the profession appreciate the specialized software for analysis and strategy, while the leading position in document drafting and communication & advise holds the group of lawyers with 1-5 years of experience. The group of lawyers with 6-15 years of experience in legal services widely use the software for almost all types of services, except negotiations, and analysis & strategy service.

To narrow the respondents’ focus and to provide them with the direction towards AI-related software, the questionnaire offers the question about the awareness and experience regarding particular software. Respondents were asked if they ever have heard about the selected

solutions and if they have the experience of using them. The survey data shows that 56% of respondents have the experience of using at least one AI-related software from the provided list. The analysis of the distributions of the respondents who reported the utilization of the AI-related software shows that it is similar to the distributions of the respondents who reported the specialized software, with one exception. Thus, the region of the residence might be the important factor of the most advanced AI technology adoption: the share of respondents from Central (68%) and Siberian (23%) federal districts (the most active regions in a survey) differs almost three times. The validity of this inference is limited due to the reasons already discussed above; still, it is consistent with the general assumption of the higher availability of new technologies in Moscow.

Top three solutions that are used by respondents for legal service rendering are Casebook (36,7%), Caselook (35%) and – with a significant lag - Westlaw by Thomson Reuters (17,5%). The lag might be explained with the software functions and the price. First, Westlaw is an AI-advanced research tool offering access to global information databases across 60 countries. It costs $142 per user per month for a 3-year subscription. Casebook and Caselook offer predictive analytics and integrated with the databases of Russian courts' decisions. It costs 5000 rubles per user per month, which is twice lower than Westlaw. Still, Westlaw does not compete with predictive AI solutions, so the lag in top AI solutions highly likely is determined by the functional difference. Among the solutions that are known but not in use the highest positions hold Sutyazhnik by Garant (40,2%), Casebook (30,6%) and Pravobot (27,8%). Noteworthy that all top software are the solutions for legal research and analysis & strategy legal services, except Pravobot, designed for advising legal service. The appearance of AI technology designed for communication and advice legal services among the top of recognized software supports the surmise that AI virtual agents are taking ground and became advanced enough to be used for legal services in Russia. As expected, the survey data shows the significant share (35%) of respondents who use for legal service rendering the specialized software that was developed and customized for the organization (law firm) they work for. These results are consistent with the reports of the leading legal firms that initiate and support the development for exclusive individual solutions that are tailored for the specificity of their business (The Law Society of England & Wales, 2017). The customized software is utilized mainly for document review, document drafting, due diligence, and fact investigation.

To collect the information on other specialized software utilized for legal services, the question about the particular software awareness and implementation is formulated as semi-structured and encourages the respondents to share the information on other solutions. The share

of respondents that have the experience of using specialized software different from the listed in the questionnaire is noticeable – 21 %. Among the solutions mentioned, several are relevant for the study, for example, DocVision[3] software that uses the AI solutions by ABBYY for the intellectual attribution of documents; Bitrix24[4] that offer the robotic support in document drafting; RingTail[5] eDiscovery with a visual approach to document review and predictive coding; ELITE[6] risk and matter management software based on Thomson Reuters AI solutions. Minor share of respondents also mentioned the specialized software developed by providers who do not manifest the integration of AI technologies for this software according to their websites and advertising. Other solutions reported by the respondents embrace the various management software for law firms, billing solutions, or reference databases, intentionally excluded from the scope of this research (reported by three respondents). Notably, one respondent reports the engagement in the process of the creation of new legal service using AI solution: "I participate in the creation of a legal service that uses AI to generate documents within the administrative process" (respondent № 114)- *translated by the author, here and further*.

Most respondents use specialized software on a regular basis: every day (40,8%) or several times a week (30,6%). Only 12,4% report extremely rare software usage (several times a year). Using specialized software, lawyers, and legal service providers experience both positive and negative effects. Personal benefits that are acknowledged include reduced time spent on the service (64,3%), reduced routine work (57,1), reduced number of errors in processing information (49%), and extension of personal expertise (46,9%). To better understand the personal experience of the respondents, the questions on positive and negative effects of the specialized software took the semi-closed format, i.e., the respondents could extend the list of offered answers with their own feedback. As a result, several lawyers mention the advantage of personal skills development, for example, "improvement of critical thinking in the formation of positions" (respondent № 172). Others underline the beneficial transformations in the process of legal service delivery, for example, "increasing the transparency of the negotiation process" (respondent № 4). Noteworthy that none of the respondents report the absence of personal positive effects of specialized software.

Personal negative effects include the emergence of additional tasks to interact with software (28,6%) and the necessity to spend time to learn how to use new software (24,5%). The convenience of solutions is also essential. As respondents say, "continuous changes in interfaces

[3] DocVision (https://docsvision.com/products/dv-catalog/intellektualnaya-baza-znaniy-sed/)
[4] Bitrix24 (https://www.bitrix24.ru/features/)
[5] RingTail (https://www.ringtail.com)
[6] ELITE (http://www.elite.com/prolaw/)

are annoying. Just get used to it - everything will change" (respondent №6). Another concern is the effect that software is having on lawyers themselves: "younger lawyers often rely completely on open source software, while they personally are not "actively involved" in the process of providing legal services, i.e., sometimes software reduces motivation to think independently and hinder the creative initiative of a lawyer" (respondent 117). Noteworthy, the reduction of the number of performed tasks with a loss of pay, which was the main fear of lawyers expressed in literature and press regarding the AI implementation, was mentioned by one respondent only.

The personal benefits that respondents value depend on age and gender. Female respondents appreciate time saving and mistakes reduction more than males do. In the age groups, younger respondents prize the routine work reduction most of all, whereas all other groups value time saving more. The benefit of expertise extension is recognized mostly by respondents of the age of 36-45 and practically ignored by young professionals. Many young respondents had difficulties in providing the opinion on personal benefits: 36% of them could not clarify what is good about specialized software adoption.

Personal negative effects analysis shows that male respondents are more positive about the software implementation: a half of them see no negative effects compared to 30% of female respondents with a similar opinion. In age groups, younger professionals are displeased with the necessity to learn new skills, whereas all other groups are concerned about the additional tasks brought with software implementation.

For organizations, specialized software implementation results in cost reduction (66,3%) and expansion of the range of services provided (35,7%). The larger the organization is, the more noticeable is the most valued positive effect – cost reduction. The other positive effects embrace the extension of the customer base and increasing of legal services quality due to the creation of advanced analytic platforms and improvements in knowledge transfer within the large law firms. Also, specialized software can "free up resources for more creative and difficult intellectual tasks" (respondent № 70) and "save time" (respondent № 183). Most of the respondents (59%) are positive about the effect of specialized software adoption for organizations, a significant share (29%) are not sure that there is any negative effect.

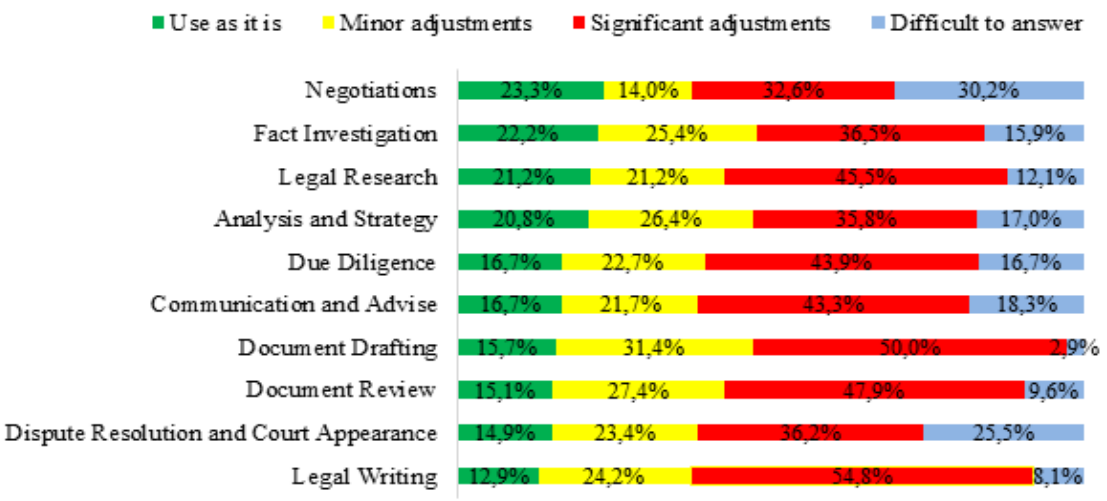
Only 13,2% of respondents have mentioned negative effects of AI adoption for their organizations, namely the decrease of the legal service quality and increase of the costs. Top management and partners of the legal firms more often concerned with the decrease of the legal service quality, while junior and mid-level lawyers frequently notice the customer base decrease. An interesting and unusual for organizations effect was reported by one of the respondents:

"dullness" (respondent № 95). It appears that the respondent is very much concerned about the overall decline of the level of competence in an organization.

The unexpected data were received from respondents working in organizations that deliver legal services online. They report that specialized software utilization decreases their customer base, while for the other organization, the positive effect of the extension of the customer base is reported.

To understand the quality of the specialized software and the confidence of the users upon said software, respondents were asked to evaluate the software outputs regarding the additional effort that is needed to maintain the overall legal service quality. For this study, the scale with three possible answers is utilized. "Use as it is" means that specialized software is sufficient to legal service rendering without the human involvement; "minor adjustments" and "significant adjustments" indicate the low and high human involvement respectively. The distribution of the respondents by the intensity of an additional effort regarding the particular types of legal services is presented in Figure 3.5.

Figure 3.5 Human involvement by the types of legal services, %.

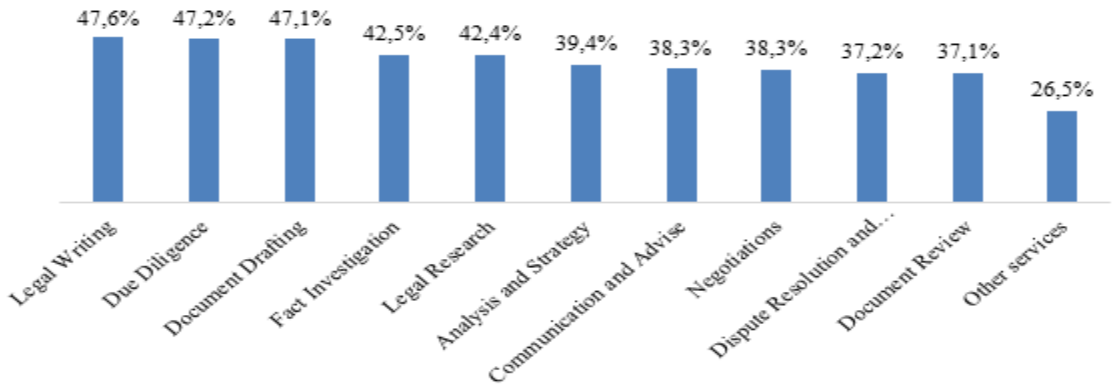


The survey shows that the respondents adopt the watchful position regarding the software they implement: the average share of the respondents who are ready to fully rely on the software is 17,9% and does not exceed 23,3 % for particular services; moreover, for all the types of legal services a significant share of the respondents considers the strong involvement as a must.

The level of the required human involvement might reflect the level of trust or the respondents' confidence in specialized software. The users who rely on the software outputs without any adjustments or with minor changes are considered by this study as those with a high

level of confidence. The low level of confidence is therefore attributed to the users, who report strong involvement and tend to make significant adjustments to software outputs in order to make them reliable. The share of respondents with a high level of their confidence in technologies for particular legal services is presented in figure 3.6.

Figure 3.6 The confidence in using specialized software by the legal services, %



The data analysis shows that the intensity of the specialized software utilization seems to have an impact on the confidence of the respondents regarding the software outcomes. Thus, those who use the software regularly, have a twice higher level of confidence than the others. The demographic characteristics of the respondents also seem to be an important factor of confidence. Unsurprisingly, the younger the respondent is, the more he/she trusts the specialized software: the share of the respondents with a high level of confidence among the respondents under 25 years is the highest (62,8%). The value decreases evenly for other groups, and the in the age group over 55 years is twice lower (30%). Notably, the position seems to have the same impact: the higher the position is, the lower is the confidence. In gender groups, no significant difference has been found.

The analysis reveals the difference in the level of respondents' confidence depending on their experience in legal services. Thus, in the group with 1-5 years of experience, the share of the respondents who trust the software outcomes is almost twice higher than in other groups.

Users’ expectations

To address the users' expectations from AI in legal services, they were asked about their beliefs regarding the future of specialized software adoption in legal industry and about their personal plans regarding the adoption of new solutions. The analysis of the answers for this part of the study is carried out on the responses of all 213 respondents.

Shares of the respondents who expect specialized software to be an inalienable part of legal services and of those who do not consider it to be crucial are 42,7% vs. 46,5% respectively. This observation probably means that further extension of the specialized software is still a disputable issue.

The demographic characteristics seem to have no impact on respondents' beliefs: values are similar in all age and gender groups. The same as for the analysis of users' experience, limitations of the research and sample provide no possibility to make valid inferences on influence of the region of residence on the level of users' expectations. Still, analysis of the responses from Central and Siberian Federal Districts (most active in a survey) shows that region of the residence is not likely to be the important factor: for both regions, the distribution repeats the general picture.

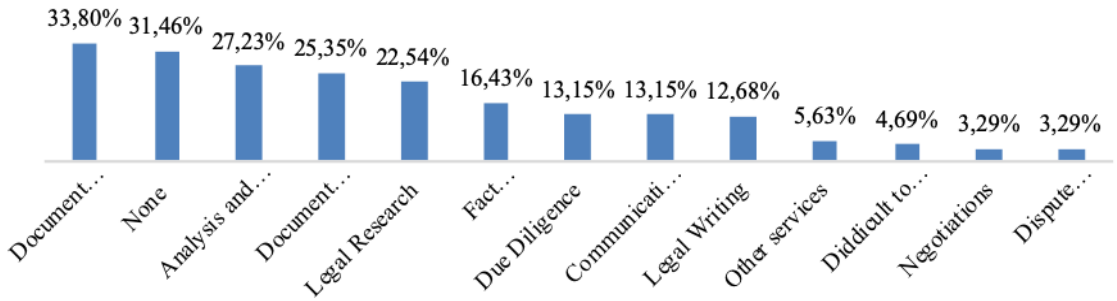
The distribution of respondents both according to the experience in legal service rendering and the level of the position mainly follow the general picture as well. Meanwhile, in the group of top-level lawyers and the group of less experienced lawyers (working less than a year), the share of the respondents considering specialized software to be necessary is higher than the opposite. Among the organizations, the larger firms with more than 100 employees demonstrate the significantly larger share of the respondents who thought the specialized software is crucial for the service they render, comparing to all other organizations.

Predictively, respondents with previous experience of specialized software implementation more likely demonstrate the assurance in its importance. As it presented in Figure 3.7, share of the respondents considering software to be necessary is very high in the group that previously had utilized it (67,4%), while the picture of the respondents' distribution in the opposite group is absolutely different.

Figure 3.7 Software necessity for legal services, by previous experience, %

To understand the expectations of the respondents on the possible automation of legal services, respondents were asked to indicate the types of legal services that are likely to be fully automated. Significant share of respondents (31%) believes that legal services cannot be automated. Among the leading candidates for automation there are document drafting (33,8%), analysis and strategy (27%) and document review (25%). The complete distribution is presented in Figure 3.8.

Figure 3.8 Legal services from the perspective of full automation



To understand the personal plans of respondents about mastering a new specialized software and to scope AI software, demanded by lawyers, respondents were asked to indicate if they have plans to adopt new specialized software. The survey data shows that 72% of respondents do not even think about mastering a new software. Top-3 specialized software, in which lawyers are interested, includes Casebook, Caselook and ROSS Intelligence.

Conclusion

This study is motivated by intention to contribute the research on AI implementations in legal services with an empirical survey-based study, to develop a more descriptive understanding of the state-of the art of AI in legal services in Russia and users' expectations from AI implementation and to create a foundation for further research on the topic.

The results of the survey provide some of the first empirical data about the experience and expectations of a sample of lawyers providing legal services in Russia in using specialized software with the focus on the AI solutions for particular types of legal services. The survey obtained information from a diverse group of lawyers from all eight federal districts of Russia, having a different experience in legal service rendering. The survey data provide evidence about the respondents' experience in using specialized software that is likely to be designed using AI technologies and the software with manifested AI solutions, detailed with the dimensions of the

intensity, convenience, and satisfaction. The data about the respondents' beliefs, convictions, and personal intentions regarding the future of AI implementations in legal services complete the picture.

Overall, the survey findings support the narrative of experts' discussion in literature and community. Respondents demonstrate cautious approach to AI adoption and are nearly pessimistic both about complete automation of legal services and their own participation in mastering AI solutions (72% of respondents do not have such plans). The factors that likely to have impact on AI adoption include size of the organization in which lawyers work, the level of positions they hold, and their experience (intensity of the specialized software utilization). It is visible that experience drives the expectations: while the average share of respondents who expect specialized software to be an inalienable part of the legal services is less than a half, the relevant share among experienced software users reach 67,4%. As far as respondents demonstrate cautious approach to AI adoption and have rather pessimistic views on the future of AI in legal services, they have no major concerns about the "substitution of lawyers by robots": the reduction of the number of performed tasks with a loss of pay, which was the main fear expressed in literature and press was mentioned by one respondent only.

Still, respondents do value the advantages of getting rid of the routine cognitive work and accurate data processing with minor errors. They explore the opportunities of prediction, advanced search and argument retrieval, based on AI frontier: machine learning, natural language processing and generation, computer perception, and optimization. The problem of trust and confidence in AI software might be overcame by involving lawyers in software development: the significant share (35%) of respondents use for legal service rendering the specialized software that was developed and customized for the organization (law firm) they work for.

As expected, relatively routine legal services, namely document review (67,4%), document drafting (66,3%), and due diligence (61,1%) are recognized as the most convenient for AI software implementation. At the same time the top-3 AI software currently in use include solutions for legal research, and legal analysis and strategy, which could be a sigh of AI usage moving towards more complex and unique types of legal services. As expected by the respondents, those services also can be fully automated (document drafting (33,8%), analysis and strategy (27%) and document review (25%)). Discussing the plans of new-for-them AI software mastering, lawyers are mostly interested in software for legal research, and legal analysis and strategy, and also – for legal writing, one of the most challenging tasks for AI technologies.

Considering all above, widespread AI adoption in legal services in Russia is still a disputable issue. The general tendency to provide legal services with minor involvement of AI technology for routine services coexist with growing interest towards frontier AI solutions, demonstrated mostly by lawyers holding top positions in large organizations.

While useful, the results of the survey must be viewed with caution because of the adoption of the non-probability sample technique and sample size limitations. Thus, the sample has its limitations in reflecting the regional structure of legal services market, and therefore the observations regarding the impact of region on AI implementation could be useful mainly as a signal of a perspective direction for future research. Despite the limitations, the data obtained in the survey might offer valuable insights and new information.

Being descriptive in nature, this study results in two major outcomes: the empirical evidence of the state-of-the-art of AI in legal services in Russia and users' expectations regarding AI implementation, and the instrument, purposively developed for this research. Therefore, the findings, developed instrument, and evidence, gained in this research opens several directions for further inquiry. First, the developed instrument could be utilized in similar studies on an extensive sample, to collect the data, sufficient for the correlation and regression analysis, which has not been performed in this study due to known limitations. Second, the evidence on the state-of-the-art of AI and users' expectations from AI implementation in legal services in Russia could inform different streams of the evidence-based research in various fields. Thus, the findings regarding particular services might inform the AI and law studies, policy studies regarding access to legal representation and support, foster the progress in studies on innovation and management in law firms and advocates professional organizations.

This research has practical relevance as well. Findings and obtained evidence could be interesting and useful for lawyers, seeking to create the competitive advantages for their business; software developers, looking for promising areas of AI technology implementations; and also, for managers, marketers and market researchers, looking for evident information for their professional activity.

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