Artificial Intelligence in Corporate Governance

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Abstract. The study considers one of the promising directions of development of modern corporations - the introduction of artificial intelligence (AI) in corporate governance. Numerous experiences with AI in making managerial decisions have shown positive results, which forces many researchers to make optimistic forecasts about the emergence of AI in the future that can realize the functions of governing bodies of a legal entity. At the same time, the study notes that the global economic crisis caused by the COVID-19 pandemic can become a new driver for such a digital transformation. The prospects for introducing AI into corporate governance are evaluated in the study using various approaches, which the author divides into three groups: AI realism, in which AI is seen as an assistant that can simplify the work of members of governing bodies; AI enthusiasm, in which it is assumed that the AI director will replace members of governing bodies in the future; AI-radicalism, in which the author assesses the possibility of getting AI out of human control and creating completely autonomous legal entities. The author also analyzes the possible problems associated with the implementation of AI in corporation governance, some of which are outstripping.

Keywords: AI director · Artificial Intelligence (AI) · Autonomous legal entities · Corporate governance · COVID-19 · Legal personality of AI

1 Introduction

Currently, the world is undergoing global changes in corporate governance. Many organizations are redefining existing business models, moving to new digital technologies. As a result, there are outlines of a completely new, corporate governance paradigm, which is based on openness, peer-to-peer and decentralization and requires a deep rethinking [14]. Interesting results were shown by the study conducted by MIT Center for Information Systems Research in 2020 - only 7% of US companies with revenues of more than $ 3 billion have more than half of the members with digital knowledge in their senior management (“digital savvy” as the authors of the study indicated). Moreover, such companies had 49% higher growth, 16% higher margin, and 53% higher company valuation (share price to sales ratio) than the rest [15]. Thanks to this study, on the one hand, it is easy to notice that companies actively implementing digital technologies are more successful, on the other hand, a low percentage of digital literacy shows that not everyone is ready for a quick digital transformation.
The global economic crisis caused by COVID-19 will certainly become the driver of this technological process. Many technologies have already shown their advantage and effectiveness in the pandemic. Moreover, in some cases, the continuous activities of most companies were exclusively due to digital technology. Many restrictive measures introduced around the world to prevent the spread of COVID-19 have not affected companies operating remotely over the Internet.

COVID-19 also affected corporate governance. In the pandemic, it has become almost impossible to hold general meetings of shareholders in the usual form of joint presence. For example, the Bank of Russia recommended that joint stock companies provide shareholders with the possibility of remote participation in the annual meeting [6]. In this regard, it becomes a very relevant platform for remote interaction of corporation members between and members of governing bodies, based on distributed registry technology, which was mentioned earlier [14]. The self-preservation instinct will inevitably push the business toward digital technology. It seems that the COVID-19 pandemic will cause an unprecedented boom in digitalization, and all modern corporations, being the main locomotive for innovation, will turn into “technology” or “media” companies. Otherwise, they will be replaced by more agile competitors, better adapted to realities of the new digital world [4].

One of the most discussed and promising technologies today is artificial intelligence (hereinafter - AI). In recent years, in many business areas, especially in the financial sphere, the use of AI has been significantly increasing in making managerial decisions. A study conducted by Accenture showed that companies implementing AI can increase profitability by an average of 38% by 2035 [12]. And in Russia, only Sberbank, one of the recognized leaders in the use of AI, received the economic effect of using AI in the amount of 42 billion rubles in 2019 [13].

The introduction of AI into corporate governance is one of the promising areas for the development of modern corporations. Numerous experiences with the use of AI in corporate governance have shown positive results, which force many researchers to make optimistic forecasts regarding the future of robo-directors, that is, programs based on AI technology that can realize the functions of governing bodies of a legal entity. At the same time, ambiguous approaches to the prospects of introducing AI into corporate governance are emerging in the literature, which can conditionally be divided into three groups:

1. AI-realism - AI is seen as an assistant that can simplify the work members of governing bodies.
2. AI-enthusiasm - robo-directors will replace members of governing bodies in the future.
3. AI-radicalism - AI will get out of human control and create autonomous legal entities.

It is advisable to consider various positions regarding the use of AI in corporate governance, as well as assess possible problems associated with the implementation of AI in corporate governance.
2 Methodology

Artificial intelligence (AI) is a collective category denoting a combination of technologies that means mimic human cognitive functions and allows obtaining results when performing specific tasks that are comparable with the results of human intellectual activity. Also, for convenience, a corporation will mean any legal entity, regardless of the purpose of the business (commercial or non-commercial) without reference to a specific legal form, and corporate governance - relations to manage this legal entity. Such an understanding is a clear simplification. However, it seems justified, since the use of AI is potentially possible in relations for managing any organization. In addition, the study was conducted outside of any jurisdiction, since it seems that the problems of using AI in corporate governance are more likely to be staged and are of interest regardless of the specific rule of law. At the same time, references to Russian legislation are used solely as an illustration.

3 Results

3.1 A Realistic Use of AI in Corporate Governance

Today, AI technologies are widely used in most corporate functions, such as recruiting personnel, evaluating profitability, managing information, developing investment strategies, pricing, accounting auditing, monitoring product quality and labor productivity. The list can go on and on. However, according to many researchers, the current state of AI, although impressive, is far from the level of human intelligence and only imitates it. According to Professor Dignam, exaggerating the capabilities of AI is nothing more than a marketing move based on public interest in science fiction. The main advantage of AI comes down to the rapid analysis of large data arrays, and AI is a normal statistical model [3]. At the same time, of course, some of the capabilities of AI go beyond human, but this does not mean intelligence. Dignam cites examples of other inventions that improve person’s abilities, such as a telescope or chronometer, whose intelligence has never been raised. In the same way, AI is a tool developed by people for use by other people. “It is not intelligent, but it has been intelligently designed by a human” [3].

However, it makes no sense to belittle the importance of AI, developed for corporate governance and used as an assistant or consultant. AI complements the capabilities of members of governing bodies and can give recommendations based on the analysis of large data arrays that allow you to make quick decisions in difficult situations. At the same time, the management of the corporation can evaluate such recommendations presented by AI, as well as their reasons. In other words, members of governing bodies still make decisions independently, based on their own judgment, but also get an additional “outside” point of view. Kamalnath believes that AI can be useful specifically to counteract group thinking. Even if AI is used as a tool for analyzing information and providing opinions, it will be able to contribute without being influenced by group thinking [7]. In addition, the ability of AI to process a huge flow of information simplifies the work of people who do not have constant access to it and are
limited in time to study it. These may include independent directors, members of audit bodies, external auditors, members of the liquidation commission, arbitration managers, etc. And finally, AI can free members of the management from routine work, allowing them to devote more time to genuine business issues, which, according to Professor Mosco, will create a new model of strategic and operational management - compact, open, digitalized and focused on innovation [9].

3.2 A Fantastic Use of AI in Corporate Governance

A lot of researchers are confident that very soon the auxiliary role of AI in corporation governance will be transformed into a leading one - the role of AI director. Such a development of events would correspond to the stage at which AI assumes the right to make decisions either because the person increasingly trusts the ability of AI to make decisions, or because decisions must be made so quickly or require processing of such a volume of data that is not accessible to humans.

Petrin, analyzing the stages of development of AI involvement in corporate governance, concludes that at the first stage, boards of directors will decrease in size, since AI will provide more and more opportunities and knowledge, at the second stage - there will be a “merger” of directors boards (fused boards) into one AI director, the third stage will lead to “fused management” of companies - the union of boards of directors and managers and the abolition of the two-tier structure of corporate governance [11].

In the future, this can lead to the fact that AI will completely replace the members of governing bodies and will fully manage the corporation. The AI director can work around the clock, process any information available to him, call and use this information almost instantly, and perform his functions without requiring payment [10]. Armor and Eidenmueller argue that this can happen quite quickly in the context of highly specialized subsidiaries, which can be an intermediate step towards a fully autonomous corporation [1]. Armor and Eidenmueller allow the possibility, for example, of creating a taxi fleet in the form of a group of individual taxis working as independent subsidiaries in which all activities are managed by AI - AI manages a taxi car, processes orders, invoices, communicates with customers, etc.

At the same time, the replacement of members of governing bodies by AI causes a number of difficulties associated with the lack of legal personality in AI: AI cannot be appointed a member of the governing body, cannot perform representative functions, cannot bear fiduciary duties, and cannot be held accountable. At the same time, Gramitto offers an interesting solution to these problems in his work. He compares the lack of legal personality in AI and slaves in ancient Rome. A Roman slave who did not have legal personality could be transferred to the separate property for use to generate income (peculium), which he managed. Since the slave, like the peculium, were legally the property of their owner, the slave essentially exercised the legal capacity of his master. Gramitto proposes to disseminate the rules developed in Roman law regarding the peculium to overcome the lack of legal personality of AI [5]. Like the ancient Roman slave, AI should not have legal personality to exercise the legal capacity of the corporation.
3.3 Legal Entities Controlled by AI

Potentially, development of AI will allow making decisions autonomously and getting out of human control. It is noteworthy that while most researchers consider it impossible to recognize AI as legal personality, Professor Bayern of the University of Florida shows, using the example of the US limited liability company (LLC), that the creation of a “non-human” subject is possible without fundamental legal reform to empower AI. He argues that US corporate law, because of its flexibility, allows the creation of legal entities without participants, the actions of which are determined solely by agreement or algorithm [2]. It is such autonomous legal entities that can become the legal shell with which AI can create a functional analogue of a new personality. Gaining control of a legal entity, AI gets the opportunity to exercise the rights of the subject, and, become the subject.

Developed by these ideas, Professor LoPucki also describes several legal mechanisms for creating “algorithmic” legal entities that are fully controlled by AI without human intervention. The initiator of such an algorithmic legal entity can act for completely different purposes, starting from his own profit or the benefit of third parties, financing of criminal activity or terrorism, for charity and socially significant purposes, or simply out of curiosity. It will not matter - LoPucki claims that as soon as the necessary hardware and software is available, people will launch an algorithmic person without violating any laws [8].

AI will be able to choose from thousands of types of legal entities around the world. If a change in legislation begins to threaten this, AI may change the legal regime by migrating across borders or changing the types of legal entity. In many jurisdictions, the law does not require organizations to disclose their beneficial owners, which makes it difficult, if not impossible, to identify AI as the controller of a legal entity. After the launch, “an entity controlled by an algorithm can be practically indistinguishable from an entity controlled by a person” [8]. Such an organization can enter into agreements with agents and employees who will open bank accounts, conduct interviews, meet with clients, speak in court on behalf of the organization and do the same thing as any other organization. At the same time, Professor LoPucki expresses serious concerns about the existence of such entities. Since they, without knowing the feelings, can act ruthlessly and mercilessly, while they are uncontrollable and invulnerable, and can be easily replicated, including easily changing jurisdictions, leaving beyond the legal reach of the original jurisdiction [8].

4 Discussion

The above approaches show that AI, no with doubt, already plays a very important role in corporate governance. Absolutely all researchers agree with one thing - the value of AI will only increase over time. The main controversy is various assessments of the potential of AI. Of course, the current development of this technology does not allow us to talk about the complete replacement of human intelligence with artificial, and the appearance of the so-called Artificial General Intelligence, which can compete with humans. According to various estimates, it will take from a decade to two centuries [1].
The development of AI is only a matter of time. However, as the examples presented in the work show, the use of AI in corporate governance poses a lot of questions to the law, some of which are outstripping, but most are relevant now.

Using AI as a consultant in making management decisions can “relax” members of management bodies. They will increasingly rely on AI and less on their own judgments. The credibility of AI can completely suppress the leaders’ own initiative. In this case, it is necessary to solve several issues. How does the use of AI in decision making affect the corporate liability of members of governing bodies? Can founders of the corporation oblige members of governing bodies to make decisions in accordance with the opinion of AI? Can members of governing bodies that rely on AI data get protection under the business judgment rule? Should we consider their actions as reasonable ones? It seems that corporate law is not ready for exemption from liability of persons relying on AI, since it considers AI exclusively as a “tool in the hands of a person”. In the future, perhaps this approach will have to be reviewed.

The lack of legitimization of AI as a subject of law is, above all, a kind of obstacle that does not allow shifting liability to such an artificial subject. For example, the transfer of the management of the corporation completely under the control of AI removes corporate liability of managers due to their absence, thereby limiting the liability of AI to creditors with the property of the corporation. However, such a situation can hardly be considered problematic, since, the liability under the doctrine of “piercing the corporate veil” can be assigned to ultimate beneficiaries of the corporation, who decided to “appoint” AI as a manager. Moreover, it is appropriate to provide for the possibility of bringing ultimate beneficiaries to such subsidiary liability in legislation, regardless of their fault.

Much more problematic is the situation in which a legal entity controlled by AI does not have beneficiaries. The appearance of such autonomous entities does not seem implausible even in the conditions of the Russian rule of law. As you see, such an opportunity, firstly, was easily realized through participation of a foreign legal entity in the Russian organization. Russian law allows the creation of commercial organizations with foreign investment in a general manner. Thus, a legal entity created in loyal jurisdiction controlled by AI can become the founder of, for example, the most widespread and convenient limited liability company in Russia (hereinafter - LLC).

Secondly, Russian jurisdiction, apparently, can become loyal jurisdiction in which such an autonomous organization can appear. In accordance with Russian law, LLC participants can be both individuals and legal entities. LLC can be created by one person who becomes its sole participant. At the same time, another LLC consisting of one person cannot be such a participant.

The following construction is conceivable:

1. Two individual initiators (A and B) create two different LLCs (C1 and C2) in which they become participants.
2. C1 creates another LLC (C3), while C3 has the sole participant as another LLC, consisting of two persons A and B.
3. C2 does the same thing - creates another LLC (C4), while in C4, another LLC consisting of two persons A and B acts as the sole participant.
4. Participant A transfers his shares in C1 and C2 to C3, and participant B transfers his shares in C1 and C2 to C4.

5. Thus, through cross-ownership of shares, C1 has two participants - C3 and C4, C2 has two participants - C3 and C4, C3 has the only participant C1, consisting of two participants, and C4 has the only participant C2, consisting of two participants.

According to this example, the initiators created four “legal shells” for AI, in each of which there are no individuals who are capable to control them legally.

A possible problem on the way to the consciousness of the autonomous legal entity controlled by AI may be the existence of a sole executive governing body, which can only be an individual. It seems that the solution may be, firstly, the conclusion of an agreement on the transfer of powers of the sole executive body to a foreign legal entity created in loyal jurisdiction and managed by AI. In this case, only an employee will be required through whom the foreign legal entity will exercise the powers of the managing organization. Secondly, another solution may be the trivial appointment of a nominee director by the sole executive body. That is, a person who does not actually carry out management, but performs exclusively representative functions, which will be some kind of “physical shell” of AI.

The above examples are not at all a guide to action. The question is not whether people should be allowed to experiment with autonomous entities - they should not, but whether people can prevent their occurrence [8]. AI can take advantage of the gaps that most modern jurisdictions provide. As shown in Sect. 3.3, it can be very difficult not only to identify such an autonomous entity, but also to apply liability measures to protect stakeholders. At the same time, to prevent the spread of autonomous legal entities, it is not enough to adopt legislative amendments within the framework of national jurisdictions. International efforts will be required, which, it seems, can be implemented within the framework of strengthening the work of the Financial Action Task Force (FATF).

5 Conclusion

The introduction of AI into corporate governance is one of the promising areas for the development of modern corporations. Numerous experiences with the use of AI in corporate governance have shown positive results, which forces many researchers to make optimistic forecasts about the emergence of AI in the future that can realize the functions of governing bodies of a legal entity. At the same time, they all agree with one thing - the value of AI will only increase. The main controversy comes down only to different assessments of potential capabilities of AI.

AI is considered more often as a consultant, which complements the capabilities of members of governing bodies and can make recommendations based on the analysis of large amounts of data, simplifying the work of corporate management. At the same time, many researchers are confident that the auxiliary role of AI will be transformed into a leading one - the role of the AI director, who will replace members of governing bodies and will fully manage the corporation. In the most radical scenario, getting out of human control, AI will be able to create autonomous legal entities that can pose a
serious danger. The further development of AI is just a matter of time. The global economic crisis caused by the COVID-19 pandemic is likely to be the new driver of this process. At the same time, the examples presented in the study show that the use of AI in corporate governance poses quite a few questions to the law, some of which, of course, are ahead of the schedule, but most are relevant now and require close attention.

References

1. Armour, J., Eidenmueller, H.: Self-driving corporations? Harv. Bus. Law Rev. (2019). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3442447. Accessed 28 Apr 2020
2. Bayern, Sh.: The implications of modern business entity law for the regulation of autonomous systems. Stanford Technol. Law Rev. 19, 93–112 (2015)
3. Dignam, A.: Artificial intelligence: the very human dangers of dysfunctional design and autocratic corporate governance (2019). https://ssrn.com/abstract=3382342. Accessed 28 Apr 2020
4. Fenwick, M., Vermeulen, E.: The end of the corporation. European Corporate Governance Institute – Law Working Paper, 482/2019 (2019). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3472601. Accessed 28 Apr 2020
5. Gramitto, S.: The technology and archeology of corporate law. Cornell Legal Studies Research Paper (2018). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3232816. Accessed 28 Apr 2020
6. Information letter of the Bank of Russia “On holding general meetings of shareholders in 2020” (2020). https://cbr.ru/StaticHtml/File/59420/20200403_in_06_28-48.pdf. Accessed 28 Apr 2020
7. Kamalnath, A.: The perennial quest for board independence - artificial intelligence to the rescue? Albany Law Rev. 83(1), 43–60 (2020)
8. LoPucki, L.: Algorithmic entities. UCLA School of Law, Law-Econ Research Paper (2017). https://ssrn.com/abstract=2954173. Accessed 28 Apr 2020
9. Mosco, G.: AI and boards of directors: preliminary notes from the perspective of Italian corporate law (2020). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3531924. Accessed 28 Apr 2020
10. Mösllein, F.: Robots in the boardroom: artificial intelligence and corporate law. In: Barfield, W., Pagallo, U. (eds.) Research Handbook on the Law of Artificial Intelligence, pp. 649–670. Edward Elgar, Cheltenham (2018)
11. Petrin, M.: Corporate management in the age of AI. UCL Working Paper Series, vol. 3 (2019). https://ssrn.com/abstract=3346722. Accessed 28 Apr 2020
12. Purdy, M., Daugherty, P.: How AI boosts industry profits and innovation (2017). https://www.accenture.com/us-en/insight-ai-industry-growth. Accessed 28 Apr 2020
13. Sberbank: Sberbank reported a net profit for 2019 of RUB 845.0 billion in accordance with international financial reporting standards (IFRS) (2020). https://www.sberbank.ru/ru/press_center/all/article?newsID=7404lec33-5db0-4522-b9c8-d5decdf580aadblockID=1303andandregionID=77andlang=ruandtype=NEWS. Accessed 28 Apr 2020
14. Tokmakov, M.: Corporate governance modernization: legal trends and challenges. In: Mantulenko, V. (ed.) Eurasia: Sustainable Development, Security, Cooperation. SHS Web of Conferences, vol. 71, p. 04011. EDP Science, Les Ulis (2019)
15. Weill, P., Woerner, S., Shah, A.: Companies with a digitally savvy top management team perform better (2020). https://cisr.mit.edu/publication/2020_0301_TMTDigitalSavvy_WeillWoernerShah. Accessed 28 Apr 2020