

# Corporate Governance Modernization: Legal Trends and Challenges

M.A. Tokmakov<sup>1,\*</sup>

\*Corresponding author: [maxim.tokmakov@gmail.com](mailto:maxim.tokmakov@gmail.com).

<sup>1</sup>Samara State University of Economics, Samara, Russia.

**Abstract.** Development of digital technology opens up new opportunities for corporate governance. At the same time, modern law faces a difficult task – to find a balance between creating conditions for development of technologies including by means of non-interference, and providing the stakeholders in corporate governance with proper legal guarantees. This paper considers the impact of some of the most significant digital technologies on corporate governance, such as distributed ledger technology, smart contracts and artificial intelligence. There are certain legal trends and challenges arising from such innovations including the pursuance of sociability, peer-to-peer and decentralization of corporate governance which in many cases is associated with abolishing of bodies (of a part of bodies) for a corporation management, or transferring their powers (a part of powers) to the corporation members and/or to a computer program (artificial intelligence, algorithm, smart contract). Besides, the paper considers occurrences of new subject of corporate relations – crypto-assets (tokens) holders as well as the possibility for recognition of the legal personality of computer programs, in particular, decentralized autonomous organizations and artificial intelligence.

**Keywords:** corporate governance, distributed ledger technology (DLT), tokenization, crypto-assets holders, artificial intelligence, decentralized autonomous organizations (DAO).

## 1 Introduction

Digitalization processes taking place in the world affect even the most stable modern society institutions formed over decades and therefore resistant to external effects. Such a traditional area of public relations as corporate governance is not an exception. As a result, the outlines of a completely new, requiring a deep rethinking of the corporate governance paradigm are outlined, based on openness, peer-to-peer and decentralization.

However, modernization of corporate governance challenges the legal system that supports it. Law traditionally tends (at least, it has such a goal) to stability and constancy trying to ensure stability of regulated relations and therefore inevitably lags behind in comparison to technologies. Ultimately, law shall not change as quickly as technology. The law task, on the one hand, is not to interfere with technological progress (legal barriers or legal uncertainty often impede this), and on the other hand, it is necessary to build the necessary behavior models in changing conditions preventing negative consequences from the use of new technologies. At the same time, it makes sense to talk about the need to change the legal regulation only if it is impossible to solve the indicated problems. Altering law in order to please hype or political trends just because technology has altered is not only unreasonable, but also pointless. Forms change, but not the content.

It is traditionally assumed that relations in the area of corporate governance constitute the subject of corporate law (or corporate legislation at least). Without focusing on the problem, this approach will be followed in the paper. Therefore, modern corporate law has a difficult task to find a balance between creating conditions for development of technologies including by means of non-interference, and providing the stakeholders in corporate governance with proper legal guarantees.

Is corporate law ready to introduce new technologies in corporate governance? May these technologies be implemented without legal alterations, or will such changes be required (first of all, radical ones, and not the targeted ones)? And finally, will all the elements of corporate governance, and together with them the corresponding institutions of corporate law, “survive” the transformation? Searching for answers to these questions formed the goal of the present analysis.

The paper considers the effect of some of the most visible (breakthrough) technologies on corporate governance, such as distributed ledger technology, smart contracts, and artificial intelligence. There are also some legal trends caused by the use of such innovations and some challenges that can potentially arise before law as a result for introduction of researched digital technologies into corporate governance.

## 2 Methods

The present analysis was carried out without reference to law and order of any particular state since the technologies are transnational in nature and exert influence on corporate governance around the world. Moreover, the problems

identified in the paper are staged and appear to be relevant for majority of jurisdictions. In this regard, the basis of the analysis, primarily, consisted of methods for scientific generalization, modeling and forecasting.

### **3 Results**

#### **3.1 Using distributed ledger technology (DLT) in corporate governance**

##### **3.1.1 Holding meetings**

Distributed ledger technology (DLT) offers many opportunities for corporate governance. A lot of papers are devoted to the use of DLT in corporate governance both in Russia and abroad [1-4]. Most often, researchers note a high potential for using DLT in holding general meetings of shareholders due to which reliability, transparency and accuracy of vote counting are achieved. Options for using DLT while holding board meetings are more rarely considered.

Generally, a fair conclusion of such studies is that holding meetings by means of DLT are a form of electronic (virtual) voting known and permitted (with some variations) in majority of law and orders. In essence, DLT does not introduce new content but provides new qualitative characteristics for voting: transparency, reliability, cost reduction, etc. In this regard, restructuring regulation of such relations is not breakthrough in nature and is easily ensured by targeted amendments to national legislation.

At the same time, majority of researchers overlook the fact that capabilities of DLT and its decentralized applications (Dapps) go far beyond usual accounting of transactions (votes). Using DTL, it is possible to create not just a voting system but a full-fledged platform for remote interaction of corporation members with each other and members of corporate bodies in real-time mode, in which transparency and reliability are provided by DLT. Such platform will not only allow, as noted, to hold a general meeting of corporation members much more often, and also not to limit the general meeting to a time frame [2] but will transfer all corporate governance online and make it look like a social network. This means that all the corporate bodies of the corporation including the general meeting of shareholders and the board of directors, will become permanent since any issue can be brought up for discussion and voting within a short time.

The role of corporation members in implementing such model will certainly increase. The general meeting of members may become the leading corporate body making decisions on a significantly wider range of issues. This will entail redistribution of powers in favor of the general meeting of members from the board of directors and even the executive body of the corporation. Potentially, such a redistribution may lead to restructuring the system of corporate bodies and to abolition of some of them.

The described scenario does not seem so implausible considering the global trend in desire to ensure maximum involvement of corporation members in management. At the same time, implementing the indicated model will require serious changes from law – it is necessary to review the structure and functions of corporate bodies, in particular, the role of the general meeting of corporation members as well as provide ample opportunities for formation of competencies of various corporate bodies.

At the same time, the redistribution of powers in favor of the general meeting means imposing additional responsibility on the members for managing the corporation. Furthermore, recognition of corporation members as members of the corporate body and charging them with liability for damnification to both the corporation itself and other stakeholders is not new to most jurisdictions and will not cause serious problems.

##### **3.1.2. Tokenization of corporation assets**

Many researchers also associate potential of distributed ledger technology in corporate governance with creation of a system for accounting shares and rights to them by issuing appropriate cryptographic tokens (crypto-assets) [1,3,4,5] which ensures transparency of share ownership and helps on reducing costs for tracking their beneficial owners.

Without denying viability of using DTL in this direction, however, it can be noted that tokenization of stocks (shares) of the corporation is nothing more than the issue of securities or, as noted by the Russian lawyers [6], derivative financial instruments similar to the content-wise existing ones, and therefore shall not encounter special legislative encumbrances.

In view of this analysis, possibility of creating cryptographic assets (tokens) that content-wise are different from known financial instruments is of great interest. Modern trends in attracting investments show desire of corporations to limit investors in profit participation rights by creating different classes of shares for different types of shareholders (founders, premier investors, posterior investors, etc.), as well as by issuing several voting shares or non-voting shares [1], or desire to refuse to grant investors the status of a shareholder completely by means of issuance of other financial instruments (primarily bonds) or the use of alternative methods to attract investment opportunities (crowdfunding, ICO, etc.).

Along with that, many tokens to be issued as part of ICO do not provide for any claim to their issuer, so their holders may not be qualified as holders of securities or creditors of the corporation. Nevertheless, on the one hand, their property interest is inextricably linked with the corporation activities, on which the value of the token depends, and on the other hand, holders of tokens with high liquidity in the secondary market are capable of exerting serious economic and reputational pressure on the corporation.

In this situation, the holders of various crypto-assets issued by the corporation and not providing for the right to participate may be qualified as corporate stakeholders. Herewith, the legal status for the crypto-assets holders is uncertain and largely depends on the token type, the legal regime of which is still not defined or contradictory in many countries.

From the point of view of corporate governance, the law has only to figure out what corporate rights and obligations the crypto-assets holders issued by a corporation should have. It appears that in some cases the interest of the token holder is more likely by nature to be the interest of the shareholder than the creditor of the corporation or another stakeholder. Law needs to consolidate the opportunities corresponding to this interest as well as form an interaction system between token holders and the corporation.

### 3.2 Using artificial intelligence in corporate governance

Artificial intelligence (AI) technologies have long occupied a niche in various areas of life and, in particular, in the corporate sector. AI can answer calls, perform functions of a customer support service, set reminders, draw up work schedules and meetings, prepare reports, etc., including performing more complex tasks: medical diagnostics, property management and financial consultations, legal expertise and training for sales.

At the same time, in recent years, using artificial intelligence in making managerial decisions has been increasing significantly in many business areas, especially in financial ones. M. Petrin gives the following examples: in 2014, Deep Knowledge Ventures, a Hong Kong-based venture company, integrated the VITAL computer program which is able to provide investment advice to the board of directors; in 2016, the Finnish IT company Tieto informed the public that it had appointed artificial intelligence as a member of the managerial group of the new data management unit; in 2018, California-based software provider Salesforce announced that it was using an artificial intelligence device called the Einstein in its weekly staff meetings and asked Einstein to comment on the proposals being discussed [7].

The above examples confirm that in cases of decision-making based on numerous and complex data sets, computer programs are increasingly surpassing people, especially if AI allows these programs to constantly improve their respective capabilities [8].

Today, using AI is possible only as an assistant consultant and should not encounter any special obstacles from law, since the final decision (or control over the decision) is made by a human being. However, many researchers are confident that in the near future, the auxiliary role of AI in managing a corporation will be transformed into a leading one: the role of AI director (robo-director). The robo-director can work around the clock, process any information available to him, call and use this information almost instantly and perform its functions without payment.

Using AI calls into question existence of many corporate bodies, especially supervisory bodies: board of directors, audit committee, etc. "honesty" and "impartiality" defined by the code (algorithm) are also unquestionable. On the one hand, this solves many problems with corporate liability of managers, on the other hand, it again implies shifting responsibility to its members who decide to "appoint" AI as a manager. The literature already actively discusses the problems of liability for harm arising from using robots [9], there are also attempts to justify the legal capacity and legal personality of AI [10]. Achievements of such research can be crucial for corporate law.

For further development of AI technology in corporate governance, first of all, it is necessary to allow (allow the possibility) the assignment of the responsibilities of the corporate bodies to AI (robot, algorithm, program), which in fact means their abolition, or - to recognize AI as legal personality which will allow AI to become a member of the corporate bodies. Herewith, both of these approaches should be accompanied by a solution to the question for distribution of liability for AI actions.

### 3.3 Decentralized autonomous organizations

One of the trends for digitalization process going on around the world is craving for transfer the majority of social relations from the real world to the cyberspace. On the one hand, this process is accompanied by "digitization" of existing public institutions and creation of their "digital counterparts," on the other hand, emergence in the virtual space of new, previously non-existent elements generated by technology development.

These were "incorporeal creatures floating in cyberspace without a visible form" [11] – decentralized autonomous organizations (DAO) which are a complex system of smart contracts that operate on the basis of the block-chain which makes the corporate hierarchy unnecessary, creating a peer-to-peer communication system between all members. The traditional model of corporate governance is largely based on the fiduciary responsibilities of corporate managers – due to the fact that the efforts and focus of work processes are important in the DAO structure, management oversight and imposition of legal duties on management are less necessary because there are few or no supervisory bodies [12].

The uniqueness of DAO technology provides for the possibility to create an organization type that can exist exclusively in cyberspace which complicates the legal impact on it. DAO "encodes", i.e. it creates its own rules to which it is subject, and by default, legal rules do not have a legal point of intervention [13].

Potential recognition of legal personality of DAO in any law and order will challenge the prevailing legal entity theories. Consequently, much attention is paid in modern literature to determining the legal form of such organizations, as well as to issues for regulation of their activities [13-15].

Despite DAO virtuality, the creators and participants are quite real, which means both the need to protect their rights and interests, and a possible "point of intervention" by means of which law can "affect" DAO. The bitter experience of

the embarrassing high-profile failure of the first DAO in 2016 – DAO project – showed the need to develop a model of legal regulation of relations for participation in such organizations.

## 4 Conclusion

Development of digital technology opens up new opportunities for corporate governance. At the same time, introduction of majority of them does not require significant alterations in the legal system. Along with that, some technologies establish conditions for a fundamental restructuring of corporate governance which does not fit into the existing legal models and requires their adaptation.

The main trends are aimed at establishing openness, peer-to-peer and decentralized corporate governance which in many cases is associated with abolishing of bodies (a part of bodies) for a corporation management, or transferring their powers (part of powers) to the corporation members and (or) to a computer program (artificial intelligence, algorithm, smart contract).

Modernization of corporate governance generates new subjects of corporate relations – crypto-assets (tokens) holders whose legal position requires the determination, and once again raises the question of the possibility for recognition of legal personality of computer programs, particularly decentralized autonomous organizations and artificial intelligence.

Along with that, this allows to talk about the need to rethink many of the provisions of modern corporate (and not only) law to ensure further technological development of corporate governance.

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