SELÇUK ÜNİVERSİTESİ
HUKUK FAKÜLTESİ DERGİSİ
Selçuk Law Review

Araştırma Makalesi
Research Article
Gönderim | Received: 06/06/2024
Kabul | Accepted: 28/03/2025
doi 10.15337/suhfd.1497198

YAPAY ZEKÂNIN ŞİRKET YÖNETİMİNE OLASI KATKILARININ KURUMSAL YÖNETİM KAPSAMINDA DEĞERLENDİRİLMESİ

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Öz

Yapay zekânın anonim şirketlerde kullanımı her geçen gün artmaktadır. Şirketler hukuku da yapay zekâ teknolojilerinden etkilenen bir alan haline gelmektedir. Bu çalışma, şirket yönetimi açısından yapay zekânın kurumsal yönetime olası katkısını değerlendirecektir.

Kurumsal yönetimin çözüm arayışında olduğu konu, halka açık şirketlerde şirket yöneticileri ile pay sahipleri arasında ortaya çıkan çıkar çatışması, yani vekâlet sorunudur. İnsan doğası gereği kendi çıkarları doğrultusunda kararlar alma eğilimindedir. Bu nedenle vekilin karar alırken asilin menfaatleri doğrultusunda hareket etmesini sağlamak zordur. Yapay zekâ bir kişilik veya bağımsız karar verici olarak kabul edilmez, ancak karar alma sürecinde tarafsız bir araç olarak kullanılarak, yöneticiler ve pay sahipleri arasındaki çıkar çatışmalarını azaltabilir. Hukuki sorunlar, yapay zekânın şirket yönetiminde nasıl kullanılabileceği konusunda bir değerlendirmeyi gerektirmektedir. Bu çalışmanın sonucu, yapay zekânın bir yönetim kurulu üyesi olarak değil,

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Atıf Şekli | **Cite As**: **TORE,**İrem: "An Assessment of the Possible Contributions of Artificial Intelligence to Corporate Management within the Scope of Corporate Governance", SÜHFD, C. 33, S. 2, 2025, s. 877-911.

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yönetim kurulu asistanı olarak kullanılmasının yasal olduğu ve bu durumun kurumsal yönetimi destekleyeceği yönündedir.

Anahtar Kelimeler

• Yapay Zekâ • Kurumsal Yönetim • Yönetim Kurulu • Karar Alma • Şirketler Hukuku

AN ASSESSMENT OF THE POSSIBLE CONTRIBUTIONS OF ARTIFICIAL INTELLIGENCE TO CORPORATE MANAGEMENT WITHIN THE SCOPE OF CORPORATE GOVERNANCE

Abstract

The use of artificial intelligence in companies is increasing day by day. Corporate law is also becoming an area affected by artificial intelligence technologies. This study evaluates the possible contribution of artificial intelligence to corporate governance in terms of management.

The issue corporate governance seeks to solve is the conflict of interest, that is, the agency problem, that arises between company managers and shareholders in public companies. By nature, human-beings tend to make decisions in line with their own interests. Therefore, it is difficult to ensure that the agent acts in line with the principal's interests when making decisions. Artificial intelligence cannot be considered to have a personality or an independent decision-maker, but it can be used as a neutral tool in the decision-making process, reducing conflicts of interest between managers and shareholders. Legal problems require an evaluation of how artificial intelligence can be used in company management. The main conclusion of this study is that artificial intelligence as an assistant of the board, rather than as a director, is lawful and promotes corporate governance.

Keywords

• Artificial Intelligence • Corporate Governance • Board of Directors • Decision Making • Corporate Law

INTRODUCTION

Although artificial intelligence (AI) is now on the verge of playing a crucial role in the management of companies, its importance has long been ignored.[1] Yet, times have changed. In 2014, Deep Knowledge Ventures, a Hong Kong-based company, announced that it had appointed

[1] Drucker put forward that "The computer does not make decisions; it only executes commands. It's a total moron." See **DRUCKER**, Peter F.: "The Manager and the Moron" McKinsey Quarterly, *3*(4), 1967, p. 49.

an algorithm called Vital to its board of directors (BoDs) as a member and give it the right to vote on investment decisions.[2] The reason for Vital's appointment as a board member was its ability to evaluate the company's situation by evaluating historical data and revealing trends that are not immediately noticeable to human beings.[3] The ever-growing big data also made companies to make huge investment on AI. A survey undertaken by NewVantage Partners' in 2020 shows rapidly increasing traction to AI within companies. Based on 70 leading companies, survey results show that AI-enabled systems in companies are expanding rapidly as 98.8 percent of companies are investing in big data and AI initiatives, with 64.8 percent investing more than $50 million.[4]

Witnessing such a remarkable expansion of AI in companies makes it possible to claim that one of the fields that interacts with AI is corporate law. Essentially, it can be said that the relationship between corporate law and AI is a reciprocal. While on the one hand AI is easing the commercial life, on the other hand, with the introduction of AI into commercial life, legal regulation has begun to be needed. After all, the BoDs is one of the fundamental subjects of corporate law. With the assumption that AI is becoming a critical force shaping the modern business landscape, corporate law will have to deal with novel and unprecedented types of legal problems.[5] Since the legal liability of AI is a field of research in itself,

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2 **MÖSLEIN**, Florian: Robots in the Boardroom: Artificial Intelligence and Corporate Law, **BARFIELD**, Woodrow/ **PAGALLO**, Ugo (Editors) Research Handbook on the Law of Artificial Intelligence, 1st edition, Edward Publishing Limited 2018, p. 1; **WİLE**, Rob, A Venture Capital Firm Just Named an Algorithm to its Board of Directors, Business Insider, 13 May 2014, < http://www.businessinside0r.com/vital-named-to-board-2014-5?IR=T > (Accessed on 29.05.2024).

3 **ZOLFAGHARIFARD**, Ellie, Would You Take Orders from a Robot? An Artificial Intelligence Becomes the World's First Company Director, Daily Mail, 19 May 2014, < http://www.dailymail.co.uk/sciencetech/article2632920/Would-orders-ROBOT-Artificial-intelligence-world-s-company-director-Japan.html > (Accessed on 29.05.2024).

4 NewVantage Partners Releases 2020 Big Data and AI Executive Survey, BUSINESSWIRE https://www.businesswire.com/news/home/20200106005280/en/New Vantage-Partners-Releases-2020-Big-Data-and-AI-Executive-Survey (Accessed on 29.05.2024).

5 **MÖSLEIN**, Florian, (Çeviren: Çınar, Sevda Bora): "Yönetim Kurulu Toplantı Odasındaki Robotlar: Yapay Zekâ ve Şirketler Hukuku", 79(2) İstanbul Hukuk Mecmuası, p. 703.

this study will only evaluate the possible contributions of AI to corporate governance.[6]

The fundamental issue of corporate governance revolves around balancing the interests of various stakeholders. Essentially, it's about ensuring that companies are run efficiently and in a way that meets the needs and expectations of all involved parties. Corporate board directors are continuously tasked with harmonizing the interests of the board, management, investors, shareholders, and stakeholders. They carry out their duties and responsibilities with a strong emphasis on transparency and accountability. Corporate boards are entrusted with providing oversight, insight, and foresight. This is no easy feat in the current marketplace, which is both complex and volatile. The use of computer science and algorithms to gather and interpret data, recognize patterns, make forecasts, and address issues has made substantial progress. It is also progressing in its capacity to enhance its own performance through machine learning. In this respect, incorporating AI in fulfilling the BoDs' duties and responsibilities can enhance the effectiveness of corporate governance. However, the fact that Turkish commercial legislation has been prepared based on human-managers raises the question to what extent AI can be incorporated to the BoDs.

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[6] **SALES,** Lord: "Algorithms, Artificial Intelligence and the Law", 25 Judicial Review, 2020, p. 48; **SURDEN**, Harry: "Artificial Intelligence and Law: An Overview", 35 Georgia State University Law Review, 2019, p. 1335; **YÜNLÜ,** Semih: "Current Developments on Artificial Intelligence and Liability for Robot Caused Damages", 26 Yeditepe Üniversitesi Hukuk Fakültesi Dergisi, 2019, p. 189-213; **GÜNER**, Cemil: "Yapay Zekânın Verdiği Zarardan Doğan Sözleşme Dışı Sorumluluğa Uygulanacak Hukuk" 15 Uyuşmazlık Mahkemesi Dergisi, 2020, p. 229-272; **ERCAN,** Cannur: "Robotların Fiillerinden Doğan Hukuki Sorumluluk, Sözleşme Dışı Sorumluluk Hallerinde Çözüm Önerileri", 40 Türkiye Adalet Akademisi Dergisi, 2019, p. 19-51; **BAK**, Başak: "Medeni Hukuk Açısından Yapay Zekânın Hukuki Statüsü ve Yapay Zekâ Kullanımından Doğan Hukuki Sorumluluk", 9 Türkiye Adalet Akademisi Dergisi, 2018, p. 211-232; **GÖZÜBÜYÜK**, Barış: "Yapay Zekâ Algoritmalarının Anonim Ortaklıkların Kurumsal Yönetimine Sağlayabileceği Olası Katkılar", 11(2) Hacettepe Üniversitesi Hukuk Fakültesi Dergisi, 2021, p. 1184-1212**; EROĞLU**, Muzaffer/**KARATEPE KAYA**, Meltem: "Impact of Artificial Intelligence on Corporate Board Diversity Policies and Regulations", 23 European Business Organization Law Review, 2022, p. 541–5721; **KARATEPE KAYA**, Meltem: "Yapay Zekânın Şirket Yönetimine Olası Katkılarının Türk Şirketler Hukuku Kapsamında Değerlendirilmesi ve Yapay Zekânın Hukuki Statüsünün Belirlenmesinde Şirketler Hukukundan Çıkarılabilecek Dersler", 25(3) Ankara Hacı Bayram Veli Üniversitesi Hukuk Fakültesi Dergisi, 2021, p. 69-106.

With the aim of seeking an answer to this question in this article, the concept of AI will first be defined. In order to link AI with corporate governance, the basic features of companies will be examined in the following section. Then, it will be explained why it is not possible for AI to be a board member according to Turkish Corporate Law. After examining possible legal problems, areas the BoDs can benefit from AI will be identified and suggestions will be made regarding the contributions of AI to corporate governance of companies.

I. THE DEFINITION OF AI

There are many definitions of AI because it has been applied in many different domains and scholars have defined it in various ways with different focus.[7] This section aims to describe AI for the convenience of the discussions on AI's role in the boardroom.

The challenge in defining AI is not so much in the idea of artificiality as it is in the conceptual ambiguity of intelligence since AI definitions are typically based on human nature and traits and because humans are thought to be the only things with intelligence,[8] Terminologically, artificial is defined as something lacking in natural quality, and associated with machines such as computers. Intelligence is defined as the ability to learn or understand and the skilled use of reason.[9] AI is programmed to follow human instructions. This means that AI is unable to determine why it follows a specific instruction. In another saying, AI lacks the ability of reasoning, but it would not be wrong to state that it learns from data. Thus, it cannot be regarded to be genuinely intelligent.

AI is rapidly evolving; however, it appears that there is no consensus on a specific and widely accepted definition. In order to link

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7 The term "artificial intelligence" was first introduced **MCCARTHY**, John: What is Artificial Intelligence?, Stanford University, 2007, http://www-formal.stanford.edu/jmc/whatisai.pdf (Accessed on 29.05. 2024). In this definition, 'intelligence' was the main focus for defining AI. Following McCarthy, **HOSSEIN JARRAHI**, Mohammad: "Artificial Intelligence and the Future of Work: Human-AI Symbiosis in Organizational Decision Making", 61(4) Business Horizons, 2018, p. 577-586; **RAO**, Anand: "AI: Everywhere and Nowhere (Part 1)", Insurance Thought Leadership (June 2, 2016), http://insurancethoughtleadership.com/ai-everywhere-and-nowhere-part-1/ relied on the term "intelligence'.

8 **ZHAO,** Jingchen: "Artificial Intelligence and Corporate Decisions: Fantasy, Reality or Destiny", 71(4) Catholic University Law Review, 2022, p. 668.

9 Merriam-Webster Dictionary https://www.merriam-webster.com/dictionary/intelligence

the definition of AI with its future function in the boardroom, one should move away from the notion of "intelligence" and focus on thinking or acting rationally and being goal-driven because this function is strongly tied to both the human-centric and rationalist definitions of the notion. Accordingly, AI may be defined as the technology that functions appropriately to automate tasks that "normally require human intelligence".[10] According to this definition, AI is primarily concerned with automating tasks that are perceived to require intelligence when performed by humans.

AI functions through the process of learning and subsequently applying the acquired knowledge. This learning process can be categorized into two primary methods: machine learning and deep learning.[11] Machine learning involves the development of algorithms that enable systems to learn from data and make predictions or decisions based on that data. In this approach, AI refines its performance by learning from its errors, akin to the way humans do. Through iterative processes and feedback, AI systems enhance their capabilities and adaptability over time.[12]

Deep learning, a subset of machine learning, utilizes neural networks with multiple layers to analyse various levels of abstraction in data, allowing for more complex and nuanced learning and application.[13] At the heart of deep learning lies an artificial neural network system that emulates human neural networks. These artificial neural networks process raw data by identifying and learning its distinguishing features within their multi-layered architecture.[14] Through this intricate structure, they store, process, and utilize the information. It is believed that AI will

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10 **NİLSSON**, Nils J.: The Quest for Artificial Intelligence: A History of Ideas and Achievements, Cambridge University Press 2013; **SURDEN**, n above 6, p. 1307.

11 **BAK**, Başak: "Medeni Hukuk Açısından Yapay Zekânın Hukuki Statüsü ve Yapay Zekâ Kullanımından Doğan Hukuki Sorumluluk", Türkiye Adalet Akademisi Dergisi, 9(35), 2018, p. 212, **YENİCE CEYLAN**, Özge: "Yapay Zekânın Hukuki Statüsünün Değerlendirilmesi", Anadolu Üniversitesi Hukuk Fakültesi Dergisi, 10(1), 2024, p. 40-41.

12 Ibid, p. 213.

13 **YILMAZ**, Atınç/ **KAYA**, Umut: Derin Öğrenme, KODLAB, İstanbul, 2020, p. 1.

14 **ELMAS**, Çetin: Yapay Zeka Uygulamaları, Seçkin Yayınları, Ankara, 2018, p. 149.

rely on big data to provide the necessary input for these networks to function effectively.[15]

While computers have historically played a crucial role in computational tasks and data storage, the advent of AI has transcended these foundational functions by extending capabilities into realms such as data analysis, predictive modelling, automation, and optimization. AI thus represents a significant advancement beyond conventional computational tools.

II. THE NEXUS BETWEEN AI AND CORPORATE LAW

In order to determine the intersections of AI with corporate law, it is vital to investigate which organs of a company are most influenced by AI. Although the specific features of companies are subject to a legal framework that may differ among legal systems, companies can be characterized by a common structure that is valid regardless of the legal system in which they are located. In almost all economically important jurisdictions, there exists this common structure that allows for the creation of companies with a foundational framework.[16] From an economic standpoint, as a default rule, companies are vehicles that allow investors to govern their businesses collaboratively, with the exception of single-partner joint stock and limited companies. From a legal perspective, it is necessary to add five common features that are applicable regardless of the legal order in which they operate to this definition. First, companies have their own legal personality. Legal personality means that companies have rights, such as to enter into contracts, possess assets, file lawsuits, and so forth, and are entitled to obligations just like human beings. This assures that it owns an asset apart from the assets of its founding partners.[17] The second feature is the principle of limited liability. According to this principle, while the company's creditors can apply for the assets owned by the company in

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15 **KÜÇÜK**, Emin Seyyid: "Yapay Zekâ Varlıklarının Hukuki Statüsü Üzerine Disiplinler Arası Bir Muhakeme", Bilişim Hukuku Dergisi, 6(1), 2024, p. 208.

16 **KRAAKMAN**, Reinier/ **ARMOUR**, John/ **DAVIES**, Paul/ **ENRIQUES**, Luca/ **HANSMANN**, Henry/ **HERTIG**, Gerard/ **HOPT**, Klaus/ **KANDA**, Hideki/ **PARGENDLER**, Mariana/ **RINGE**, Wolf-Georg/ **ROCK,** Edward (Editors): The Anatomy of Corporate Law: A Comparative and Functional Approach, 3rd edition, Oxford University Press, 2017, p. 5-15.

17 **HANSMAN**, Henry/**KRAAKMAN**, Reinier: "The Essential Role of Organizational Law" 110(3) Yale Law Journal, 2000, p. 388.

question, they cannot apply for the personal assets of the company's shareholders.[18] The third feature is the principle of transferability of shares, which makes the operation of the company independent regardless of changes in shareholders. The fourth feature is the delegation of management to a Board of Directors (BoDs). The general partnership form, by default, gives a majority of partners the authority to run the partnership in the usual course of business; more essential decisions require unanimous consent. This allocation is unworkable, particularly for companies with numerous and constantly changing shareholders. Consequently, corporate law typically vests principal authority over corporate affairs in a BoDs that is periodically elected by the shareholders. Despite being mostly or totally appointed by the shareholders, the board is formally distinct from them. This distinction eliminates the need to inform the shareholders and obtain their consent for all but the most fundamental decisions regarding the company (TCC Art. 374-375). As a result of this distinction, shareholders, who are the economic owners of the companies, typically do not take an active role in the day-to-day decision-making mechanisms of the company. However, it is important to acknowledge the separation of functions within corporate management. In companies, there exists a general assembly that holds certain non-transferable duties and authorities (TCC Art. 408). This separation ensures that while the BoDs manages the company on a daily basis, the shareholders, through the general assembly, retain crucial decision-making powers on significant matters, such as the sale of significant amounts of assets. The BoDs cannot make such a decision independently and must bring it to the general assembly for approval. This structure helps maintain a balance where shareholders can exert control over major corporate decisions while delegating routine management tasks to the BoDs. The last feature is the principle of participation in capital. This feature provides partnership rights to shareholders in proportion to the amount of capital invested in the company.

These features together make the company particularly appealing for organizing productive activities. However, they also generate conflict and trade-offs that imparts a specific corporate character to the agency problems that corporate law must address. The primary goal of corporate

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[18] **MANNE**, Henry: "Our Two on Systems: Law and Economics", 53(2) Virginia Law Review, 1967, p. 262.

law is to provide companies with a legal type that incorporates these five fundamental features while also determining the regulations required to establish the basic structure of the company.[19] Second but equally crucial function of corporate law is to minimise the ongoing costs of organising companies through the corporate form. Corporate law does this by promoting cooperation among participants in companies and restricting possibilities for value-reducing types of opportunism among various stakeholders.[20] Indeed, much of corporate law deals with agency problem, which arises in most general sense when the interests of one party (principal) rely upon the actions taken by another party (agent). In another saying, corporate law aims to minimise agency problem by motivating the agent to act in the best interest of principal rather than his own. The doctrine described three prevalent agency problems which are agency problem between the shareholders and directors; agency problem between shareholders, primarily between controlling and minority shareholders; and agency problem between the company and other parties such as creditors, employees, and customers.[21] To address agency issues, corporate law and governance codes establish various legal mechanisms by assigning specific duties and responsibilities to the BoDs. If there is AI involvement in the management of the company, it will undoubtedly help to mitigate these agency conflicts by enhancing transparency, accountability, and decision-making in several ways such as decision support, enhance monitoring, automated reporting. Even further, the membership of AI to the BoDs debate can come to the fore. In such a scenario the corporate governance structure and corporate law rules based on agency problems may also need to be reconstructed.[22] All of these raise the questions of whether the board can utilize AI under current Turkish commercial legislation.

III. THE BoDs UNDER TCC

As it is explained previously, corporate law has two general roles, one of which is to control conflicts of interests among corporate participants. These conflicts have the character of agency problem. Agency problem is a risk sharing problem arises when two parties to a

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19 **KRAAKMAN**, **ARMOUR**, **DAVIES**, et. al., n above 16, p. 1.

20 Ibid p. 2.

21 Ibid p. 29-30.

22 **ZHAO**, n above 8, p. 672.

contract have different attitudes towards risk. The agent is engaged to fulfil some duties on behalf of the principal. This requires delegating some decision-making authority to the agent.[23] The agent aims to run the company successfully in long-term and the aim of the principle is to gain maximum profit, meaning that agents and principals may have different attitude towards risk. Despite all the legal measures, there is the possibility that the actions of agent may be beneficial for corporate goals but detrimental to the principals. The core of the difficulty is that, because the principal commonly has less information than the agent about the relevant facts, the principal cannot easily be sure whether the agent is performing as promised. In this case, the principal must rely on the information provided to them and trust to the agent's decisions. If the decisions taken by the agent are detrimental to principal, this creates conflict of interest within the company.

Law can play an important role in minimizing agency problems. Obvious examples are rules and procedures that enhance transparency and accountability of agents. Corporate governance, in the most general terms, refers to the good and fair management of a joint stock company.[24] However, while there are universally accepted pillars of corporate governance, it is difficult to find a widely recognised definition. For the aim of this study, it can be defined as the process by which a company is governed in accordance with the principles of transparency, fairness, accountability, and responsibility in order to balance the competing interests of various stakeholders to protect the company's long-term interests.

One part of the corporate governance principles is the responsibility of the board.[25] According to the Turkish Commercial Code (TCC), the BoDs is the management and representation body of the company

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[23] **JENSEN**, Michael C. / **MECKLING,** William H.: "Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure", 3(4) Journal of Financial Economics, 1976, p. 308.

[24] **PASLI**, Ali: "Kurumsal Yönetim' in **HELVACI**, Mehmet/ **ÖZSOY**, Ahmet/ **SÖNMEZ**, Numan Sabit/ **UZEL**, Necdet (Editors) Türk Ticaret Kanunu Ekseninde Sermaye Piyasası Hukuku Toplantı Serisi (Tebliğler ve Tartışmalar), On iİki Levha Yayıncılık, İstanbul 2019, p. 226.

[25] OECD, G20/OECD Principles of Corporate Governance < https://www.oecd.org/content/dam/oecd/en/publications/reports/2015/11/g20-oecd-principles-of-corporate-governance_g1g56c3d/9789264236882-en.pdf#page=47.20> p. 45

(Art.365). Real and legal persons may be elected to the BoDs (Art. 359). Article 374 of the TCC stipulates that "the BoDs is authorized to make decisions on all kinds of works and transactions necessary for the realization of the company's business subject, except for those left to the authority of the general assembly in accordance with the law and the articles of association." The non-transferable and indispensable duties and powers of the BoDs are specified in Article 375 of the TCC. In summary, the BoDs is responsible for broadly organizing management, establishing general principles and rules for business policy including establishing the necessary order for accounting, financial auditing and financial planning, supervising managers and directors who execute duties with delegated authority. The BoDs is also responsible for establishing, operating, and developing the early detection and management of risk committee (Art. 378/1). They are obligated and accountable for fulfilling these responsibilities. However, provided that there is a provision in the articles of association, the BoDs can delegate all or some of its transferable duties to the members of the BoDs or to third persons through an internal directive (Art. 367). In addition, pursuant to Article 369 of the TCC, members of the BoDs are obliged to perform their duties with the care of a prudent manager and to protect the interests of the company in accordance with the rules of honesty. In case the board members breach their obligations arising from the law and the articles of association through their own fault, they are liable for the damage they cause to the company, its shareholders and the company's creditors (Art. 553/1). However, in accordance with the principle of differentiated solidarity applied in liability law, the board member will be held liable not for the entire damage, but to the extent of his fault.[26] Although the case might be filed against any board member or the entire board, the board member is not required to compensate for more than the actual harm he caused.[27] If a legal person is appointed as a board member within the scope of the same article, the real person who is its representative is responsible to the company, its shareholders and creditors for the acts and

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[26] **HELVACI**, Mehmet: "Yönetim Kurulu Üyelerinin Hukuki Sorumluluğunda Farklılaştırılmış Teselsül" 2 Galatasaray Üniversitesi Hukuk Fakültesi Dergisi, 2023, p. 84, **KOÇ**, Himmet: "Anonim Şirket Yönetim Kurulu Üyelerinin Farklılaştırılmış Teselsül İlkesi Uyarınca Sorumluluklarına Genel Bir Bakış" 3 Necmettin Erbakan Üniversitesi Hukuk Fakültesi Dergisi, 2020, p. 63.

[27] **ÜNLÜ,** Ufuk: "Anonim Şirketlerde Sorumluluk Doğuran Davranışlar ve Farklılaştırılmış Teselsül" 13 Terazi Hukuk Dergisi, 2018, p. 138.

transactions he carried out. Accordingly, it is possible to file a case against the legal person.[28] The BoDs that transfer a duty or authority arising from the law or the articles of association to someone else on the basis of the law, shall be held liable for the acts and decisions of the persons who take over these duties and authorities, if it is proven that reasonable care was not exercised in the selection of these persons (Art. 553/2).

A. Can AI Take a Place in the Board as a Member?

In light of above-mentioned regulations, the question that needs to be asked here is whether it legally possible for AI to become a board member? Considering TCC Art. 553, the answer is no since AI lacks personality.[29] According to the Article, a liability case can be filed against a real or legal person board member. However, if AI becomes a member of the BoDs, it can exploit a loophole because as a result of the principle of differentiated solidarity, each board member is only liable to the extent of his own fault. Therefore, the fact that AI does not yet have a personality in Turkish legal system poses a problem in terms of holding AI legally responsible.[30] This can pave the way for the establishment of companies with "no responsible".[31] This may pose some corporate governance concerns as well. AI's not being held responsible due to its actions and decisions would result in accountability gap towards shareholders. Furthermore, AI is dependent on the one who programs it. It is conceivable for the AI programmer to connive with the dominant shareholder and abuse the rights of the minority shareholders. One could assert that the programmers who developed the software may be held responsible for any harm that occurs while using AI as a board member. However, it should be noted that the programmer is not a corporate manager, therefore he may lack the necessary skills to govern a company. It would be unfair to hold him accountable in the same way as a company manager.

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28 **EMİNOĞLU**, Cafer / **ÇAKIR**, Fatma Betül: "Anonim Ortaklıklarda Tüzel Kişilerin Yönetim Kurulu Üyesi Seçilmesi ve Kamu Tüzel Kişilerinin Yönetim Kuruluna Temsilci Ataması" 28 Gazi Üniversitesi Hukuk Fakültesi Dergisi, 2014, p. 277.

29 For the discussion on the legal personality of AI, see **ÖZBAY**, Ümit Vefa: "Dijital Peculium Kavramı", 70 (3) Ankara Üniversitesi Hukuk Fakültesi Dergisi, 2021, p. 871-879, YENİCE CEYLAN, n above 11, p. 42-45.

30 **ALKAN**, Altaş: "Yapay Zekânın Şirket Yönetiminde Yer Almasına İlişkin Değerlendirmeler", Selçuk Üniversitesi Hukuk Fakültesi Dergisi, 31(3), 2023, p. 1375

31 **KARATEPE KAYA**, n above 6, p. 82.

Kaya suggested a remedy to this problem in her research. Accordingly, TCC Art. 361, one of the novelties of the TCC which provides professional liability insurance to members of the BoDs of joint stock companies, may eliminate, albeit theoretically, the problem of who will be responsible for the damages arising from the appointment of AI as a manager.[32] The purpose of the provision is, on the one hand to reinforce the company's reliability to third parties, and on the other hand allowing board members to make decisions without fear of being held liable for compensation. In this case, problems regarding liability of AI for the transactions and actions as a BoDs member can be eliminated by using professional liability insurance under Art. 361. However, as stated in the preamble of the TCC Art. 361, it is not possible for the Turkish insurance industry to bear such a large risk, and the possibilities of obtaining this insurance are almost non-existent today.[33] Regarding the suggested remedy, the author thinks that in order to provide professional liability insurance to members of the BoDs, there needs to be a company director. The existence of a company director depends on someone who can be legally considered a person, either real or legal. Therefore, the problem of AI being a board member can only be overcome by the legislator granting personality to AI. Due to these binding regulations, it is not possible to appoint AI as a board member in Turkish companies.

B. Can AI Select a Board Member?

Many of the concerns regarding boards stem from the director selection process, which is one of the most significant yet understudied issues in corporate governance.[34] A previous study stated that the selection of directors is essentially a prediction problem and AI algorithms are substantially better than humans at making predictions.[35] Their findings reveal that the directors predicted by AI to perform poorly, indeed, exhibit subpar performance both in absolute terms and when compared to realistic alternatives. According to the results, one significant advantage of using AI is that they are not subject to the agency conflicts

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32 Ibid p. 83.

33 Preamble of TCC No.6102, Article 361 https://www.lexpera.com.tr/mevzuat/gerekceler/turk-ticaret-kanunu-madde-gerekceleri/1.

34 **EREL**, Işıl/**STERN**, Léa H./**TAN**, Chenhao/ **WEİSBACH**, Michael S.: "Selecting Directors Using Machine Learning" 34 The Review of Financial Studies, 2021, p. 3227.

35 Ibid.

arising from cognitive biases that emerge when boards appoint new directors. They conjecture that using AI could help minimize agency problems and thus, will contribute to the development of corporate governance. However, it's crucial to assess whether the use of AI is both permissible and effective under Turkish legislation. In this context, it's essential to separately examine the processes for electing board members and executive directors.

According to TCC Art. 408/2(b) the general assembly exclusively has the authority to elect board members. Furthermore, one may argue that in publicly traded companies, the freedom of shareholders to elect the board is sacrosanct, and any intervention is considered illegitimate. Therefore, it is not legally possible for the board member to be selected by AI because it would be regarded as an unjustified curtailment of shareholders' discretion.

Besides that, given the size of companies, the law maker has permitted the transfer of management by stating in TCC Art.367/1 that the BoDs in joint stock companies can delegate certain powers regarding the management of the company to some board members or third parties who are not members of the BoDs, through an internal directive that it will be prepared and put into force. Executive directors are third parties who are not members of the BoDs. In this context, persons to whom the management is delegated are considered managers. Executive members, evaluated in this respect, also have an essential role in corporate management.

Executive members are elected by the BoDs, not by the general assembly. In this instance, selection of executive members by AI will not spark a debate on illegitimacy of intervention in the freedom of shareholders to choose the board members. Additionally, there is no legal obstacle to using AI in the selection of executive directors. However, the fundamental issue to be considered at this point is that AI does not have a personality to which a duty of care can be attributed and does not have an asset that can be resorted to in case of liability. Thus, again, the question that raises here is, who will be liable for the decision if executive members are elected by the AI? Therefore, it is not legally possible for executive members to be selected by AI as well.

However, there is no legal obstacle to using AI as an auxiliary tool in determining the nominees for BoDs and executive managers. At this stage, Turkish companies' ownership structure becomes significant.

Centralized companies, controlled by a small group of shareholders, have long dominated most of the world. In Turkey, joint stock companies also have a concentrated ownership structure. Under the existing system, board members and managers are chosen by those in control. Given this, if the nominee offered by AI is different from the nominee who receives the support of controlling shareholders, it is reasonable to predict that the nominee offered by AI will be less likely to be elected as a member or manager than the nominee supported by the controlling shareholders. Consequently, it is believed that using AI to determine board members for Turkish companies will not be effective and functional in the foreseeable future.

Ultimately, under all these cases the liability will still lie with the BoDs according to TCC Art. 359 and Art. 369. Utilization of AI in determining nominee does not violate the loyalty duty regulated under this article.[36] In fact, the BoDs can use AI to forecast the possible outcomes of strategic decisions prior to their execution. Such predictive abilities allow boards to assess the prospective impacts of various courses of action, thereby promoting more informed and proactive decision-making.[37] For instance, a board can employ AI to project the potential consequences of a merger or acquisition, taking into account factors such as market reactions, operational compatibility, and possible legal challenges. However, it is possible for liability to arise in terms of duty of care since the company may experience losses because of the BoDs' decision to act in line with the decision made by AI. Manager cannot use ignorance as an excuse to avoid fulfilling their obligations. Therefore, the BoDs should be careful about which algorithms will be chosen and which decisions will be supported by AI; allocating the necessary time and resources for AI infrastructure; checking options offered by AI etc. within the scope of the duty of care. In other words, if the BoDs are to make decisions based on AI recommendations, they must guarantee that the AI system is stable, does not create severe management errors, and that the

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[36] **GÖZÜBÜYÜK**, n above 6, p. 157; **GÜÇLÜTÜRK**, Osman Gazi: "Anonim Şirket Yönetiminde Yapay Zekânın Kullanılması ve Sorumluluğa Etkisi" in **KARAGÖZ**, Havva/ **ÖZCANLI**, F. Beril/ **PALANDUZ**, Seda (Editors) Tüzel Kişilik Penceresinden Anonim Ortaklık Sempozyumu, MEF Üniversitesi Hukuk Fakültesi, 20-22 Temmuz 2020, 1st Edition, On İki Levha Yayıncılık, 2021, p. 462-463.

[37] **SUN**, T. Quan **/MEDAGLIA**, Rony: "Mapping the Challenges of Artificial Intelligence in the Public Sector: Evidence from Public Healthcare", Government Information Quarterly, 36(2), 2019, p. 380-383.

judgements are legal and in accordance with the articles of the associations.

IV. OTHER POTENTIAL UTILIZATION AREA OF AI BY THE BoDs

AI is not a human and does not have a legal personality. Therefore, under the current Turkish legislation it is not possible for AI to replace the BoDs. However, this does not mean that the board cannot utilize AI in fulfilling its duties and responsibilities. Instead, companies can leverage AI's advanced data processing capabilities to enhance decision-making processes, streamline risk management, improve regulatory compliance, and ensure transparency and accountability. AI can assist with solving intricate problems and making decisions by posing and responding to questions, as well as by creating scenarios and simulations. However, the final decision-making authority must always rest with human users.

The corporate governance framework aims to guarantee the prompt and precise disclosure of all significant aspects related to the company, covering its financial status, performance, sustainability, and governance practices. In most jurisdictions, a significant amount of both mandatory and voluntary information is collected regarding publicly traded companies and then distributed to a diverse array of users.[38] Experience demonstrates that disclosure is a powerful tool for shaping corporate behaviour and safeguarding investors.[39] A robust disclosure framework can attract capital and bolster confidence in the capital markets. Conversely, inadequate disclosure and lack of transparency can lead to a deterioration of market integrity, resulting in significant costs for companies, shareholders, and the economy at large. Shareholders and potential investors need consistent, timely, reliable, and comparable information with sufficient detail to evaluate company management's performance and make informed decisions regarding share valuation, ownership, and voting. Insufficient or unclear information can impede market functionality, increase capital costs, and lead to suboptimal resource allocation.

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38 OECD, G20/OECD Principles of Corporate Governance, n above 25, p. 27

39 Ibid

The OECD states that utilization of AI can improve the oversight and enforcement of corporate governance requirements.[40] Using AI in business processes presents both challenges and risks. Key considerations include maintaining data quality, ensuring staff have the necessary technical expertise, addressing system interoperability in reporting formats, and managing third-party dependencies and digital security risks. When using AI, it is to an extent essential to retain human element to prevent the incorporation of existing biases in algorithmic models and to mitigate the risks associated with overreliance on AI.

A. Preparing the Financial Statements

In TCC, the BoDs is responsible for preparing the financial statements for joint-stock companies (Art. 514). The financial statements of joint stock companies are prepared in a way that reflects the company's assets, debts and liabilities, equity capital and operating results in a complete, understandable, comparable manner, in accordance with the needs and nature of the business; transparently and reliably; and in an honest, complete, and faithful manner (Art. 515). There is no provision preventing the use of AI in the preparation of financial statements. Indeed, the Twelfth Development Plan anticipates a broader adoption of technologies that enhance the security and transparency of presenting distributed data within businesses with the expectation that these advancements will play a significant role in business operations moving forward.[41]

According to Article 68 of the TCC, two main types of financial statements must be prepared: income statements and balance sheets. Besides, Article 68 refers to Turkish Accounting Standards (TAS) which has stated that the set of financial statements consists of the statement of financial position, the statement of profit or loss and other comprehensive income, the statement of changes in equity, the statement of cash flows, and the footnotes containing important accounting policies and other explanatory information (TAS 1 and TAS 7). These documents collectively offer a comprehensive perspective on the company's financial health. Conventional reporting methods involve manual data entry, ledger

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40 Ibid p. 12

41 **THE REPUBLIC OF TÜRKİYE**, The Presidency of Strategy and Budget, The Twelfth Development Plan (2024-2028) <https://www.sbb.gov.tr/wp-content/uploads/2023/12/On-Ikinci-Kalkinma-Plani_2024-2028_11122023.pdf> para. 37-42, p. 8-9

upkeep, and a heavy dependence on paper records. Although these approaches have been reliable over time, they tend to be human-intensive and susceptible to human error. The manual processes inherently limit the speed and efficiency of financial reporting, making it difficult to manage large volumes of data efficiently.[42] On the other hand, AI-driven reporting methods utilize cutting-edge technologies like machine learning, natural language processing, and data analytics to automate and improve reporting tasks. AI systems can swiftly and accurately process large volumes of data, minimizing errors and enhancing the quality of financial reporting.[43] This automation also covers complex tasks, such as fraud detection, risk assessment, and predictive financial analysis, which were difficult to accomplish with traditional methods.

A major benefit of AI in reporting is its capacity to deliver real-time insights and analytics. Unlike traditional methods, which typically experience delays between data entry and report generation, AI-driven systems provide immediate analysis, facilitating more timely and well-informed decision-making.[44] This capability is especially valuable in fast-paced corporate settings where rapid responses to financial information are essential. AI also significantly expands the scope and depth of financial analysis. While traditional reporting methods often focus on analysing historical data, AI can forecast future trends and patterns, providing a more holistic view of a company's financial health.[45] Thus, accountants can forecast future trends and provide more accurate

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42 **ZHANG**, Chao/**LI**, Xinglin/ **QI**, Yuzhu/ **HE**, Yitong/ **NIU**, Jingwei/ **XU**, Yiyi/ **ZHANG**, Jiaying: "A Comparative Study on the Examination System of CPA in the AI Development Background Take China, Australia, the United States, the United Kingdom, Japan, and Germany as Examples", E3S Web of Conferences, 233, 2021, DOI:10.1051/E3SCONF/202123301162.

43 **MEIRYANI**, Meiryani / **ANDINI**, Vidhiya/ **FAHLEVI**, Mochammad/ **YADIATI**, Winwin/ **PURNOMO**, Agung/ **PRAJENA**, Gredion: "Analysis of Accounting Information Systems Based on Artificial Intelligence on Fraudulent Financial Reporting Trends in Indonesia", Proceedings of the 2022 4th International Conference on E-Business and E-Commerce Engineering, 2022, p. 83-93. DOI: 10.1145/3589860.3589871.

44 **TANDIONO**, Rosaline: "The Impact of Artificial Intelligence on Accounting Education: A Review of Literature", E3S Web of Conferences, 426, 2023, DOI: 10.1051/e3sconf/202342602016.

45 **MEIRYANI/ANDINI/FAHLEVI/YADIATI/PURNOMO/PRAJENA**, n above 43.

financial recommendations. This predictive ability is extremely valuable for strategic planning and risk management.

Empirical research validates these viewpoints, underscoring the significance of employing AI-based forecasts in accounting to facilitate proactive management and comprehensive analysis.[46] Research has indicated that the integration of AI in accounting transcends the mere automation of routine tasks; it signifies a fundamental shift in the management and utilization of financial information for decision-making purposes. A recent study endeavour to formulate a concept for the modernization of national accounting policies, aligning with global trends and technological advancements characteristic of the Accounting 4.0 paradigm.[47] The study employs a variety of methodologies, including analytical, documentary analysis, expert consultations, scientometric analysis, comparative analysis, and synthesis methods. The research identifies several optimal digital transformation tools for national accounting policy, such as Cloud Computing, Blockchain Technology, Big Data, Machine Learning, and the Internet of Things. The findings suggest that these technologies facilitate the flexible, secure, and efficient processing of large data volumes, automate processes, enhance the accuracy and transparency of financial reports, and improve decision-making capabilities.

Another study explores how AI-driven automation is transforming financial activities by reducing time and resource expenditure. This automation supports various Sustainable Development Goals, including Decent Work and Economic Growth, Industry, Innovation, and Infrastructure, and Partnerships for the Goals.[48] The study concludes that AI's capacity for real-time data analysis empowers businesses to make sustainable, data-driven decisions with high accuracy and timeliness.[49]

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46 **KURELJUSIC**, Marko/**KARGER**, Eric: "Forecasting in Financial Accounting with Artificial Intelligence – A Systematic Literature Review and Future Research Agenda", Journal of Applied Accounting Research, 25(1), 2023, p. 81-104

47 **SHAPOVALOVA**, Alla/ **KUZMENKO**, Olena/ **POLISHCHUK**, Oleh/ **LARIKOVA**, Tetyana/ **MYRONCHUK**, Zoriana: "Modernization of The National Accounting and Auditing System Using Digital Transformation Tools", Financial and Credit Activity: Problems of Theory and Practice, 4(51), 2023, p. 33-52.

48 **UNITED NATIONS**, Department of Economic and Social Affairs, Sustainable Development Goals, https://sdgs.un.org/goals

49 **PENG**, Yixuan/ **AHMAD**, Sayed Fayaz/ **AHMAD**, Ahmad Y. Bani/ **AL SHAIKH**, M. Shaikh/ **DAOUD**, M. Khalaf/**ALHAMDI**, F. M. Husein: "Riding the Waves of

AI-driven reporting methods provide substantial benefits over traditional ones, such as improved efficiency, accuracy, and advanced analytical capabilities. However, they also introduce new challenges that must be managed. The future of reporting will involve balancing the advantages of AI with the need to address its risks. As the field progresses, the adoption of AI in reporting practices is expected to become more widespread, transforming the landscape of financial reporting and analysis.

B. Risk Management

In accordance with Article 378 of the TCC, the BoDs of listed joint-stock companies is required to establish an expert committee tasked with developing and operating a system aimed at the early detection of risks that could threaten the company's existence, ensuring its development and continuity, and implementing the necessary measures and solutions for risk management. This committee is mandatory for listed companies, as opposed to the optional committees that merely support the BoDs as stipulated in Article 366/2 of the TCC. The committee's responsibilities include identifying risks that may jeopardize the company's development and continuity, taking appropriate precautions to mitigate these risks, and conducting studies to manage risk effectively. Furthermore, the committee is responsible for reviewing the risk management systems at least once a year.[50] This committee is crucial for companies to establish better corporate governance policies and enhance their social responsibility.[51]

Article 378 of the TCC specifies that the committee's role extends beyond merely identifying existing risks and articulating the reasons that threaten the company's existence, development, and continuity. The committee is also mandated to propose solutions for managing these risks. This dual responsibility underscores the importance of not only recognizing potential hazards but also actively seeking and recommending strategies to mitigate and manage them effectively.

Artificial Intelligence in Advancing Accounting and Its Implications for Sustainable Development Goals", Sustainability, 15(19), 2023, p. 14165.

50 Capital Markets Board of Türkiye Corporate Governance Communique (II-17.1), Official Gazette: 03.01.2014/28871, Art. 4.5.12

51 **KUO,** Susan S**./ MEANS**, Benjamin: "Corporate Social Responsibility after Disaster Corporate Social Responsibility after Disaster", Washington University Law Review, 89(5), 2012, p. 973-974.

Traditional risk detection methodologies predominantly depend on historical data and human expertise, utilizing tools such as risk registers, risk matrices, failure mode and effects analysis, checklists, and qualitative assessments.[52] However, the emergence of AI-enhances risk detection signifies a paradigm shift. AI systems, equipped with superior computational abilities, are capable of analysing vast amounts of data, identifying patterns that are imperceptible to humans, and predicting future risks with greater precision. When comparing traditional risk management to AI-enhanced risk management, a profound transformation is evident, characterized by real-time data processing, predictive analytics, and the capacity to adapt to new information dynamically.

Machine learning offers advanced methods to analyse extensive datasets, yielding predictive insights, anomaly detection, and trend forecasting. These algorithms can be trained to identify intricate patterns and make decisions with minimal human input. In the context of risk evaluation, AI systems leverage these patterns to anticipate potential risks and their impacts. Implementing these technologies by the early risk detection committee can expedite decision-making processes and allow the BoDs to allocate resources more effectively.

A recent study employing a case study methodology utilized AI to identify potential risks within specified scenarios, evaluate the associated risks, and recommend practical control measures that comply with pertinent jurisdictional regulations.[53] The study's objective was to assess the AI's effectiveness in recognizing and addressing complex issues while adhering to regulatory standards. Subsequently, human risk experts with relevant educational backgrounds and extensive industrial experience were tasked to identify potential risks within the same scenarios, evaluate

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[52] **LI**, He/ **YAZDI**, Mohammad; Advanced Decision-Making Neutrosophic Fuzzy Evidence-Based Best–Worst Method in **LI**, He**/YAZDI**, Mohammad (Editors), Advanced Decision-Making Methods and Applications in System Safety and Reliability Problems: Approaches, Case Studies, Multi-Criteria Decision- Making, Multi-Objective Decision-Making, Fuzzy Risk-Based Models, Springer International Publishing: Cham, Switzerland, 2022, p. 153–184.

[53] **YAZDI**, Mohammad/**ZAREI**, Esmaeil/**ADUMENE**, Sidum/**BEHESHTI**, Amin: "Navigating the Power of Artificial Intelligence in Risk Management: A Comparative Analysis", Safety, 10(2), 2024, p. 50.

the associated risks, and recommend practical control measures in compliance with pertinent jurisdictional regulations.

Briefly, when comparing the outcomes of risk detection performed by AI with those crafted by a human expert, distinct differences in detail and mitigation strategies are evident.[54] The AI-generated results are meticulously organized, listing hazards, potential outcomes, measurable risks, and targeted mitigation steps. The AI's output is impressively detailed, featuring actionable measures such as collaboration with emergency responders and the maintenance of a risk register, which align with industry best practices. Conversely, the results produced by a human expert adopt a broader perspective, favouring a narrative style that emphasizes broad safety principles like collective responsibility and constant vigilance. Clearly, the human expert's approach may not delve into the minutiae as the AI's output does, although it also advocates for conceptual strategies that foster a culture of safety and collective awareness, which are equally essential as specific measures. The disparity in the clarity of information is also noteworthy; the precision of the AI-generated results eliminates ambiguity, offering a clear and concise guide for implementing safety measures. In contrast, the human expert's results present a more conceptual outline that encourages further discussion and elaboration.[55] Ultimately, the AI-generated results shine in offering clear directives and structured risk management solutions that are ready for implementation. However, risk management could lead to unequal or unfair risk assessments for different circumstances or scenarios. Therefore, the insights of the

human expert are pivotal. From this result, it can be concluded that the utilization of AI by human experts will enhance the effectiveness of the risk detection committee.

V. POTENTIAL CHALLENGES AND JUSTIFICATION OF LEGALIZING AI'S INVOLVEMENT IN THE BoDs

The utilization of AI in the BoDs operations presents notable challenges in the realms of reporting and risk management. First, the successful implementation of AI in reporting and risk evaluation relies heavily on the availability and quality of data. Inaccurate or incomplete data can undermine the effectiveness of AI algorithms, potentially

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54 Ibid p. 75.

55 Ibid.

resulting in erroneous conclusions and decisions.[56] Challenges may stem from data entry errors, inconsistencies across various data sources, or outdated information. To address these issues, it is essential to establish a robust data governance framework, implement stringent data validation processes, and maintain continuous monitoring to ensure the accuracy and completeness of the data utilized by AI systems.

Second, the incorporation of AI in operations of the BoDs frequently entails the management of sensitive data.[57] As such, ensuring data privacy and security becomes critically important. Adherence to data protection regulations is indispensable. Thus, companies must establish stringent security measures, employ encryption protocols, and implement access controls to protect data from unauthorized access, breaches, or cyber threats. Balancing data accessibility for AI applications with stringent security measures presents an ongoing challenge. The successful deployment of AI in reporting and risk management requires a skilled and adaptable workforce. Training and upskilling employees to effectively utilize and manage AI tools is paramount. This includes education on AI technologies, data analytics, and the interpretation of AI-generated insights. Continuous training programs are crucial to keep the workforce updated on the evolving capabilities of AI, ensuring they can leverage these technologies to enhance their roles rather than being supplanted by them. Resistance to technological change also poses a significant challenge when implementing AI in organizations.[58] Employees may be accustomed to traditional methods and processes, resulting in skepticism or apprehension toward the adoption of AI. Addressing this resistance necessitates the deployment of effective change management strategies, clear communication of AI benefits, and showcasing how these technologies complement rather than replace

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56 **OSASONA**, Femi/**AMOO**, Olukunle Oladipupo/**ATADOGA**, Akoh/**ABRAHAMS**, Temitayo Oluwaseun/ **FARAYOLA**, Oluwatoyin Ajoke/**AYINLA**, Benjamin Samson: "Reviewing the Ethical Implications of AI in Decision Making Processes", International Journal of Management and Entrepreneurship Research, 6(2), 2024, p. 322-335.

57 **RANE,** Nitin: "Role and Challenges of ChatGPT and Similar Generative Artificial Intelligence in Finance and Accounting", Studies in Economics and Business Relations, 15(1), 2024, p. 11-23.

58 **TIRON-TUDOR**, Adriana/ **DONTU**, Adelina Nicoleta/ **BRESFELEAN,** Vasile Paul: "Emerging Technologies' Contribution to the Digital Transformation in Accountancy Firms", Electronics, 11(22), 2022, p. 3829.

human expertise. Cultivating a culture of continuous learning and innovation is essential to overcoming resistance and fostering a workforce that embraces AI.[59] AI algorithms are prone to biases inherent in the historical data utilized for their training. These biases can manifest in decision-making processes, potentially resulting in unfair outcomes or perpetuating existing disparities. To address bias in AI algorithms, it is crucial to identify and mitigate these biases during the development and training phases. Conducting regular audits and reviews of AI models can help ensure fairness and prevent unintended consequences in decision-making.[60] All these creates compliance costs, which can go beyond basic expenses and pose a significant financial challenge for companies.

Lastly ethical challenges, particularly concerns about the transparency and accountability of AI systems, worth mentioning. Comprehending how AI algorithms arrive at decisions is essential for both stakeholders and regulators.[61] Ensuring transparency necessitates providing clear explanations of AI-driven processes, thereby facilitating the interpretation and validation of AI-generated insights by experts. AI must not come at the cost of ethics. Companies must establish robust compliance frameworks, conduct regular audits, and continuously monitor AI systems to identify and rectify inaccuracies thereof.

Navigating these issues requires a nuanced understanding of both technological and regulatory landscapes to ensure that AI's potential is harnessed responsibly and effectively. Effectively navigating these challenges necessitates a comprehensive understanding of both technological advancements and regulatory frameworks.

On the other side, the rationale for legalizing AI's participation in BoDs is based on robust corporate governance. Incorporating AI into BoDs activities enhances transparency, accountability, and efficiency, thereby strengthening overall corporate governance. AI has the potential

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59 **RAHMAN**, Ashfaq: "AI Revolution: Shaping Industries Through Artificial Intelligence and Machine Learning", Journal Environmental Sciences and Technology, 2(1), 2023, p. 98.

60 **OSASONA/AMOO/ATADOGA/ABRAHAMS/FARAYOLA/AYINLA**, n above 56.

61 **AYINLA**, Benjamin Samson/ **AMOO**, Olukunle Oladipupo/, **ATADOGA**, Akoh/ **ABRAHAMS,** Temitayo Oluwaseun/ **OSASONA**, Femi/ **FARAYOLA**, Oluwatoyin Ajoke: "Ethical AI in Practice: Balancing Technological Advancements with Human Values", International Journal of Science and Research Archive, 11(1), 2024, p. 1321-1324.

to improve decision making by offering data driven insights and minimizing human biases, thus aligning with the BoDs' goal of making informed, prudent decisions in the company's best interest. This objective can be realized by prescribing a general legal practice of seeking recommendations from the AI application and disclosing the board's responses to these suggestions. This approach would ensure that directors meet the standard of care required for prudent and diligent decision-making.

As discussed above the present emphasis on the digitalization of boardrooms through advanced technologies revolves around the generation and distribution of information to aid board members in their duties. It is widely acknowledged that AI can, at the very least, play a supportive role in assisting the BoDs. Consequently, it is prudent to consider the role of corporate law in enhancing the efficacy of informed decision-making with the support of AI. At this point, it is necessary to consider the business judgement rule.

There is no explicit provision in the TCC regarding the business judgment rule. The rule has been indirectly incorporated into Turkish law with the preamble of Art. 369 of the TCC is as follows: "*The prudent manager measure accepts that the board member can make a "business judgment rule" in accordance with the corporate governance principles and is based on the principle that the member should not be held responsible in cases where the risk arises from this. In accordance with the generally accepted rule, if appropriate research is conducted, information is received from the relevant parties and a decision is made by the board of directors, even if the developments are completely in the opposite direction and the company suffers a loss, negligence cannot be mentioned. These rules are concreted with the legal rule in the third paragraph of Article 553."* The business judgment rule validates the conviction held by directors that their decisions are both rational and, in the company's best interests.[62] This rule shields directors from liability, permitting them to strive for informed decision-making provided they are devoid of conflicts of interest. For the board to be shielded from judicial review under the business judgment rule, one of the requisite conditions is the making of informed decisions.[63] This entails that the board must undertake a process

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62 **ÖZDEMIR**, Semih Sırrı: İş Adamı Kararı İlkesi (Business Judgment Rule) ve Türk Hukukunda Uygulanabilirliği, İstanbul, On İki Levha Yayıncılık, 1. Edn., 2017 p. 82-83

63 Ibid p. 76-77.

to thoroughly acquaint itself with all pertinent information that is reasonably accessible prior to making its decision. To ascertain that directors have exercised informed business judgment, the court must evaluate whether the directors have acquainted themselves with all pertinent information reasonably accessible to them before decision making. Having become so informed, directors are obligated to perform their responsibilities with the utmost diligence and attention to detail. With another saying, the fundamental presumption underpinning the business judgment rule is that, when making business decisions, corporate directors acted with due diligence, integrity, and a genuine conviction that their actions served the company's best interests.

The connection between above-mentioned Art. 369 and AI lies in the potential for AI to facilitate more informed decision-making processes. By leveraging AI's ability to analyse extensive data sets and generate predictive insights, it becomes logical to anticipate that company directors would be expected to incorporate AI consultations into their strategic decision-making practices. As stipulated in Art. 369 of the TCC, directors are required to conduct due diligence prior to making decisions to ensure they possess sufficient information; failure to do so may constitute a breach of their duty of care. AI has the potential to assist by efficiently gathering, formatting, distributing, and regularly updating data. This assist can help board members or their sub-committees in creating periodic comprehensive reports. Leveraging AI could also play a critical role in assisting the board to mitigate various risks associated with business decisions. AI's capability to filter and analyse data can help prevent situations where business decisions pose significant threats to the enterprise, including those related to environmental, social, and human rights concerns. By identifying and assessing the likelihood of these risks materializing, AI can support the company in mitigating uncontrolled damages that could adversely affect the company's performance and reputation. Furthermore, the proactive management of these risks can result in reduced costs and the need for extensive explanations, thereby safeguarding the company’s overall operational efficacy. Such aid can keep directors consistently informed about the company's status, thereby enabling more informed decision-making. It is possible to consider turning this utilization into soft law and should adherence to such soft law lead to modifications in corporate behaviour, the establishment of hard law regulations may also be considered. To determine that directors

have made an informed business judgment, the involvement of AI appears to be indispensable. Consequently, the mandate to act on an informed basis may evolve into an implicit obligation to seek guidance and forecasts provided by AI.[64] Utilizing a due diligence system undergird by AI to fulfil the obligation of making informed decisions would mitigate regulatory risks and reduce due diligence costs. Furthermore, this approach would enable the board to achieve greater oversight of their compliance efforts, thereby enhancing their ability to justify their decisions to stakeholders.

From the perspective of Art. 369, the implementation of AI in governance poses significant challenges. Chief among these is the potential for an over-reliance on AI, which may result in a decline in the essential skills and competencies necessary for effective human governance. The propensity to default to AI for every case could lead to a reduction in the board's active engagement and oversight. This over-dependency may tempt the board to abdicate its responsibilities, thereby risking neglect of its duty of care. Such negligence could subsequently lead to legal ramifications, underscoring the importance of maintaining a balanced approach that integrates AI without compromising the board's essential governance duties.

CONCLUDING REMARKS

Rapid developments in AI technologies undoubtedly have an impact on companies. This means that corporate law is about to embark on the era of AI. Although the legal position of AI is an ongoing research topic in itself, this article focuses on the potential contributions of AI to corporate governance through the BoDs. The emergence of AI in the corporate arena presents various concerns about corporate law. Among these concerns, whether AI can be a member of the company's BoDs comes first. The present corporate law structures are tailored to human decision-makers. Only 'persons' can be member of directors and ultimately decisions are taken by humans. Thus, directors are not permitted to assign fundamental governance functions to AI.

Addressing this question from the perspective of Turkish commercial legislation, this research has come to the conclusion that while it seems permissible to use AI as an assistant under current corporate law framework, directors do not have the right to delegate core

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64 **ZHAO**, n above 8, p. 687.

governance tasks to AI. It should be highlighted that the most significant obstacle to AI becoming a board member under Turkish law is that it lacks a legal status that grants it rights and obligations. The lack of personality of AI will result in the formation of 'no responsibility' companies. Even though the law maker envisions a possible solution to this problem by regulating Art. 361 of TCC, its execution does not appear practical. For delegation of duties of the BoDs to AI, the same rule applies. Thus, duties can be delegated to 'persons' only. Therefore, both appointment of AI as a member of the BoDs and delegating some of the duties of BoDs to AI is clearly contrary to current regulations.

An outright appointment of AI as director seems impossible under the current regimes but utilizing it to minimise agency problem is plausible. Boards are generally expected to make decisions on an informed basis. The more complex a decision is, the greater the amount of data that the board needs to consider in order for it to make well-informed decision. The board may struggle to understand and evaluate a plethora of factors to reach an optimal decision. The main advantage of AI comes down here. AI can complement the BoDs knowledge and capabilities by providing a clear analysis of large amount of data, thereby increasing the pace at which difficult decisions can be made.

At this stage, it is important to note that it is not possible for AI to elect a board member because according to TCC Art. 408/2(b) it is an inalienable right of the shareholders. Thus, election of board members by AI is illegitimate. However, AI can be used as an auxiliary tool in determining the board nominees. The ideal applicants for the board positions may be chosen by utilising AI in the selection process. However, due to the ownership structure of Turkish companies, it is thought not to be applicable. On the other hand, there is no legal obstacle to using AI in the selection of executive directors. To sum up, AI cannot select the BoDs on its own, but it will have a positive impact on the proposal of board member nominees.

Instead of delegating its duties to AI, the board may prefer to utilize AI as an assistant to support the BoDs on complex issues. AI can analyse the extensive data provided by company during financial statements preparation process. Thus, it will not only minimize errors and enhance the quality of financial reporting but also can suggest potential avenues for corporate investment policies. The same applies to risk management, as AI can discern patterns in data that may have previously eluded

human detection. AI has the capacity to uniformly and consistently evaluate the same set of objective functions across millions of alternatives. In contrast, human decision-making is hampered by cognitive limitations, making the consistent processing of such a vast array of alternatives an insurmountable challenge. Consequently, AI can recommend comprehensive, multi-dimensional strategies and policies. In that case, decision rights remain with the BoDs. AI supports the board by providing directors with information and options for different action plans and mitigating the complications brought by overloaded information under conditions of uncertainty. Board members will exercise their discretion, guided by their professional experience and knowledge, to determine the extent to which they rely on AI-generated recommendations. This is in fact in line with the director's duty of care and loyalty stipulated in the TCC Art. 369. Thus, utilization of AI in the boardroom is a legitimate issue.

This study has investigated the issue of AI from a new angle by focusing on one subset of corporate law, namely directors' duties. The conclusion that can be drawn is that as long as the duty of care is fulfilled, AI can be used by the BoDs to gather, filter, and present information and options to aid directors in making informed and effective decisions. This, in turn, can enhance board accountability, improve the quality of risk management and contribute to corporate governance.

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