

NEW LEGAL SUBJECTS IN THE DIGITAL AGE: CIVIL LAW PERSPECTIVES

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Abstract: This article provides an in-depth analysis of the theoretical foundations and legal status of emerging legal subjects in the digital age. It examines the challenges of determining the legal status of artificial intelligence systems, robots, virtual and augmented reality objects, cryptocurrencies, and other digital assets. The article explores existing international experience, identifies legal issues, and proposes solutions. Detailed recommendations are provided for developing international standards and improving national legislation.

Keywords: digital age, legal subjects, artificial intelligence, robots, virtual objects, digital assets, civil law, legal status, international standards

Introduction

The rapid development and widespread adoption of digital technologies are significantly impacting all aspects of society, including legal relations. The emergence of new legal subjects and the determination of their legal status has become increasingly important. Modern society increasingly employs technological solutions such as artificial intelligence systems, robotics, virtual and augmented reality objects, cryptocurrencies, and other digital assets. This raises questions about their legal status and whether they should be recognized as subjects within civil law. As Bryson et al. (2017) note, "Determining the legal status of artificial intelligence encompasses not only technological but also philosophical and ethical issues"^[1].

The purpose of this article is to thoroughly examine the theoretical foundations of emerging legal subjects in the digital age, comprehensively analyze their legal status, identify existing problems, and propose solutions. The article focuses on the following key issues: types of new legal subjects and their characteristics; theoretical and practical aspects of incorporating new subjects into the existing legal system; current state of legal regulation at international and national levels; main challenges related to new legal subjects and ways to address them.

Theoretical Foundations of New Legal Subjects

Legal Status of Artificial Intelligence Systems and Robots

The recognition of artificial intelligence and robots as legal subjects is one of the most important challenges in modern jurisprudence. There are various theoretical approaches that can be conditionally divided into three groups:

1. Advocates for full legal subject recognition of AI. Supporters of this approach emphasize the need to grant certain rights and obligations based on AI's ability to make independent decisions, self-develop, and act

independently of humans. For instance, Solum (1992) suggests that AI could be granted constitutional rights^[2].

2. Proponents of limited legal subject recognition for AI. This approach suggests that AI can be granted legal subjectivity within certain limits, but these rights should not be equated with human rights. For example, Čerka et al. (2017) propose that AI could be given a status similar to legal entities, but this status should differ from human rights^[3].

3. Scholars opposing AI's recognition as a legal subject. These scholars argue that recognizing AI as a legal subject is dangerous and could undermine human legal status. For instance, Bryson (2018) emphasizes the dangers of recognizing AI as a full legal subject^[4].

Regarding robots, various perspectives exist on their legal status as well. While some scholars suggest granting certain rights to robots, others view them merely as "smart devices" that should not be given special legal status. For example, the European Parliament's 2017 resolution proposed introducing the concept of "electronic person" and granting robots certain legal status^[5].

Legal Status of Virtual and Augmented Reality Objects

The development of virtual and augmented reality technologies has necessitated determining the legal status of virtual objects, avatars, and other digital assets. The main challenge lies in distinguishing virtual objects from physical world objects and determining the appropriate legal regime to apply.

According to Lemley and Volokh (2018), "Virtual reality objects require a reconsideration of traditional property law concepts"^[6]. They emphasize the need to develop a new type of property law concept for virtual objects. This

concept should consider the unique characteristics of virtual objects, such as their ease of reproduction and distribution, and the possibility of simultaneous use by multiple users.

2.3. Legal Status of Cryptocurrencies and Digital Assets

Determining the legal status of blockchain-based cryptocurrencies and other digital assets has become increasingly important. As Fairfield (2021) notes, "Cryptocurrencies require a reconsideration of traditional concepts of money and property"^[7].

The main challenges in determining the legal status of cryptocurrencies and digital assets include:

1. Recognition of cryptocurrencies as money or property
2. Status of digital assets as objects of property rights
3. Taxation of cryptocurrency and digital asset operations
4. Prevention of illegal use of cryptocurrencies and digital assets

Different countries apply varying approaches to these issues. For example, while the European Union recognizes cryptocurrencies as "virtual currencies"^[8], the United States treats them more as "private property"^[9].

Legal Status of New Legal Subjects: Problems and Solutions

The Issue of Legal Liability

One of the most crucial issues related to the emergence of new legal subjects is legal liability. Who should be responsible for damage caused by artificial intelligence or robots? This question interests many legal scholars and practitioners.

Some scholars argue that AI systems themselves should be held liable, while others suggest placing liability on manufacturers or users. For instance,

Kingston (2018) links AI systems' liability to their "black box" operating principle and emphasizes the need to strengthen manufacturer liability^[10].

Intellectual Property Rights

Another significant issue related to new legal subjects is intellectual property rights. Questions arise about the ownership of works created by artificial intelligence. Some scholars argue against granting copyright to AI-created works, while others suggest assigning these rights to the company that created the AI or to the user. For example, Yanisky-Ravid and Liu (2017) propose implementing an "open authorship" system for AI-created works^[11].

Data Protection and Security

Data protection and security represent another crucial aspect of new legal subjects. AI systems, virtual reality platforms, and blockchain technologies process large volumes of personal data, raising various data protection and security concerns. As Dignum (2019) notes, "The processing of personal data by AI systems is creating new types of risks"^[12].

Cross-border Relations

The regulation of cross-border relations presents another significant challenge. AI systems, virtual reality platforms, and blockchain technologies operate globally and don't recognize traditional state borders. As Svantesson (2019) emphasizes, "Digital technologies are demanding a reconsideration of traditional methods for regulating cross-border relations"^[13].

Conclusion

The emergence of new legal subjects in the digital age presents several new challenges for civil law. Determining the legal status of AI systems, robots,

virtual objects, and digital assets, defining their rights and obligations, and resolving liability issues have become increasingly important.

To address these challenges, the following steps are necessary:

1. Develop internationally agreed legal standards
2. Improve national legislation
3. Forecast and prevent legal implications of technological development
4. Modernize legal education systems
5. Develop ethical standards for new legal subjects

The development of digital technologies undoubtedly creates new opportunities for civil law while also presenting significant challenges. Overcoming these challenges requires broad dialogue and cooperation between legal scholars, technologists, philosophers, and other members of society. Only then can we form a fair and effective legal system that matches the new technological reality.

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