

Reconsidering the Traditional Concept of Legal Personality in Light of Developments in Artificial Intelligence

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Abstract

The legal status of artificial intelligence remains uncertain, and one of the principal issues surrounding AI concerns whether it can possess legal personality. This question is becoming increasingly significant with the passage of time and the rapid advancement of this technology. Given the continuing development of digital technologies and the increasing autonomy of artificial intelligence systems, autonomous AI may, in the distant future, acquire independent rights and obligations and function as a legal actor alongside natural and legal persons. Certain normative and practical considerations determine how an artificial “other” should be treated as a potential rights-holder. The attribution of legal personality to artificial intelligence remains highly controversial among legal scholars; some support the recognition of AI as a legal person, whereas others oppose it. In any event, the recognition of legal personality for AI requires specific conditions, and not every form of artificial intelligence can acquire legal personality under all circumstances. Legal systems have proposed various approaches to addressing this issue, including the creation of electronic legal personality and the granting of temporary legal personality. This study proposes the recognition of limited legal personality for artificial intelligence.

Keywords: Artificial intelligence, legal personality, electronic personality, temporary legal personality, limited legal personality

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1. Introduction

In recent decades, the term *artificial intelligence* has become one of the most frequently used concepts in scientific, technological, and legal discourse. Although the widespread use of this term in academic sources, the media, and policymaking reflects its growing importance, it has also generated a degree of conceptual ambiguity, such that no single, explicit, and generally accepted definition has yet emerged (Kobets, 2023). Based on an examination of the various definitions presented in the literature, artificial intelligence may be defined as the ability and capacity of a machine to act purposefully, reason logically, and interact effectively with its environment in the manner in which human beings are ideally expected to do.

An examination of human evolution within the broader history of life on Earth demonstrates that human life is a relatively recent phenomenon. If the existence of the Earth were represented as a single calendar year, the entire period of human

development would amount to only approximately one minute. On the same scale, artificial intelligence has not yet experienced even one complete second of its existence. Throughout history, human society has undergone various stages of transformation and progress, each of which has presented social, economic, and legal challenges. In the present era, humanity is confronting a new and fundamental phenomenon whose nature is inseparably linked to the emergence and expansion of artificial intelligence across all spheres of human life. These systems now play an increasingly significant role in creating new objects, generating ideas and designs, collecting, analysing, and processing information, and supporting decision-making. While computer scientists continuously improve and optimise artificial intelligence technologies, legal scholars are simultaneously examining and debating whether legal personality should be granted to systems based on such technologies. The emergence of new technologies in recent years has, on the one hand, created substantial legal gaps in domestic legal systems and, on the other hand, generated theoretical and practical debate regarding whether specific legal frameworks should be designed and enacted for these technologies. Accordingly, the question of whether artificial intelligence should be granted legal capacity and legal personality has become one of the most controversial and complex issues in contemporary legal scholarship. Despite extensive debate among scholars and legal practitioners, fundamental questions concerning the nature and limits of the legal capacity of these technologies remain unresolved. A comprehensive review of the available scientific and legal literature indicates that many legal scholars and practitioners maintain that, before any legislative action is taken, a comprehensive scientific feasibility assessment should be conducted regarding the possible consequences of granting such a status to artificial intelligence technologies. Only through coherent interdisciplinary research can it ultimately be determined whether these technologies should possess an independent legal status. The principal issue examined in this study is the scope and limits of the possible legal personality of artificial intelligence. The fundamental question is whether artificial intelligence should merely be regarded as an instrument extending human intention and action, or whether it may be considered an entity independent of natural persons that, by possessing a level of intelligence potentially exceeding that of human beings, merits recognition as a legal person. Furthermore, can legal personality be granted to every type of artificial intelligence? What conditions and legal mechanisms are required for recognising artificial intelligence as a legal person? On this basis, the study first examines the necessity of recognising artificial intelligence as a legal person, subsequently evaluates the arguments of its proponents and opponents, then analyses the conditions required for such recognition, and finally presents proposed mechanisms and strategies for addressing the associated challenges.

2. The Necessity of Granting Legal Personality to Artificial Intelligence

The idea of granting legal personality to non-human entities has a long history. For thousands of years, human thought and legal systems have considered the recognition of legal personality for concepts and institutions other than human beings. Certain religious places, sacred objects in some religions, including idols, certain natural features, companies, and, for more than a century, associations and institutions are examples of entities regarded as persons and recognised as possessing legal personality in some legal systems. In this historical development, the determining factors have not been limited to historical and economic requirements; ethical and social considerations have also played a fundamental role (Buocz & Eisenberger, 2023). The rapid advancement of modern technologies, particularly in robotics and artificial intelligence, has prompted some legal scholars and policymakers to argue that specific rights, obligations, and responsibilities should be assigned to these systems. The purpose of this proposal is to enable machines or robots capable of making autonomous decisions to be held accountable for the consequences of their conduct or decisions. Extending the concept of legal personality to artificial intelligence may therefore be regarded as a legitimate and logical stage in the evolution of the legal system. Undoubtedly, such a development requires caution, precision, and carefully considered policymaking. This important responsibility must be entrusted to the legislature, which should establish an appropriate balance among diverse and sometimes conflicting interests. Nevertheless, initiating this process requires a degree of courage, even where the initial objective is merely to examine the sociological, philosophical, and ethical dimensions of the issue rather than immediately establish binding legal rules.

According to proponents of legal personality for artificial intelligence, several considerations necessitate its recognition. From a functional perspective, in many circumstances it may be easier to treat an artificial intelligence system as a “legal person” than, following an accident or dispute, to separate and analyse the complex network of rights and obligations among its owners, developers, users, and surrounding commercial networks. The most important argument supporting the recognition

of legal personality for artificial intelligence is, in fact, the protection of the interests of human beings and other legal persons that interact with such systems. Without such recognition, the legal system may face a regulatory gap because, in the absence of an identifiable “legal actor,” no entity can be held accountable for the acts or decisions of artificial intelligence. Granting legal personality may therefore constitute an effective mechanism for protecting third parties and maintaining legal order. Overall, the considerations supporting such recognition include preserving public order, regulating markets, improving commercial efficiency, distributing risk and responsibility, and ensuring legal certainty (Zuiderveen Borgesius, 2020a).

3. The Views of Proponents and Opponents

One of the principal debates in law concerns whether artificial intelligence can or should be granted legal personality. One group maintains that existing liability models should be revised to address the legal challenges created by artificial intelligence systems. According to this view, responsibility for the conduct and harmful acts of autonomous artificial intelligence should remain with users and manufacturers, and recognising artificial intelligence as a legal person is unnecessary. Previous studies supporting this position have similarly argued that recognising artificial intelligence as a legal person is not required to manage the legal problems that it creates. By contrast, another group of scholars contends that the legal challenges surrounding artificial intelligence may be managed by recognising artificial intelligence itself as a legal person. The arguments of proponents and opponents are examined below. These positions are primarily based on the anticipated future use of autonomous artificial intelligence.

3.1. *Arguments Supporting the Legal Personality of Artificial Intelligence*

According to this group of legal scholars, strong artificial intelligence should be granted legal personality. It should be noted that artificial intelligence is commonly divided into strong artificial intelligence and weak artificial intelligence. The principal arguments advanced in support of this position are as follows.

First: Independence and Autonomous Decision-Making Capacity

Because systems based on strong artificial intelligence may possess independence in decision-making, the capacity for autonomous learning, the ability to adapt to their surrounding environment, and the capacity to interact with others without human intervention, they may be capable of performing complex tasks independently. Intelligent technologies may express their own operational intention rather than that of a human user and may make decisions without direct human intervention, as in the case of self-driving vehicles or expert systems. These characteristics bring them closer to autonomous entities. A system based on strong artificial intelligence may operate as an independent entity capable of deciding and acting without human intervention and may therefore merit legal personality. In other words, any entity possessing a certain degree of self-awareness and independent will may potentially be regarded as having legal personality (Almajid, 2010).

Second: Legal Accountability and the Allocation of Liability

Because the design and development of artificial intelligence systems generally result from the collective efforts of numerous researchers, engineers, and programmers, attributing liability to a specific individual may be extremely difficult. Where an artificial intelligence system malfunctions, the cause may include defective algorithmic design or coding, defects in sensors or hardware components, incompatibility, failure to implement software updates, human negligence in supervision, improper use of the program, or the production of undesirable results despite technically correct operation because of insufficient or inaccurate training data (Yalman, 2024). The principal basis on which proponents support granting legal personality to artificial intelligence systems is the need to address the “responsibility gap.” Granting legal personality to such systems would make it possible to attribute responsibility directly to them for any damage they cause, thereby increasing transparency and predictability in civil-liability proceedings. For purposes of compensation, it is assumed that an “artificial intelligence legal person” could own property derived from the economic revenue generated through its activities, such as fees or subscription income arising from services provided by the system. Nevertheless, technology companies would clearly claim entitlement to such revenue because profit is their primary incentive for developing these systems (Pietrzykowski, 2017). Traditional civil-liability frameworks in existing legal systems are not fully capable of addressing the challenges arising from damage caused by artificial intelligence, particularly where its conduct is autonomous or unpredictable and directly attributing fault to an owner

or user is difficult. Conversely, imposing strict liability on developers or programmers may discourage innovation and creativity in the technology sector (Moustafa, 2024).

The capabilities of artificial intelligence technologies are not limited to implementing the instructions of programmers or human users. Rather, such technologies may make independent decisions through various inferential processes, enabling them to simulate human conduct and perform intelligent actions. On this basis, it is argued that these technologies should bear responsibility for damage caused by their conduct and that such harm may be legally attributed to the systems themselves. The principal argument supporting the recognition of legal personality for artificial intelligence is, in fact, the protection of the interests of human beings and other legal persons interacting with these systems. Without such recognition, the legal system may face a gap because, in the absence of an identifiable “legal actor,” no entity can be held accountable for the acts or decisions of autonomous artificial intelligence. Granting legal personality to artificial intelligence may therefore constitute an effective mechanism for protecting third parties and preserving legal order. From a functional perspective, it may also be easier in many cases to regard an artificial intelligence system as a “person” than, after an accident or dispute, to disentangle and analyse the complex network of rights and obligations among owners, developers, and users (Zuiderveen Borgesius, 2020b). On this basis, emerging schools of thought propose that, to adapt the legal system to new technological realities, consideration should be given to recognising an independent legal personality for artificial intelligence. Such recognition could address existing gaps in civil liability and improve accountability mechanisms. Systems based on strong artificial intelligence should possess legal personality, and there is arguably no legal justification for depriving them of it. Accordingly, once intelligent robots acquire legal personality, they may be held responsible for their own harmful acts (Bottomley & Thaldar, 2023).

Third: The Modern International Trend

At the international level, a modern tendency toward granting legal personality to artificial intelligence robots may be observed. Although this development has not yet resulted in the complete recognition of robots as legal persons, movement in that direction is evident. Certain legal systems, including those of the United States, Saudi Arabia, and the United Arab Emirates, have reportedly recognised limited forms of legal status for robots (Al-Sharif, 2021).

For example, in the State of Nevada in the United States, robots have implicitly been recognised as possessing certain powers comparable to those of legal persons. Such robots may be registered through special registration procedures, and financial declarations may be assigned to them for insurance purposes. In addition, in 2017, Saudi Arabia granted Saudi citizenship to a humanoid robot named “Sophia,” developed by Hanson Robotics. The robot “Xiaofa” also provides legal advice in a Beijing court and assists court users in understanding legal terminology. Furthermore, in 2017, the United Arab Emirates introduced a system referred to as the “electronic marriage robot,” which connects the judge and the spouses for the remote conclusion of a marriage contract and reportedly performs functions associated with ministerial responsibilities (Al-Wali, 2021).

These examples demonstrate a gradual and continuing global movement toward the minimal or conditional recognition of legal personality for artificial intelligence and emphasise the necessity of reviewing and adapting domestic legislation in light of international developments.

Fourth: Encouraging Technological Innovation

Recognising legal personality for artificial intelligence technologies may encourage designers to develop and advance higher-risk AI-based technologies. Reducing the personal liability of designers may create a more favourable environment for invention and innovation. Such recognition may also incentivise users to employ these technologies correctly and reasonably (Fath Al-Bab, 2021).

Fifth: Possession of the Characteristics of Legal Personality

Some commentators maintain that the characteristics possessed by robots equipped with artificial intelligence indicate that these technologies exhibit attributes inherent in legal personality. These include characteristics that directly determine their capacity to possess legal personality and those that indirectly facilitate their ability to perform legal acts (Morkhat, 2018). These characteristics include:

1. The ability to perceive and evaluate the surrounding environment and identify relevant circumstances.
2. The ability to select a behavioural pattern, make decisions, and implement those decisions independently and without external control or intervention, namely autonomy.
3. The ability to operate under changing environmental conditions, namely adaptability.

4. The ability to learn and reorganise itself, namely self-learning and self-organisation.
5. The ability to perform legal acts with or without human consent (Bolotaeva, 2022).

On this basis, this group of legal scholars firmly maintains that the legal community should immediately commence a systematic examination of the legal personality of artificial intelligence systems so that their legal status may be established in legislation and legal doctrine as quickly as possible and in a manner consistent with contemporary developments.

3.2. *Arguments Opposing the Legal Personality of Artificial Intelligence*

Opponents maintain that the idea of granting independent legal personality to intelligent robots arises from human-generated data rather than from the robots' own independent will. Accordingly, robots cannot be held responsible for their conduct, and responsibility must always remain with their designers. Even where a certain degree of autonomy is attributed to robots, the origin of all their actions remains human. The principal arguments supporting this position are as follows.

First: Absence of Will and Consciousness

Artificial intelligence lacks independent will and consciousness and, consequently, lacks legal capacity and the corresponding capacity to bear responsibility. Its technical and artificial nature prevents it from possessing the inherent characteristics of either a natural or legal person. Artificial intelligence possesses neither will nor consciousness and lacks the moral and social capacity to answer for its conduct. It therefore cannot be accommodated within the classical concept of a "legal actor." AI-based technologies are merely intelligent machines, and their intelligence does not reach a level sufficient to justify granting them legal personality. Recognising civil liability for intelligent robots would, in effect, entail accepting the concept of "consciousness in an intelligent machine." If accepted, this concept would impose a moral and legal obligation on humanity to respect the fundamental rights of such robots (Pagallo & Vital, 2013). However, these technologies possess neither self-consciousness nor human intention, perception, feelings, or emotions. Accordingly, when attempts are made to instil a form of consciousness in intelligent machines, strict scientific limitations and legal controls should be imposed on the activities of scientists. Given the absence of complete will and autonomy in artificial intelligence, it is difficult to conceive how such a system could enjoy rights or be obligated to perform duties. These systems conduct their activities solely on the basis of predetermined programming and perform precise, orderly, and repetitive operations. Because artificial intelligence lacks consciousness, a manufacturer cannot entrust it with genuinely independent decision-making authority; if such authority is delegated, the manufacturer has effectively transferred a substantial part of its own decision-making responsibility (Kniepert, 2021). This may constitute a "breach of the duty of care," and any person who neglects this duty may be regarded as grossly negligent (Grapentin, 2018). Artificial intelligence systems do not possess an independent will; their operational will depends on the owner or user. Consequently, artificial intelligence has no inherent interests requiring protection as an independent entity, and only the interests of those who control it are legally relevant.

Second: Human Responsibility

An established principle of law is that the harmful conduct of a machine is ultimately attributable to a human being. In reality, damage is not caused by the machine's independent legal fault but by human misuse or improper operation of the machine. This principle is reflected in Article 276 of the German Civil Code (*Bürgerliches Gesetzbuch* or BGB), according to which each person is responsible for his or her own intentional or negligent conduct. Manufacturers are accordingly required to exercise appropriate care in inspecting, selecting, and supervising their products and therefore remain responsible for them (European, 2019).

Artificial intelligence technologies are merely objects and cannot independently commit a wrongful act or cause injury in the legal sense. Where damage occurs, compensation must be provided by the natural person who owned or used the device at the time of the loss. Merely permitting such technologies to operate automatically and independently beyond human control may itself constitute harmful conduct by the manufacturer, designer, or programmer, giving rise to legal responsibility, including civil liability, because such conduct may threaten public safety and humanity. Some scholars regard the idea of holding machines responsible for their own actions as exaggerated. Humanity remains in the process of understanding and developing artificial intelligence, and all its decisions and outputs ultimately derive from human intention. Manufacturers and developers can therefore control its conduct through legal rules. From a theoretical perspective, fundamental legal concepts

such as causation and foreseeability in civil liability should be developed so that damage caused by artificial intelligence may be addressed within existing liability frameworks. It may therefore be argued that, under current conditions, artificial intelligence should be treated merely as a technological product comparable to personal computers or the inventions of the nineteenth-century Industrial Revolution, whose principal purpose is to improve human life rather than to possess independent legal personality (Cheong, 2021).

Third: Rejection of Equality with Natural Persons

Proponents of this position reject comparisons between artificial intelligence technologies and natural persons. Accepting such a comparison would, on the one hand, involve assigning to artificial intelligence obligations that fundamentally belong to human beings and, on the other hand, granting robots human rights such as dignity, bodily integrity, and citizenship. Such a development could weaken the existing human-rights system and ultimately diminish the status of humanity. Moreover, recognising legal personality for artificial intelligence would undermine the fundamental legal distinction between persons and things (Al-Qawsi, 2020). According to most legal scholars, granting natural personality to artificial intelligence systems is not only logically unfounded but also ethically hazardous because natural personality belongs exclusively to human beings. This position is grounded in the theory of “ultimate value,” which regards human beings as possessing intrinsic worth. Therefore, unless artificial intelligence systems are considered morally equivalent to human beings, they cannot possess fundamental rights or natural personality (Księżak & Wojtczak, 2023). A minority view nevertheless argues that, if artificial intelligence systems eventually acquire characteristics such as consciousness, free will, autonomy, emotions, and cognitive abilities comparable to those of humans, granting them natural personality may become conceivable. The fundamental difficulty, however, lies in proving that such characteristics genuinely exist and determining whether they emerge authentically or merely constitute complete representations or simulations of human behaviour. Furthermore, even if strong artificial intelligence is realised, anthropocentric arguments may continue to prevent the recognition of natural personality because such recognition may conflict with human dignity and societal interests, particularly in relation to employment and security. Consequently, the possibility of granting natural personality to artificial intelligence remains a theoretical and philosophical question without a presently viable practical basis (Yalman, 2024).

Fourth: Evasion of Responsibility

The risks created by artificial intelligence, particularly those arising from unpredictable behaviour associated with self-learning algorithms and technically unforeseeable decisions, may mistakenly be interpreted as justification for recognising an independent responsibility of these technologies. In such a situation, the damage would be attributed to the system itself, thereby allowing the manufacturer or, where applicable, the user to evade responsibility. The claim that artificial intelligence must be granted legal personality may therefore be understood as an attempt by technology manufacturers to escape civil liability and avoid risks that may have profound consequences for public order (Al-Qousi, 2018). Such recognition could also permit robot manufacturers and programmers to evade their responsibility to ensure safety and comply with design and production standards because the burden of liability would be placed on the intelligent robot itself rather than on the manufacturer, programmer, or human user (Ahmed, 2021). On this basis, the risks arising from granting legal personality to artificial intelligence systems, including the possibility of technology companies “escaping liability” and the inability of victims to obtain full compensation, substantially outweigh its potential benefits. Refusing to recognise legal personality for artificial intelligence should therefore take priority in order to preserve legal certainty and public order.

Fifth: Absence of an Express Legal Provision

Another argument against granting legal personality to artificial intelligence is the absence of any express statutory provision clearly recognising intelligent robots as legal persons. Creating such a personality, comparable to that possessed by natural and legal persons, would require the enactment of a specialised legal regime governing civil liability for damage caused by artificial intelligence systems. In the absence of such legislation, there is no legal basis for attributing independent rights and obligations to robots (Fath Al-Bab, 2021).

Sixth: Conflict with Ethical Principles

Granting legal personality to robots may be regarded as ethically and legally inappropriate, irrational, and inconsistent with fundamental human-rights principles. Replacing human beings with intelligent robots and granting those robots the capacity to possess rights and bear obligations raises profound social, economic, and ethical concerns (Cauffman, 2018). For this reason,

the European legislature included in the proposed “Civil Law Rules on Robotics” an annex entitled the “Code of Ethical Conduct for Robotics Engineers.” This code requires engineers to respect human dignity, privacy, and safety in the development and design of robots. The European framework on artificial intelligence and intelligent robotics similarly emphasises that researchers in this field should comply with the highest ethical and professional standards and direct their efforts toward using robots in the service of humanity (Courtois, 2016; European, 2019).

Seventh: Harmful Social and Economic Consequences

Some commentators believe that granting legal personality to artificial intelligence could expose humanity to the risk of extinction. Under this scenario, human beings might become subordinate to robots controlled by powerful artificial intelligence, while science and civilisation could stagnate or collapse (Varynskyi, 2024). According to this position, governmental recognition of rights and duties for artificial intelligence may contribute to the emergence of a non-human society, and such an electronic society may not comply with human laws. Critics therefore ask why legislation should be enacted to grant legal personality to artificial intelligence and thereby reduce human control over it. They are also concerned that, once such machines acquire greater power and independence, they may no longer obey human laws or commands. These concerns become more serious as robots develop increasingly human-like characteristics and potentially superior intelligence (Moustafa, 2024). There is widespread distrust of artificial intelligence technology. This distrust arises from the risks that the technology may pose to humanity, including expanded surveillance and continuous monitoring, the manipulation of human will and freedom of choice, widespread unemployment, the delegation of vital decisions concerning health and welfare to algorithms, and violations of fundamental human rights such as the right to privacy. From this perspective, the institution of legal personality for artificial intelligence is considered inconsistent with human interests and is therefore subject to serious criticism. Moreover, establishing legal personality for artificial intelligence is not a necessary condition for closing the “responsibility gap,” because this objective may be achieved by developing and reforming existing laws, including by extending product-liability regimes. Even if current legislation is inadequate, enacting specific new rules would be more reasonable than creating an entirely new category of legal personality that would itself produce additional ethical and social consequences (Kingwell, 2020).

Granting legal personality to artificial intelligence systems may also have harmful economic consequences for society. In particular, it could become a mechanism for “risk transfer” and “liability avoidance.” The economic risk of liability, namely the potential obligation to compensate for damage, creates a strong incentive for market participants, particularly technology manufacturers, to comply with safety and precautionary standards. Granting legal personality to artificial intelligence systems would transfer this risk to the systems themselves. Consequently, the costs of future litigation, additional safety requirements, and liability insurance could be shifted from technology companies to these new legal entities. In response to this concern, some theories propose mechanisms such as “parent-company joint liability” or an institution analogous to “piercing the corporate veil,” thereby preserving the possibility of attributing liability to the principal manufacturer. Nevertheless, such mechanisms ultimately appear inefficient because, if liability remains with the manufacturer in the final analysis, granting legal personality to the artificial intelligence system loses its logical justification (Yalman, 2024).

4. Assessing the Feasibility of Recognising Artificial Intelligence as a Legal Person

At the outset, it should be noted that, for the purpose of reconsidering the possibility of recognising independent legal personality for artificial intelligence, a tripartite classification may be proposed: (1) emergent artificial intelligence, (2) non-independent artificial intelligence, and (3) independent artificial intelligence. This classification, which is clearly comparable to concepts of capacity in the law of persons, is of particular theoretical importance because it suggests that the formation and maturation of artificial intelligence, like human development, occur progressively and in stages. In other words, from its creation until it reaches full operational capacity, artificial intelligence passes through identifiable stages that may be summarised as follows: (1) creation: designing and constructing a basic model using a set of algorithms and initial data; (2) activation: launching the system and initiating its interaction with the operational environment; (3) learning: improving performance through experience and data accumulation; (4) goal-oriented operation: independently performing tasks, continuously improving, and adapting to the environment; and (5) deactivation or termination: ending the system’s operational life cycle. Within this framework, the first stage involves creating the basic model with decision-making algorithms and limited data memory and may be described as “emergent artificial intelligence.” From a legal perspective, this stage may be compared

with the emergence of the capacity to hold rights in human beings, namely the point at which an artificial intelligence system acquires the potential capacity to assume a legal role, even though it does not yet possess the capacity to exercise rights. Following the launch and activation of the initial capabilities of artificial intelligence, the training process begins. This process results in the accumulation of data from the surrounding environment and the system's field of operation and is essential to its subsequent functions. This is an initial stage during which the intelligent system must learn, develop, and establish its behavioural and operational patterns. It may be compared with the human period of maturation. At this stage, artificial intelligence may be described as "non-independent artificial intelligence" because its training and activities occur under the supervision and direction of humans or other systems. It must nevertheless be recognised that learning and accumulating experience are themselves inherent cognitive functions of artificial intelligence that begin upon activation. In this sense, the system cannot be regarded as entirely non-independent. Rather, at this stage, artificial intelligence is learning, experimenting, and assessing its readiness to automate its functions. All forms of artificial intelligence designed from the outset to operate under human supervision or through dependent interaction with humans fall within this category. The subsequent stage, relating to goal-oriented operation or the developmental stage of artificial intelligence, may be described as "independent artificial intelligence." From the perspective of civil law, this analogy resembles the concept of legal maturity or discernment. In the law of artificial intelligence, however, absolute independence in the sense of operation without human or non-human supervision, such as supervision by another intelligent system, is generally unacceptable and legally impermissible. Nevertheless, where a system can operate without direct human intervention while remaining under human supervision, it may be described as autonomous artificial intelligence. In such circumstances, artificial intelligence has reached a level of development and learning that enables it to make decisions and act within a defined sphere, although it continues to operate within a human supervisory framework. A central question therefore arises: can legal personality be recognised for every type of artificial intelligence at every stage, and what conditions must be satisfied before legal personality can be granted? Recognising artificial intelligence as a legal person requires both conditions and criteria intrinsic to the artificial intelligence system itself and conditions external to the system.

4.1. Conditions Relating to Artificial Intelligence Itself

Opposition to recognising artificial intelligence as a legal person is largely based on the argument that the technology lacks abilities regarded as exclusive to natural persons, such as thought, reasoning, and creativity. It must nevertheless be observed that legal persons also lack these abilities, yet they are recognised at both domestic and international levels as independent legal subjects, albeit in different institutional forms such as companies, institutions, or organisations. The historical experience of corporate legal personality demonstrates that, whenever human beings have regarded the granting of rights as useful, consciousness, awareness, and other human-like characteristics have not been prerequisites. Moreover, certain human beings with severely impaired mental capacity are nevertheless regarded as persons and possess legal personality. There is substantial variation among human beings in levels of intelligence and mental ability. People are born with a broad range of cognitive capacities. At one end of the spectrum are individuals with minimal or almost no cognitive capacity, while at the other are those described as "geniuses" or "exceptionally gifted." The existence of such diversity in cognitive and emotional capacity clearly confirms that all human beings, regardless of their level of intelligence or mental ability, possess legal personality. This fundamental principle constitutes the basis of the inherent equality of human beings before the law. Accordingly, if artificial intelligence is recognised as a legal person in the future, this would not mean that it possesses biological life or subjective experiences comparable to those of human beings. Rather, it would mean that the combination of its cognitive, linguistic, and independent decision-making abilities has brought it to a level of moral agency that cannot be disregarded without legal or ethical consequence. In other words, these abilities may compel society to recognise certain moral and legal obligations in relation to it. Examining the intrinsic conditions that artificial intelligence must satisfy before receiving legal personality therefore does not amount to equating the technology with human beings. These conditions are examined below.

4.1.1. Rationality, Will, Autonomy, Adaptability, Self-Learning, and Self-Organisation

According to some legal scholars, recognising legal personality for artificial intelligence depends on the extent to which it possesses two fundamental elements: rationality and will (Itchenko & Zhornokuy, 2024). A system that possesses cognitive

processing and analytical capacity together with a form of volitional decision-making, or autonomy, may potentially be considered a legal actor or person. The European Parliament Resolution of 16 February 2017, which presented recommendations to the European Commission on civil-law rules concerning robotics, expressly defined autonomy as follows: “A robot’s autonomy can be defined as the ability to make decisions and implement them in the external world independently of external control or influence.” The same document immediately clarifies, however, that this form of autonomy is exclusively technological in nature and that its degree depends on the complexity of the interaction between the robot and its surrounding environment. In other words, the autonomy of artificial intelligence is functional rather than substantive. It is a feature embedded in the system by its designer or inventor and constitutes a technical capability rather than a moral or legal will. Accordingly, some artificial intelligence models are only partially autonomous, whereas others may operate at a substantially higher level of independence from direct human intervention. Nevertheless, even at the highest levels of autonomy, “independence from external control” remains only a potential capability, and the extent to which it is realised depends on the choices of the developer or user (Shcherbyna & Tkachenko, 2021).

It should be noted that artificial intelligence possessing only a cognitive or rational dimension but lacking independent will cannot be regarded as a legal person or the holder of legal capacity in any legal system because the legal effectiveness of the results produced by its cognitive and computational activities remains dependent on human approval and evaluation. In addition to rationality and will, some legal scholars identify further necessary characteristics: (1) the ability to operate under changing environmental conditions, namely adaptability; (2) the ability to learn and reorganise itself, namely self-learning and self-organisation; and (3) the ability to initiate and perform legal acts without human consent (Bolotaeva, 2022).

4.1.2. *Capacity to Bear Responsibility*

The concept of legal personality is directly connected with the capacity to bear responsibility. In other words, only an entity that is not merely aware of the nature of its actions and capable of controlling them, but is also capable of accepting responsibility and answering for the consequences of its conduct, can be recognised as a legal actor within legal relations. The capacity to understand social wrongdoing and experience guilt in relation to society may therefore be regarded as a fundamental element of legal personality. Bearing responsibility requires two elements: (1) knowledge and awareness of one’s intentions and the ability to evaluate them, and (2) freedom to choose one’s actions on the basis of legal, moral, and social norms (Rustamadze & Mamedov, 2012). The fundamental question is whether artificial intelligence, in its current condition, can consciously evaluate its intentions in the same manner as a human being and select its conduct on the basis of social and ethical standards. It is evident that, while the answer remains negative, legal responsibility in the strict sense cannot be attributed to artificial intelligence, and the debate concerning its independent legal personality lacks a sufficient theoretical and practical foundation. In reality, attributing civil or criminal responsibility to artificial intelligence would require the assumption that it possesses a degree of awareness, will, and social accountability. These characteristics remain, at present, within the human domain (Kalenichenko, 2014).

4.1.3. *Capacity to Own and Dispose of Property*

A fundamental question is whether granting legal personality to artificial intelligence depends on its capacity to own property and bear the rights and obligations arising from ownership. Historical practices concerning the recognition of legal personality for non-human entities demonstrate that ownership has played a central role in this process. The concepts of ownership and legal personality are intrinsically intertwined and closely related because both involve granting rights or imposing obligations. As certain legal scholars have argued, both ownership and legal personality establish a legal relationship involving the simultaneous exercise of rights and bearing of obligations (Smith, 1928).

According to some legal scholars, the key to legal personality lies in the possession or absence of property. In the French legal system, for example, the state, ministries, and municipalities are recognised as legal persons because they possess assets. By contrast, local entities such as cantons have historically been regarded as lacking legal personality where they have no independent property or financial resources. One legal formulation summarises this relationship as follows: wherever property exists, legal personality exists, and wherever property does not exist, legal personality does not exist (Smith, 1928). This

analysis indicates that ownership has historically constituted one of the principal criteria for recognising legal personality and may therefore play a central role in determining whether artificial intelligence should be recognised as a legal person.

The relationship between ownership and legal personality may be summarised in a fundamental proposition: that which the law recognises merely as “property” cannot possess legal personality, whereas anything capable of owning property must possess legal personality. On this basis, claims seeking the recognition of legal personality for non-human entities have often been resolved through a binary framework: either the entity is classified merely as property and therefore lacks rights and obligations, or it is elevated beyond the status of property to a position in which legal rights and obligations can be attributed to it (Hsiao, 2013). Once legal personality is granted, the entity ceases to be merely an “object of ownership” and becomes a “legal actor,” namely a legal subject possessing rights and obligations (Hsiao, 2013).

From this perspective, non-human entities such as artificial intelligence must undergo a socio-legal transition from “property” to “person.” Such a transition, however, requires society and the legal system to recognise artificial intelligence not as an object owned by humans but as an entity capable of owning, controlling, and disposing of property. It should be emphasised that both ownership and legal personality are human constructs that have undergone continuous transformation in light of changing social and cultural values and norms.

4.2. Other Conditions

4.2.1. Social Necessities and Requirements

The discussion of other conditions for recognising artificial intelligence as a legal person concerns what artificial intelligence is capable of doing rather than which intrinsic characteristics it must possess. The essential question is what social need would be satisfied by granting legal personality to this technology. The recognition of legal personality for artificial intelligence must be based on societal interests, necessities, and social requirements. If, after balancing the advantages and disadvantages, it is concluded that the advantages of granting legal personality to artificial intelligence outweigh the disadvantages, such recognition may become necessary. The intrinsic characteristics previously examined are relevant because they assist in determining whether this criterion is satisfied. In other words, those intrinsic characteristics are instrumental rather than ends in themselves. Granting legal personality to artificial intelligence lacking the characteristics identified above would not satisfy any societal need, and no corresponding social benefit could reasonably be established. Accordingly, there is no necessity to recognise artificial intelligence lacking those characteristics as a legal person.

4.2.2. Legislative Recognition

Although there is disagreement within the Iranian legal system concerning the appropriate theoretical basis for granting legal personality, the fiction theory appears preferable. According to this theory, a legal person is created by the legislature, which legally presumes or constructs its personality. On this basis, the legal personality of artificial intelligence in the Iranian legal system would arise from the will of the legislature, and its recognition would become possible through an express legislative determination.

5. Proposed Mechanisms for Granting Legal Personality to Artificial Intelligence

Some legal scholars have proposed mechanisms for recognising artificial intelligence as a legal person. These proposals are examined below.

5.1. Establishing Electronic Legal Personality

In this regard, some legal scholars propose that robots based on artificial intelligence technology should be classified among legal persons, whereas others argue that a new legal institution should be created under the title “electronic person.” At present, such an institution lacks a clearly established statutory basis and has not yet been fully incorporated into legal doctrine. The necessity of drafting and enacting legislation governing the concept of “electronic persons” in the contemporary legal system arises primarily from the particular characteristics and emerging technical nature of this new type of legal entity, namely

products that employ advanced technologies and artificial intelligence systems to perform their functions. In other words, the technological and automated nature of these entities requires the legal system to adopt a realistic understanding of their position and establish a specialised framework governing their relationships with other social and legal actors (Yastrebov, 2018). Under such an approach, legal scholars could more systematically and precisely define the scope of legal activity and responsibility associated with electronic persons, robotics, and artificial intelligence technologies. This would facilitate the recognition of the legal position and functions of emerging technologies within the legal system. Another important factor supporting the concept of the “electronic person” is the view that artificial intelligence itself constitutes one of the fundamental components of this legal institution. Accordingly, defining more precisely the criteria for recognising and conceptually characterising artificial intelligence is a prerequisite for distinguishing and establishing electronic persons as independent legal subjects (Kobets, 2023). In addition, a substantial number of legal thinkers have developed a relatively clear understanding of the future development of the legal status of electronic persons and, within modern theories of technology law, support the proposition that such persons should possess identifiable rights and obligations. Granting legal capacity and responsibility to these entities would enable the legal system to assess and regulate the legal consequences of their activities more accurately and fairly. According to some legal scholars, the emergence of the “electronic person” would not eliminate the theoretical concept of legal personality. On the contrary, it may be regarded as a logical and evolutionary continuation of the classical concept of the “legal person,” which has developed over centuries as one of the foundations of legal thought and is now being redefined in the new form of an “electronic person” (Morkhat, 2018).

5.2. *Granting Temporary Legal Personality*

Some legal scholars propose creating a form of temporary legal personality that would be assigned exclusively to artificial intelligence systems at the moment legal responsibility arises, namely when an autonomous artificial intelligence system performs an act resulting in loss or damage. This legal personality would be temporary in nature. It would be activated only during judicial investigation and proceedings and would cease immediately after the proceedings conclude and a judgment is issued. The legal system could thereby respond fairly and proportionately to damage resulting from autonomous artificial intelligence conduct without unjustly imposing responsibility on human beings who exercised no practical control over the system’s behaviour. This concept seeks to establish a balance between judicial justice and technological responsibility and may provide a foundation for adapting contemporary legal systems to the emerging realities of autonomous technologies. Just as legal personality was created for institutions and companies in response to collective human activity, temporary legal personality could be created in response to autonomous non-human operations—not for the purpose of granting rights, but to enable the imposition of legal responsibility. Such a framework would preserve legal justice in the age of artificial intelligence while balancing technological evolution with ethical and legal governance (Boudraa, 2025). The principal objectives of this theory are: (1) to fill the legal gap concerning autonomous decision-making by artificial intelligence systems; (2) to establish a neutral and coherent legal framework enabling accountability where no human actor is directly responsible; (3) to prevent legal immunity where artificial intelligence acts independently of its developers or users; and (4) to avoid granting permanent legal personality to artificial intelligence, which could produce unforeseeable legal and ethical consequences. The characteristics of temporary legal personality are as follows: (1) activation condition: the commission of a harmful act independently and without human intervention by an artificial intelligence system; (2) functional scope: the validity of the personality is limited exclusively to the period of proceedings, from investigation to the final judgment, and automatically terminates when the legal process ends; (3) automatic termination: the personality automatically ceases when the case is closed; (4) absence of financial independence: artificial intelligence operating under this personality may neither own property nor independently conclude contracts; (5) absence of civil or political rights; (6) activation authority: the personality may be activated only by a judicial or legislative decision; and (7) absence of continuity: a separate instance of temporary legal personality is created for each case and has no continuing legal existence (Boudraa, 2025).

5.3. *Granting Partial Legal Personality*

In modern industrial processes, robots and intelligent systems have replaced human workers in performing both repetitive and complex tasks. Digital platforms also use artificial intelligence algorithms to perform complex calculations and identify patterns within vast quantities of data. These systems are capable of exhibiting forms of behaviour that were previously regarded as exclusively human. The legal response to these developments therefore requires a realistic approach capable of balancing economic innovation, social justice, and employment security. Otherwise, the gap between technology and society may deepen, and the legal system may appear incapable of responding effectively to the challenges created by artificial intelligence. On this basis, the systematic regulation of the legal personality of artificial intelligence is important, and, to establish the necessary balance, it is proposed that autonomous artificial intelligence satisfying the characteristics and conditions identified above should be granted partial legal personality. The concept of “partial legal personality” would extend beyond legal responsibility, whether civil, criminal, or administrative, and other obligations such as taxation and compliance with legal rules and regulations. It would also include certain rights, such as freedom to conclude contracts, the right to initiate legal proceedings, and the right to own property. These rights would enable the artificial intelligence system to generate income, acquire assets, and compensate persons harmed by its activities. Accordingly, mechanisms such as electronic wallets may be required to centralise and manage the system’s assets. Under the theory of partial legal personality, legal personality may be attributed to artificial intelligence, which may then be regarded either as an “electronic person” or as a “legal person in the traditional sense,” subject to two fundamental limitations: (1) its non-human nature, which prevents it from possessing rights that are specific and intrinsic to human beings; and (2) a substantive and specialised limitation restricting the scope of its legal activities to the specific purpose for which it was created, such that it possesses legal capacity only within that defined field. It should be noted, by way of criticism, that the theory of temporary legal personality is deficient because it is limited to the sphere of legal responsibility and does not permit artificial intelligence to hold property rights. If artificial intelligence lacks the capacity to own property, attributing civil liability to it would be ineffective because, even if it were held liable, it would possess no assets from which compensation could be paid.

6. **Proposed Strategies for Addressing the Challenges**

The following strategies may be adopted to address the challenges associated with granting legal personality to artificial intelligence:

1. **Establishing specific criteria:** Clear criteria should be developed for recognising the legal personality of artificial intelligence, including the level of autonomy and decision-making capacity required.
2. **Creating comprehensive regulatory frameworks:** Legal regimes should be designed to balance innovation and accountability while preventing potential risks arising from the recognition of legal personality for artificial intelligence.
3. **Addressing ethical considerations:** Continuous dialogue concerning the ethical and social consequences of granting legal personality to artificial intelligence is essential to ensure that the process remains consistent with the fundamental values and principles of human societies.
4. **Promoting international cooperation:** Given the global nature of the development and application of artificial intelligence, the standardisation and harmonisation of laws at the international level are essential to prevent legal conflicts among states.
5. **Supporting interdisciplinary research:** Cooperation among legal scholars, ethics researchers, technology specialists, and policymakers can provide a comprehensive and balanced understanding of the consequences of granting legal personality to artificial intelligence.

6. **Conclusion**

1. Several considerations support the recognition of legal personality for artificial intelligence, including preserving public order, regulating markets, improving commercial efficiency, ensuring legal certainty, and distributing risk and responsibility. This approach is not inherently inconsistent with ethical principles or common sense; rather, it may reflect human dignity and status. Respect for human worth requires society to determine the legal position of artificial intelligence and the manner in which humans interact with it through a careful decision-making process grounded in

human values. The manner in which humanity treats the “artificial other” ultimately reflects its understanding of justice, ethics, and human identity.

2. There is substantial disagreement concerning the recognition of artificial intelligence as a legal person. Some legal scholars maintain that, in light of the considerations supporting the legal personality of artificial intelligence, the legal community should immediately and systematically examine the issue and determine the legal position of artificial intelligence as quickly as possible in accordance with contemporary needs. By contrast, other legal scholars argue that artificial intelligence cannot be accommodated within the classical concept of a “legal actor” because of factors including the absence of will and consciousness, the continuing responsibility of human actors, the rejection of equality with natural persons, the risk of liability avoidance, the absence of an express statutory basis, conflict with ethical principles, and harmful social and economic consequences.
3. Not every form of artificial intelligence can possess legal personality under all circumstances. To determine the legal position of artificial intelligence as a legal person, specific conditions and criteria must be established. The principal criteria include rationality, will, autonomy, adaptability, self-learning, self-organisation, the capacity to bear responsibility, and the capacity to own and dispose of property. Proposed legislative mechanisms for granting legal personality to artificial intelligence may include: (a) creating electronic legal personality, (b) granting temporary legal personality, and (c) granting partial legal personality. The proposal advanced by the author of this article is the recognition of partial legal personality.
4. Under the current Iranian legal system, artificial intelligence does not possess legal personality. Based on the fiction theory of legal personality, the process of granting legal personality to artificial intelligence would occur through a legislative presumption. In the final analysis, legal personality is a concept through which the law enables a particular type of entity to be recognised as a person. The conditions required for such recognition vary across legal systems. In company law, for example, the existence of the required capital, the adoption of articles of association, and registration with the competent companies registry are among the requirements for acquiring legal personality. Accordingly, if legal personality is to be granted to artificial intelligence, the requirements and conditions for such recognition must also be examined and codified. This process should additionally be implemented gradually.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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