



نحو نظرية جديدة للمسؤولية المدنية في ظل أنظمة الذكاء الاصطناعي وتحديات اصلاح النظرية التقليدية

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Towards a New Theory of Civil Liability in the Context of Artificial Intelligence Systems and the Challenges of Reforming the Traditional Theory

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المخلص:

يشهد الواقع القانوني المعاصر تحديات متزايدة نتيجة التطور السريع لتقنيات الذكاء الاصطناعي، إذ بات من الصعب على النظرية التقليدية للمسؤولية المدنية الاستجابة لمستجدات هذا المجال. فالمسؤولية القائمة على الخطأ أو على مجرد وقوع الضرر تواجه قصورًا جوهريًا عند محاولة تحديد من يتحمل تبعه الأضرار الناتجة عن أنظمة ذكية تتسم بالاستقلالية والقدرة على اتخاذ القرارات دون تدخل بشري مباشر. يسعى هذا البحث إلى استكشاف أبعاد هذا القصور، وإبراز الحاجة إلى بلورة نظرية جديدة للمسؤولية المدنية أكثر ملاءمة للتطور التقني. ويركز على مقارنة شمولية تراعي التوازن بين حماية المضرور من جهة، وتشجيع الابتكار وضمان استمرار الاستثمار في تقنيات الذكاء الاصطناعي من جهة أخرى. ومن بين الحلول المطروحة: اعتماد التأمين الإلزامي، إنشاء صناديق خاصة للتعويض، وتطوير إطار قانوني يمنح بعض الأنظمة الذكية شخصية قانونية محدودة في نطاق ضيق. وتخلص الدراسة إلى أن إصلاح النظرية التقليدية لم يعد خيارًا، بل ضرورة قانونية وتشريعية عاجلة، مع الدعوة إلى تعاون دولي يضع قواعد موحدة تنظم المسؤولية المدنية في عصر الذكاء الاصطناعي.

الكلمات الدالة: المسؤولية المدنية ، الذكاء الاصطناعي ، النظرية التقليدية ، التعويض ، الإصلاح التشريعي.

Abstract:

Contemporary legal reality is facing increasing challenges due to the rapid development of artificial intelligence technologies. It has become difficult for traditional civil liability theories to respond to developments in this field. Liability based on fault or mere damage faces fundamental

shortcomings when attempting to determine who bears the responsibility for damages resulting from autonomous intelligent systems capable of making decisions without direct human intervention. This study seeks to explore the dimensions of this shortcoming and highlight the need to develop a new theory of civil liability that is more suited to technological development. It focuses on a comprehensive approach that balances protecting the injured party, on the one hand, and encouraging innovation and ensuring continued investment in artificial intelligence technologies, on the other. Among the proposed solutions are: adopting mandatory insurance, establishing special compensation funds, and developing a legal framework that grants certain intelligent systems limited legal personality within a narrow scope. The study concludes that reforming traditional theory is no longer an option, but rather an urgent legal and legislative necessity, while calling for international cooperation to establish unified rules governing civil liability in the age of artificial intelligence.

Keywords: Civil liability, artificial intelligence, traditional theory, compensation, legislative reform.

Introduction

Praise be to Allah, who has commanded the pursuit of knowledge and elevated the ranks of its people, as He said: “Allah will raise those who have believed among you and those who were given knowledge, by degrees”¹, and may peace and blessings be upon our Prophet Muhammad, who said: “Whoever follows a path in pursuit of knowledge, Allah will make easy for him a path to Paradise”.²

Now, thereafter:

The contemporary world is witnessing tremendous advancements in the field of technology in general, and in the field of information technology in particular. One of the most prominent manifestations of this remarkable progress is artificial intelligence technologies, which have acquired the ability to simulate the human mind and, in most cases, even surpass it. These technologies have developed the capacity for thinking, perception, problem-solving, and decision-making through the collection and analysis of data and information.

Artificial intelligence has imposed upon us a new intelligent reality, which facilitates the acquisition of information and decision-making with an unprecedented level of speed and accuracy. As a result, it has been utilized in various fields that directly impact human life, such as medicine, industry, commerce, engineering, education, and banking services. Consequently, there is a concern within scientific circles that one day we may abandon human and natural intelligence in favour of artificial intelligence. Therefore, it is necessary to reconsider the legal and ethical regulations governing this astonishingly rapid development, out of fear of losing control over it in the future

It is natural that the use of this technology may pose risks and harms to others. Therefore, a question arises about the extent to which traditional legal rules are suitable to address these risks

¹ --(Surat Al-Mujadila, 58:11).

² - Narrated by Muslim in his *Sahih*, Book of Remembrance and Supplication, Hadith No. 2699. See: *Sahih Muslim* by Abu al-Husayn Muslim ibn al-Hajjaj al-Qushayri al-Naysaburi, Dar Ihya' al-Turath al-'Arabi, Beirut, p. 2064.

that may arise from the operation of artificial intelligence systems, particularly the rules of civil liability, which are difficult to apply in several respects. This calls for a reconsideration of the traditional legal rules of civil liability to align them with the elements that constitute this new technology.

Research Problem

With this unprecedented technology, an important issue has arisen, namely, the inadequacy of the general rules of civil liability despite their long-established nature and general application. These rules are no longer sufficient to address this modern technology. As artificial intelligence technology has emerged, damages have surfaced that cannot be adequately addressed by the general rules. Therefore, these rules require special provisions or doctrinal principles that necessitate moving beyond the traditional framework of civil liability.

In the context of artificial intelligence systems, it is difficult to determine who is responsible for the damages resulting from them, especially since artificial intelligence can operate autonomously and independently of humans through its ability to self-learn. As a result, both the user, manufacturer, and programmer of this system can potentially avoid liability for the damages caused by the actions of artificial intelligence.

Several sub-questions branch out from this problem:

1. What is the standard of fault in the operation of artificial intelligence systems? And how is responsibility determined for it?
2. Is the autonomy of artificial intelligence operations a sufficient reason to assign liability?
3. Can artificial intelligence be considered an independent legal entity that can be held liable civilly?
4. What is the foundation upon which a new framework for civil liability for damages caused by artificial intelligence can be built?
5. Is it necessary to adopt a mandatory insurance system to cover damages resulting from artificial intelligence?

Methodology

In this research, I relied on the inductive, analytical, and comparative methodology. This was achieved by thoroughly examining the legal texts of traditional civil liability, with the aim of analysing the scope of civil liability and interpreting the relevant provisions concerning the liability of individuals for the errors of machines. Additionally, the research involved analysing various doctrinal opinions and comparing them with some recent legislations issued regarding artificial intelligence technology, such as European law, and British and American judicial directives in this regard. The purpose is to reach appropriate conclusions and recommendations for the Libyan legislator.

Research Plan:

Chapter One: The Shortcomings of the Traditional Theory of Civil Liability.

Section One: The Difficulty of Determining Fault in the Field of Artificial Intelligence.

Section Two: The Difficulty of Establishing a Causal Link Between Fault and Damage in the Field of Artificial Intelligence.

Chapter Two: Proposal for a New Theory of Civil Liability.

Section One: Attempting to Recognize the Legal Personality of Artificial Intelligence.

Section Two: Proposing a New Approach to Liability for Damages Caused by Artificial Intelligence.

Conclusion.

Recommendations.

Chapter One

The Shortcomings of the Traditional Theory of Civil Liability:

Introduction:

Civil liability is considered the cornerstone of protecting rights and eliminating the harmful effects of wrongful acts on the injured party. It is based on three elements: fault, damage, and the direct causal relationship between them. The burden of proving the existence of these elements lies with the injured party. However, the scientific progress and economic prosperity that occurred in the nineteenth century, along with numerous legislative changes in countries worldwide, led to amendments in certain provisions of civil liability to align them with this progress.

So, is it necessary to amend the provisions of traditional civil liability in light of this technological leap in the field of artificial intelligence? or do the traditional rules of civil liability accommodate this development? ,To answer these questions, this chapter is divided into two sections:

Section One: The Difficulty of Determining Fault in the Field of Artificial Intelligence.

Section Two: The Difficulty of Establishing a Causal Link Between Fault and Damage in the Field of Artificial Intelligence.

Section One:

The Difficulty of Determining Fault in the Field of Artificial Intelligence

Subsection One: Definition of Fault:

The French legal scholar "Blanquioli" defined fault as "*a breach of a prior obligation*".¹

"Dr. Jameel El-Sharkawy defined it as 'the breach of a legal duty, whether that duty is a specific or a general duty'"²

"Dr. Suleiman Marfis defined it as 'a breach of a legal duty accompanied by the awareness of the person committing the breach'"¹.

¹ - This definition has been widely criticized, primarily for the following reason: It does not help in distinguishing the wrongful act from other acts, as it considers any breach of a prior obligation to be a fault. This necessitates identifying all obligations placed upon an individual in order to determine whether the act attributed to them constitutes a breach of these obligations, which is impossible. See Dr. Abdel-Razzaq Al-Sanhouri, Al-Waseet in Explaining Civil Law - Part One, The Theory of Obligations in General, Dar Al-Nahda Al-Arabia Publishing, Cairo, p. 722 and onwards; Dr. Sultan, Sources of Obligation in Civil Law, Section One, Tortious Liability, Dar Al-Jamiaa Al-Jadida Publishing, 1986, p. 104-105

² -"Jameel Al-Sharkawy, Sources of Obligation in Civil Law, Tortious Liability for Unlawful Acts, Dar Al-Nahda Al-Arabia Publishing, Cairo, 2004, p. 87.

Thus, the fault, as presented in this definition, includes two elements: an objective element, represented by the breach of a legal duty, and a personal element, represented by the presence of discernment in the person who commits the breach of this duty.

"Dr. Mohamed Labib Shanab defined it as 'a deviation from the usual behaviour of the person in the same external circumstances as the one committing the fault, with the awareness of this deviation'.², it is clear from this definition that fault is divided into two elements: a material element, which is the deviation or trespass, and a mental element, which is the awareness.

It is worth noting that the definition of fault varies depending on the type of liability. In the context of contractual liability, fault is defined as 'the debtor's failure to fulfil an obligation arising from a valid contract, whether by refusal to perform, delay in performance, or defective performance due to intent or negligence.

Within the framework of tort liability, fault is defined as 'a breach of a general duty imposed by law on everyone not to harm others, whether intentionally or negligently, and there is no contractual relationship between the injured party and the perpetrator of the fault.

Section Two: The Legal Basis of Traditional Civil Liability:

Traditional civil liability is based on the principle of provable error, whereby a person is not liable for compensation for damages unless it is proven that he committed an error that harmed another. The burden of proving the error falls on the injured party, who then claims the right to compensation.³

There is no responsibility without error, and this is what was confirmed by most laws that followed the approach of Latin legislation, such as the French Civil Code, which states in Article 1240 of the Civil Code that "every act committed by a person that causes harm to another obligates the person who caused it to compensate for that harm, "Most Arab laws followed suit, including the Libyan Civil Code, which states in Article 166 that "every error that causes harm to others obligates the person who committed it to pay compensation".

Despite the generality and solidity of this rule "no liability without fault", with the development of industrial life, proving fault in some cases has become a burden that is difficult for the injured party to bear. Therefore, other theories have appeared in legal jurisprudence that exempt the creditor from proving fault and acknowledging liability without fault in some cases. Thus, objective liability and liability based on risk have emerged.⁴

The foundation and principle upon which civil liability, both contractual and tortious, is based in Libyan civil law and other Latin-based laws is fault, which must be proven. Accordingly, the injured party remains obligated to prove the fault, the damage, and the direct causal relationship

1 -Dr. Suleiman Marfis, The General Theory of Obligation, Volume 1, University Publications Bureau, 1992, 5th Edition, p. 182.

2 -Dr. Mohamed Labib Shanab, Sources of Obligation, University Publications Bureau, 1992, p. 84.

³ - Libyan Civil Cassation No. 123 of 42 AD, Session 12/3/1996 AD, Supreme Court Magazine No. (1) 1997 p. 22 - General Civil Ruling, Tripoli Primary Court, Ruling No. 103 of 2014 AD, Session 11/11/2015 AD, Supreme Court Magazine, No. 1, 2 of 2016 AD, p. 50.

⁴ - Art.1240c.f.'tout fait quelconque de l'homme, qui cause a autrui un dommage. Oblige celui par la faute duquel il est arrive a le reparer.

between them. Despite the recent criticisms directed at this principle, it still represents the cornerstone of civil liability. Liability based on strict liability and risk-based liability are considered exceptions to this principle.¹

Section Three: The Extent of the Application of the "No Liability Without Fault" Principle and Presumptive Liability in the Field of Artificial Intelligence

First, we must clarify the nature of artificial intelligence to determine whether or not it can be attributed to error and thus compensate those harmed by such error.

First: Definition of Artificial Intelligence:

Artificial intelligence refers to "the ability demonstrated by machines and programs to mimic human mental abilities and working patterns. This ability is represented by learning, inference, and responding to situations that are not pre-programmed."²

"American jurist John McCarthy defined it as 'the science and engineering of creating intelligent machines by studying and designing intelligent systems that perceive their environment and take actions that increase their chances of success'.³

Dr. Muhammad Abdul Latif defined it as "the ability of certain machines to use cognitive processes similar to those performed by humans".⁴

Another definition states that it is "a set of new methods and techniques in systems programming aimed at developing systems that resemble certain elements of human intelligence".⁵

What is clear from these definitions is that they are united by one common factor: artificial intelligence is an advanced technology that enables machines to perform tasks such as thinking, reasoning, and decision-making on behalf of humans, at an unprecedented speed. Its goal is to achieve the best possible performance for machines and enhance their chances of success in dealing with various challenges and situations.

¹ - Objective liability does not require proof of fault on the part of the responsible party. Rather, the mere occurrence of damage is sufficient. The injured party is only required to prove that the damage occurred and that it is causally related to the act of the responsible party or the wrongdoer under whose custody the damage is located. This liability often focuses on the element of custody or control. Examples of this in Libyan civil law include liability for the custody of objects and animals, and liability for the collapse of a building by a guard. Risk-based liability is a branch of objective liability based on the premise that anyone who engages in an activity involving unusual risks must compensate others for damages, even if they did not commit a fault, such as liability for the use of mechanical equipment that poses exceptional risks. See Muhammad al-Kilani, *Civil Liability in Libyan Law*, Garyounis University Publications, Libya, 1993, pp. 48 ff.

² - Dr. Sami Al-Nafis, *Artificial Intelligence and its Applications*, Dar Al-Fikr Al-Arabi, Cairo, First Edition 2018, p. 15.

³ -See Dr. Muhammad Hassan Youssef, *Encyclopedia of Artificial Intelligence*, Bibliotheca Alexandrina, 2012, p. 9, translation of the definition by John McCarty.

⁴ -Dr. Muhammad Abdel Latif, *Liability for Artificial Intelligence between Private and Public Law*, a paper presented at the Conference on the Legal and Economic Aspects of Artificial Intelligence and Information Technology, held from May 22-24, 2021, Faculty of Law, Mansoura University, published in the *Journal of Legal and Economic Research*, Mansoura University, p. 5.

⁵ -Dr. Muhammad Hassan Youssef, the previous reference, p. 11.

Second: Difficulties in applying traditional civil liability rules to the field of artificial intelligence:

The adherence to fault as the basis for personal liability remains the norm in all Latin American legislation. This is due to historical roots, as French legal thought established the foundations of this idea, influenced by ecclesiastical theology, in an attempt to create religious and legal harmony between the foundations of legal and moral liability.¹ The Napoleonic Code was issued in 1804 AD, confirming that error is the basis upon which civil liability for personal action is based. The French Civil Code still rejects the idea of abandoning error, and Arab laws such as the Libyan, Egyptian, Syrian, Lebanese, Moroccan, Algerian, Tunisian, Kuwaiti, Bahraini, and Qatari civil codes have followed its approach.²

However, this thought began to shake under the influence of the emergence of new risks resulting from the development of economic and social life, such as technological progress in industry. As we mentioned previously, the objective theory and responsibility based on risks emerged, which is based on the person bearing the consequences of the activity he undertakes even if no error is proven against him.³

Therefore, legal jurisprudence was divided between those who rejected the abandonment of error as a basis for personal responsibility, supporting their position with strong arguments, the most important of which is achieving justice. It is just that a person does not bear the consequences of his work unless he committed a mistake. They also see what they went to that responsibility is considered a means of compensating for damages, and it is also a means of deterring violating behavior. In addition to that, achieving stability in transactions. If a person is held accountable for compensating for damages that he had no hand in, it leads to destabilizing transactions.⁴

While another opposing trend has emerged, which considers the establishment of civil liability without fault, based on considerations of social justice and the protection of those harmed, given that technological progress has created serious risks that make it impossible for the harmed to prove fault, and the owner of the activity must bear the consequences of the damage resulting from his activity simply because of the existence of a causal relationship between his activity and the damage that occurred. Liability is therefore not based on a fault that must be proven, but rather on the idea of bearing risks or guarding things.⁵

In the Libyan Civil Code, there are many texts that confirm that the Libyan legislator adopted the idea of objective liability. An example of this is the text of Article 219 of the Civil Code, Liability for the custody of things; Article 220 of the Civil Code, Liability for the custody of animals; Article 221 of the Civil Code, Liability for the construction.⁶

¹ - Dr. Ahmed Salama, *The General Theory of Obligation*, Dar Al Nahda Al Arabiya, 1998, p. 45.

Jean Morand, *Elementary Trait of Civil Law*, vol. 2, *Obligations*, Dalloz, Paris, 1961, p. 115

² - Dr. Abdel Razzaq Al-Sanhouri, previous reference, p. 720

³ - Dr. Suleiman Markos, previous reference, p. 188.

⁴ - Dr. Ahmed Abdel Karim Salama, *Civil Liability in Light of Islamic Jurisprudence and the Judiciary*, Dar Al Nahda Al Arabiya, Second Edition 2018, p. 153.

⁵ - Dr. Suleiman Markos, previous reference, p. 112

⁶ -- See the texts of Articles 219 to 221 of the Libyan Civil Code.

After presenting the basis upon which civil liability is based and the developments that have occurred to it, it can be said that adherence to error as a basis for personal liability is the norm, with the possibility of exceptions in abstract cases explicitly stipulated by civil law to protect the injured party from the risks of modern technology and to achieve the principle of social solidarity.

The question now arises: Which of the above approaches serves as a valid basis for justifying civil liability in the field of artificial intelligence?

The matter is quite different and fraught with many challenges due to the nature of artificial intelligence's operations. These difficulties and challenges are as follows:

1. Artificial intelligence is characterized by its ability to operate with a unique level of independence, meaning it can independently generate results and make decisions without receiving instructions from its owner, based on its capacity to learn through its own intelligence, and without interference from the owner, user, or producer. Consequently, there is no fault on the part of the human, and thus the owner, user, or producer cannot be held liable for damages that may arise from decisions made autonomously by the artificial intelligence. Additionally, artificial intelligence is not a legal person, and therefore, it cannot be held civilly accountable.¹
2. If we rely on the modern jurisprudential and legislative trends that adopt objective liability and liability based on guardianship, which do not require proof of fault, but instead only the proof of guardianship, damage, and a causal relationship, then the basis of liability lies in the actual control of the responsible person, which is reflected in their ability to prevent the deviation of behavior of those under their authority and guardianship. However, given that artificial intelligence possesses inherent capabilities that free it from human control—whether by the owner, user, or programmer—it becomes evident that objective liability is unable to address the risks associated with artificial intelligence.²

Subsection

Two

The Difficulty of Determining the Causal Relationship Between Fault and Damage Introduction:

Causation is one of the fundamental elements of civil liability. It is not sufficient for the injured party to prove the occurrence of the error and the damage; they must also prove that the damage was an inevitable consequence of the error. Therefore, causation is the legal link between the error and the damage, and it serves as the basis for determining the scope of compensation. Without a causal relationship between the error and the damage, liability cannot be established.

It is only just not to hold a person liable for damage they did not cause. Several theories have emerged in legal jurisprudence regarding causation, such as the theory of equivalence of causes, the theory of the producing cause, and the theory of direct causation. Legal systems have differed in which theory to adopt in determining causation. French civil law adopts direct causation

¹ - Dr. Muhammad Abdul Latif, previously mentioned research, p. 9. Dr. Sami Al-Nusf, previous reference, p. 22.

² -- Dr. Muhammad Hassan Youssef, previous reference, p. 18.

between the error and the damage, while the judiciary often relies on the theory of the producing cause, which is the case in Egypt and Libya.

"Under these legal systems, the burden of proving causation falls on the injured party, unlike some Anglo-Saxon systems, such as the English and American legal systems, which have eased the burden of proving the causal relationship for the injured party in order to broaden the producer's liability. These systems have set standards that expand the scope of causation and simplify the burden of proof on the injured party, such as the standard 'it is sufficient that the error was a substantial factor in the damage' and the standard 'had this error not occurred, the damage would not have occurred'.¹

Reasons for the Difficulty in Determining Causation in the Field of Artificial Intelligence:

One of the legal challenges faced by the traditional theory of civil liability is proving the causal relationship between fault and harm in the field of artificial intelligence. This difficulty arises from the complex nature of artificial intelligence systems, the interrelation of decisions, and the involvement of multiple parties, which leads to the distribution of liability.

First: Multiple Parties:

In the operation of artificial intelligence systems, there are the developer, the programmer, the operator, and the beneficiary. Each of these parties may have contributed to the damage, making it difficult to determine who is responsible. Is it the programmer, the beneficiary, or the operator who entered the biased data on which the system was trained?²

Second: The Social Nature of Decisions:

In most cases, artificial intelligence provides recommendations based on probabilities. If a decision is made based on outputs with a known probability of error, who bears responsibility the programmer or the beneficiary of the system?³

Third: Reliance on Complex Algorithms:

With the algorithms used in artificial intelligence, it is difficult to understand how the system arrived at its decisions. Consequently, it becomes challenging to determine which flaw led to the incorrect decision was it the programmer's error or the operator's? Which one is considered the direct cause of the damage?⁴

Fourth: Overlap of Decision-Making Between Humans and Machines:

The human element may intervene in issuing the final decision after consulting the AI's recommendation, which severs the direct causal relationship.⁵

¹ - Dr. Suleiman Muhammad Al-Tamawi, *The Theory of Foreign Cause in Civil Liability*, Dar Al-Fikr Al-Arabi, Cairo, Second Edition 1983 AD, p. 145 and following.

² - Dr. Muhammad Abdul Karim Muhammad, *Artificial Intelligence and Civil Liability*, New University House (Alexandria), 2022, p. 145

³ - Dr. Ahmed Salama, *Civil Liability for Defective Products in Light of Artificial Intelligence*, Dar Al Fikr Al Jami'i, Alexandria, 2023, p. 205.

⁴ - Dr. Muhammad Abdul Karim Muhammad, the previous reference, p. 148.

⁵ - Dr. Muhammad Abdul Latif, previous reference, p. 16.

Therefore, it can be said that proving causation in the field of artificial intelligence is complex and unclear due to the multiplicity of actors, the probability and overlap of decisions, and the complex algorithms that make it difficult to understand the operation of AI. For these reasons, an alternative legal framework must be sought to address these issues.

Chapter Two

An Attempt to Propose a New Theory of Civil Liability in the Field of Artificial Intelligence

Introduction:

Artificial intelligence technologies have presented a challenge in legal circles, as evidenced by the failure of civil liability rules to address the risks associated with this technology. These challenges include identifying the party responsible for erroneous decisions that may be made by AI and cause harm to others. This is particularly the case given that this technology operates autonomously, making it independent of human will, with its ability to learn and make decisions. Furthermore, as previously mentioned, proving the causal link between error and harm is difficult due to the complexity of the system, the multiplicity of actors, and the overlap of decisions, as well as the absence of specific judicial standards that help ease the burden of proof. Since artificial intelligence has introduced an intelligent reality that permeates all aspects of human daily life, it is expected to generate a new, unprecedented type of risk. Therefore, we will endeavour to propose some solutions and suggestions that may lead to the creation of an appropriate legal framework to protect individuals' rights.

Therefore, this research will be divided into two sections:

First section: An attempt to recognize the legal personality of artificial intelligence.

Second section: Proposing a new conception of liability for damages resulting from artificial intelligence.

First requirement

An attempt to recognize the legal personality of artificial intelligence

Introduction:

With the astonishing progress of artificial intelligence and the potential harm it may cause, a broad debate has emerged in legal thought regarding the recognition of AI as a legal entity, with both proponents and opponents. Assuming legal personality is recognized, can it be a natural person, a legal person, or a limited virtual entity suitable for this artificial entity?

First: The Trend Rejecting the Granting of Legal Personality:

Proponents of this view consider artificial intelligence to be merely a machine and a neutral technical tool, dependent on the user or the programmer who designed it. Despite its ability to self-learn and produce independent decisions, it cannot acquire rights nor bear obligations.

To justify this viewpoint, they cited the following:

- 1- **Lack of awareness and perception:** Blame for bearing responsibility is based on the presence of the elements of fault and awareness, and traditional jurisprudence requires even a glimmer of awareness, which is lacking in artificial intelligence. Artificial intelligence systems only operate by identifying specific patterns in data and using knowledge and

information according to defined models processed by computers. Most artificial intelligence entities do not possess the awareness required for legal personality.¹

- 2- **Recognizing the legal personality of artificial intelligence as a pretext for evading responsibility:** By recognizing the legal personality of artificial intelligence, the producer or user may find a way to evade responsibility and place it on the shoulders of the artificial intelligence systems, on the grounds that their personality is independent from that of the producer or user.²
- 3- **Impracticality and Lack of Practical Benefit:** Proponents of this view argue that granting artificial intelligence legal personality is an unnecessary luxury, as it is practically impossible to punish an artificial entity. How can it be penalized or deterred? Furthermore, this approach undermines established legal principles.³

Second: The Trend in Favour of Granting Legal Personality:

Proponents of this view argue that the increasing reliance on artificial intelligence systems in many aspects of human life has made it necessary for jurisprudential and judicial efforts to grant legal personality to artificial intelligence entities for the following reasons:

1- The ability to self-learn and make decisions independently:

Artificial intelligence systems are characterized by their ability to self-learn, which is considered one of the most important criteria for intelligent behaviour. They also have the ability to learn and benefit from mistakes, based on the idea of improving their performance by capitalizing on mistakes. Their ability to learn and innovate depends on technological progress. Thus, artificial intelligence can infer and make decisions without receiving orders from their owner or even their programmer, making them difficult to control and a source of risk. This is the primary motivation for granting an entity legal personality, not for the purpose of granting it full human rights, but rather to identify the person responsible for the harm so that they can be compensated.⁴

2- "Providing Protection for the Injured Party:

Proponents of this approach believe that granting legal personality to artificial intelligence makes it easier for the injured party to file a lawsuit against a specific entity and obtain the necessary compensation to remedy the harm.⁵

The failure to recognize the legal personality of the system leaves the injured party uncertain about identifying the wrongdoer—whether it is the developer, the owner, or the user. Recognizing legal personality protects rights and ensures justice, without undermining or disrupting technological progress, nor destabilizing the established legal system. This is especially true considering that legal thought has evolved in its understanding of legal personality, initially limited to humans (natural personality), later extending to moral entities

¹ - Dr. Ahmed Salama, previous reference, p. 123.

² - Dr. Nadia Al-Amrani: Legal Personality and the Challenges of Artificial Intelligence, Moroccan Journal of Law and Technology, Fourth Edition, 2022, p. 54.

³ - Jean Moraux, *personnalité juridique et techniques nouvelles*, Dalloz, Paris, 2018, p. 88.

⁴ - Dr. Ahmed Salama, previous reference, p. 117

⁵ - Jean Moraux, *op.cit.*, p. 90

such as companies and associations (legal personality). There is no reason preventing the recognition of artificial intelligence entities as legal persons, to facilitate and address liability issues.¹

The question that has arisen among supporters of granting legal personality to AI entities is: Are they natural entities like humans? Are they legal entities, similar to the corporate entity that arises independently of the partners? Or are they a separate legal entity?

There is an agreement among the proponents of this trend that it is not permissible to grant artificial intelligence a legal personality similar to the natural personality of a human being, because human nature, which begins with birth and ends with death, and what it goes through during the journey of life in terms of life, capacity, and rights inherent to the human being, cannot be attributed to an artificial entity.²

They also believe that granting an entity a legal personality is completely identical to the legal personality acquired by companies and associations, but rather a limited and specific legal personality. This is supported by the recommendations of the European Parliament in 2017, where the European Parliament adopted a recommendation in Report No. 2103/2017 entitled “Civil Rules for Robots” to grant some autonomous robots “electronic personality.” The most important recommendations of the European Parliament were about exploring a new legal status for smart robots by creating a special legal personality for autonomous robots so that they can be held liable for the damages they cause to others. The European Commission was also called upon to establish a register of advanced robots managed by a special European agency. It also recommended a strict liability system and mandatory insurance by obligating smart robots and the institutions that own them to have a compulsory insurance system, such as vehicle insurance, and establishing a compensation fund in the absence of insurance.³

These recommendations have not yet been formally legislated, and no robots are considered electronic persons under applicable laws and regulations.

After this presentation of the views of those who oppose or support granting legal personality to artificial intelligence, I suggest granting it a restricted and limited legal personality to limit its liability, along with the necessity of adopting a compulsory insurance system against risks and establishing compensation funds, along with the necessity of strict oversight of the programmer, user, and owner.

Second Requirement

Proposing a New Concept for Liability for Harms Resulting from Artificial Intelligence

Introduction:

¹ -- Dr. Nour Khaled Abdel-Razzaq, Civil Liability Arising from the Use of Artificial Intelligence, a research paper published in the Journal of Legal and Economic Sciences, Ain Shams University, Volume 66, Issue 3 (special for the Ain Shams University Faculty of Law Conference) under the title “Legal and Economic Challenges and Prospects of Artificial Intelligence” during the period from November 4-5, 2023 AD, p. 9.

² -- Dr. Nour Khaled Abdel Razzaq, previously mentioned research, p. 11

³ - European Parliament Recommendations on Civil Law Rules Relating to Robotics Decision No. 2103/2017 (INL), Official Journal of the European Union No. 16, 252, July 2018, p. 39

We previously mentioned that traditional civil liability rules have failed to cover damages caused by artificial intelligence systems, as it is difficult to identify the at-fault party and to prove the causal relationship between the error and the damage for the reasons we mentioned earlier.

Therefore, modern jurisprudence is striving to find a new legal basis for liability that is compatible with this specificity. This basis is based on liability for bearing risks, expanding on the theory of custody of objects, and adopting the idea of establishing an independent fund or financial entity to which compensation is due. This follows the recognition of high-powered artificial intelligence systems as having a distinct electronic personality, as stated in European Parliament Recommendation No. 2103/2017 referred to above.

This is what we will explain in detail in the following sections:

Section One: Liability based on risk-bearing (assumed liability)

This liability is imposed on anyone who engages in an activity that results in exceptional risks. The business owner must bear the consequences of damages arising from engaging in this activity, even if he or she did not commit a mistake.¹

The presumed liability is consistent with artificial intelligence, which cannot be proven at fault due to its inherent ability to learn and its independence in making decisions, as previously explained. The user of artificial intelligence engages in activities that may entail special risks, so the injured party should bear the burden of proving fault on the part of the artificial intelligence.

The European Artificial Intelligence Act (EU AI Act) has identified the high risks resulting from artificial intelligence systems, classifying artificial intelligence systems according to the degree of risk into unacceptable (prohibited) risks, high risks, limited risks, and minor risks.²

The law defines high-risk AI systems in Article 6 and following of the European Artificial Intelligence Regulation (EU AI Act). Article 6/1 states, "An AI system is classified as high-risk if it is a component of a product or system subject to a mandatory conformity assessment under EU health and safety laws or if it is explicitly listed in Annex III." This text refers to Annex III of Regulation A nn ex III, which includes a detailed list.³

Based on this text, the law identifies high-risk systems in accordance with Article 6 and Annex 3, as follows:

- 1- Management and operation of critical infrastructure, such as (transportation networks such as railways, civil aviation, and self-driving cars), (energy, water, gas, and communications).
- 2- Product safety components: Every product requires a safety assessment before being placed on the market, such as (medical devices and artificial intelligence-based children's toys).
- 3-Employment and work management: (Resume screening systems, job placement or promotion, and job performance evaluation systems that impact career paths).
- 4-Vocational education and training: (Systems that determine eligibility for admission to an educational institution or results of official certification exams).

¹ -- Dr. Abdel-Razzaq Al-Sanhouri, previous reference, p. 905.

² - LookEuropean Law on Artificial Intelligence: An Analytical Reading of the Provisions and Enforcement 2025/ published on Lamaeg.net, visited on 7/18/2025.

³ - See the European legal texts on the website Lamaeg.net previously mentioned. See Dr. Ahmed Abdel Karim, "Liability for Artificial Intelligence: A Risk-Based Comparison," European Journal of Law and Technology, Volume 31, Issue 1, 2022, pp. 20 ff., research in English.

- 5- Law enforcement (such as forensic analysis systems, criminal risk assessment systems, or recidivism risk assessment systems).
- 6- Immigration and border management (such as document verification at border points, asylum applications, and visa issuance).
- 7- Judiciary and legal proceedings (such as the judiciary's use of the system to interpret the law or make decisions affecting the fundamental rights of individuals).

Based on the principle of liability based on risk assumption, the user of these systems must bear the consequences of damages arising from their use of these systems, without the injured party bearing the burden of proving fault on the part of the programmer, owner, or user.

For example, if a transportation company uses autonomous vehicles using artificial intelligence, if these vehicles cause damage to others, the company is obligated to compensate, and the injured party is not burdened with proving the company's fault. Rather, the company is obligated to bear the consequences of these exceptional risks associated with its activity.

Section Two: Liability for Custody of Objects

Article 177 of the Libyan Civil Code states that anyone who has custody of an object whose custody requires special care, or of mechanical machinery or the like, shall be liable for any damage caused by such object unless he proves that the damage was caused by an external cause that was indispensable to him.

The custodian of an object is the person who has actual control over the object and the authority to monitor and utilize it. He does not necessarily own the object, so custody is transferred from the owner to the lessee, borrower, or depositary.

The responsibility here is assumed and does not require proof of the guard's error. Rather, it is sufficient to prove that the thing caused harm. The mere occurrence of harm is evidence that the guard made a mistake by neglecting to guard. The aim of this is to protect the injured party by making it easy for him to obtain compensation for the harm that befell him.¹

The legislator may explicitly stipulate that high-risk AI systems are objects of law, and thus the user is liable as a guardian once damage occurs as a result of their use, without the need to prove fault.

If it is impossible to prove who has actual guardianship over the system due to the overlapping roles of the programmer, manufacturer, and user, the legislator may stipulate that liability between them shall be joint and several.

Section Three: Establishing a Special Compensation System for Artificial Intelligence Damages:

Given the growing dangers of artificial intelligence (AI) systems, which have been exploited in all areas of life, a compensation system must be established that achieves justice for those affected and facilitates their access to compensation. The proposed mechanism for fair compensation is through the implementation of a compulsory liability insurance system and the establishment of AI damage compensation funds.

¹ -- Dr. Abdel Razzaq Al-Sanhouri, previous reference, p. 815

1.Liability insurance: The European legislator proposed in the Civil Code for Robots the possibility of compulsory insurance for the owner or manufacturer of a robot to transfer liability from their shoulders, regardless of its nature.¹

Liability insurance is an effective means of lifting the compensation awarded to the person convicted, so the responsibility of bearing the compensation is transferred from the insured to the insurer, as the insurance company collects many risks according to statistical rules and conducts the clearing between them on a scientific basis, in order to be able to fulfill its obligation in the event that the insured risk occurs, from the premiums collected from the insured, and thus insurance is only achieved through a group of homogeneous risks in an organized project.²

Presumed liability cannot survive without a supportive insurance system. The insurance system ensures that the cost of compensation awarded to perpetrators of the harmful act is transferred to the insurer. Therefore, it is considered one of the most appropriate solutions for covering compensation arising from damages caused by intelligent entities. The level of insurance should be tailored to the nature of the AI entities and their uses and scope. Insurers must also modify many aspects of traditional insurance by developing schedules that accommodate the inclusion of AI entities in compulsory insurance. Some scholars argue that the insurance system is ineffective in addressing damages arising from AI operations. They believe it increases harm to others due to the lack of a deterrent to the perpetrator. Furthermore, the current form of insurance is difficult to implement. The manufacturing company may be American, the operator French, and the user German. Furthermore, calculating premiums and allocating costs is difficult.³

However, practical reality confirms that the injured party prefers to resort to the insurance company rather than to resort to the person who caused the damage, especially since he will resort to a person who is, in most cases, financially fit. Recourse to the person who caused the damage may expose the injured party to the possibility of losing his benefits, especially since the damages occurred without fault.

2- Establishing compensation funds for AI damages:

The European Parliament's 2017 recommendations stated that the establishment of insurance funds is a tool to ensure the possibility of compensation for damages caused by AI that are not covered by insurance.

The establishment of compensation funds aims to compensate the injured party in cases where compensation cannot be obtained otherwise. They aim to distribute risks among a group of practitioners of activities that may be the cause of these risks.⁴

¹ - Dr. Ahmed Sharaf El-Din, Insurance Provisions: A Study in Comparative Law and Judiciary, Dar Al-Nahda Al-Arabiya, Cairo, 1991, p. 13.

² -- Dr. Musa Jamil Al-Nimat, The General Theory of Civil Liability Insurance, Dar Al-Thaqafa Publishing House, Amman, 2006, p. 50.

³ - Dr. Muhammad Abd al-Zahir Husayn, Compulsory Insurance for Civil Liability, Dar al-Nahda al-Arabiya, Cairo, 1994, p. 136.

⁴ -- Dr. Mohsen Al-Baya, Civil Liability for Environmental Damage, Al-Galaa Library, Mansoura, 2002, p. 153.

Compensation funds have the advantage of protecting society from the horrific effects of AI damage. They also relieve the injured party of the burden of proof and ensure full compensation. They also relieve the harm-doer of the burden of bearing compensation, especially if these funds are financed from the proceeds of taxes paid by the manufacturer, owner, developer, and user.¹

The proposed basis for liability for AI errors is dual liability based on risk and safeguarding, with the legislator expanding the scope of liability to include AI entities. Liability should be joint and several, while AI has been recognized as a distinct electronic entity, requiring mandatory liability insurance or the establishment of special compensation funds.

"Conclusion

After completing my research—with God's help and guidance I have reached the following conclusions:

First: The traditional theory of civil liability is unable to accommodate the risks posed by AI entities due to the difficulty in identifying the at-fault party and determining the causal relationship between the error and the damage.

Second: Civil liability based on the custody of objects in the traditional theory of liability is insufficient, as AI systems may operate independently of human control.

Third: The possibility of granting AI a unique electronic personality for highly autonomous systems, as recommended by the European Parliament in 2017.

Fourth: The proposed solution for the basis of civil liability for AI damages is to establish a legislative framework based on risk-bearing, along with an expansion of the modern theory to include intelligent systems, and provisions for compulsory liability insurance or the establishment of special compensation funds.

Fifth: The legislature must stipulate that the liability of the programmer, manufacturer, and user is joint and several.

Recommendations:

First: The Libyan legislature must enact specific legislation regulating the legal and ethical dimensions of artificial intelligence, precisely defining high-risk systems and establishing limits on civil liability without fault.

Second: The Libyan legislature must amend the concept of the guardianship of objects theory to encompass artificial intelligence systems.

Third: The Libyan legislature must provide for granting limited legal personality to artificial intelligence systems, thereby creating a separate financial responsibility.

Fourth: The Libyan legislature must require providers to conduct an impact and risk assessment before actual use, in line with European law.

Fifth: The Libyan legislature must instruct the Libyan judiciary to adopt the judicial standards employed in Anglo-Saxon jurisdictions, which exempt the need to prove causation.

¹ - Dr. Ramadan Abu Al-Saud, Principles of Insurance, University Publications House, Second Edition, 2000, p. 39.

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