

Legal Provisions Governing Civil Liability for the Use of Artificial Intelligence Applications

أحكام قيام المسؤولية المدنية عن استعمال برامج الذكاء الاصطناعي

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الملخص:

يعد استعمال الذكاء الاصطناعي وليد الثورة التكنولوجية الحديثة التي جعلت من المعلومة في متناول المستخدمين ومتاحة عبر فضاء الأنترنت بكل سهولة مهما كانت مستجدة، ذلك ما جعل المستعملين باختلاف مستوياتهم ونشاطاتهم يستخدمون البرمجيات لاستقاء المعلومات ومعالجتها واستعمالها، وهي عبارة عن مخرجات برمجية تنتج الأعمال المعهودة للمستخدم، غير أن هذا الاستخدام قد ينتج عنه أضرار، وهنا تنثور إشكالية معالجة الأضرار الناتجة عنه، ومدى اتساع نطاق المسؤولية المدنية لجبر تلك الأضرار، وذلك في ظل أحكام المسؤولية المدنية وما تتضمنه من عنصر الإلتزام سواء بالنسبة للمسؤولية العقدية أو الناتجة عن الفعل الضار أو المسؤولية عن الغير وعن الأشياء، ومن المسلم به أن القواعد القانونية لا تتماشى ومستجدات هذا التطور، ما جعل الكثير من الباحثين يعملون على تكييف تلك القواعد والتوسع فيها لتسع معالجة الآثار القانونية الناشئة عن تلك الأضرار وابتكار نصوص جديدة تكيف مع هذه المستجدات، ومن ذلك توسيع نطاق المسؤولية عن حراسة الأشياء وما ابتكره الاتحاد الأوروبي في أعمال مسؤولية النائب لتغطية بعض استخدامات الذكاء الاصطناعي وتبقى فكرة تكييفها تتبلور وتتطور انطلاقاً من الأسس التقليدية لقيام المسؤولية المدنية.

الكلمات المفتاحية: الذكاء الاصطناعي، المسؤولية المدنية، الخطأ، الضرر، التعويض.

Abstract:

The application of artificial intelligence is a product of the modern technological revolution, making information easily accessible via the internet, irrespective of how recent it is, this has led users, regardless of their expertise, to employ software for acquiring and processing information, transforming it into professional outputs that replicate standard human work.

Here arises the issue of addressing the damages resulting from it and the extent to which the scope of civil liability can cover such damages, in light of the provisions of civil liability, which include the element of obligation, whether in contractual liability, tortious liability, or liability for others and for things, it is widely recognized that current legal rules do not fully

align with emerging developments in this field, as a result, many researchers are focusing on adapting and expanding these rules to adequately address the legal consequences of damages or creating new texts that reflect these developments, this includes defining the scope of liability for the custody of objects and exploring initiatives by the European Union to apply deputy liability to certain uses of artificial intelligence, the concept of adapting these rules continues to evolve, building upon the traditional foundations of civil liability.

Keywords: Artificial intelligence, civil liability, fault, damage, compensation.

Introduction

We are currently witnessing a significant technological evolution in the flow of information, which was once scarce and difficult to access, Artificial intelligence techniques have significantly improved the accessibility and the availability of information, the expanding communication network connecting individuals' software systems, and data has transformed the vast world into a global village where knowledge is intensely crowded. this development has enabled devices and robots to replace humans in processing and utilizing information with high precision.

The use of artificial intelligence in the legal profession is a product of the modern technological revolution, making information, no matter how new, readily accessible to users through the internet with ease and convenience, this has prompted professionals in the educational, administrative, and judicial sectors to use artificial intelligence programs in many cases to gather, process, and use information, resulting in professional outputs with legal consequences.

Furthermore, resorting to the use of artificial intelligence systems across various fields has provided convenient tool that saves time, effort, and the cognitive strain that a person would otherwise expend to reach a laborious result, now, with the simple use of a computer, one can achieve a precise, simplified, and immediate result, especially with the emergence of industrial and educational robots that have made providing information services very easy however, like other daily human activities, the artificial intelligence revolution is not free from risks and contingencies that may cause harm to the user or third parties.

These are acts whose consequences are addressed by civil law under the provisions of civil liability, and by criminal law under the penal code and other special laws, if the elements of liability, fault, damage, and a causal relationship are met, its establishment is confirmed, and the resulting damage must be compensated, nevertheless, applying traditional civil liability in the rapidly evolving field of artificial intelligence presents numerous challenges due to its swift advancements, Consequently, legislation must adapt to keep pace with these developments to address the resulting legal implications, the existing provisions of contractual and tortious liability and liability, as well as liability concerning living and non-living entities, can only serve as a foundation These must be further developed to encompass the new applications of artificial intelligence.

To what extent can traditional civil liability accommodate the legal effects of artificial intelligence, and is a new legislative framework required to address these developments?

To answer this question, this research paper is divided into four main sections. in the first section, we will discuss the concept of artificial intelligence, its definition, characteristics, and types, in the second section, we will address the legal characterisation of its nature, the

third section will cover the establishment of civil liability and its legal basis. finally, in the fourth section, we will examine the elements and effects of civil liability, we will follow an analytical method when examining legal texts and a descriptive method to arrive at a set of conclusions.

Section 1: the concept of artificial intelligence

Before examining civil liability and its establishment between legal parties, it is essential to first clarify the concept of artificial intelligence by defining it, identifying its characteristics and types, and society, we will address these points below.

First: Definition of artificial intelligence (AI):

Artificial Intelligence is regarded one of the most significant scientific inventions of the human mind in the field of information technology revolution, its essence is the design of smart tools and machines capable of performing difficult technical tasks that mimic the human mind's functions in design, creativity, and innovation, Despite this, there is no unified and comprehensive definition for it, due to its broad and ever-expanding scope and diverse fields.

The jurist O'Brien defined artificial intelligence as "a science and technology based on a number of cognitive fields such as computer science, mathematics, biology, philosophy, and engineering, which aim to develop the functions of computer systems to simulate human intelligence" (as cited in Būshayrib & Kallū, 2020), also, rolston defined it as "solutions based on computer systems for more complex problems through application processes that resemble human reasoning"¹.

The concept of artificial intelligence is deeply rooted in history and has evolved significantly alongside the advent of computers, the term "artificial intelligence" was formally introduced in 1956 at Dartmouth College in the United States during a research workshop held by a group of research professors, their goal was to explore how computers could be used in operations that could be described as "intelligent" since then, the concept has expanded and evolved into what it has become today in terms of innovation in the field of computers and software, the importance of artificial intelligence emerges as it has become a means for storing unlimited amounts of information, whether theoretical or applied experimental data, and for processing complex issues and calculations, providing results as quickly as possible and at the lowest cost².

Thus, a comprehensive definition of artificial intelligence can be stated as follows: artificial intelligence (AI) refers to the ability of software programs and automated systems embedded in computers, smart devices, mobile phones, and other technological tools to simulate intelligent human behavior, ai can learn from digital data to answer questions, provide solutions and recommendations for issues, and make appropriate decisions without requiring direct instructions or interventions from the user.

Artificial intelligence has now assumed a very influential role in all industrial, service, commercial, and other sectors, Humans have no choice but to keep pace with this development and benefit from its services, which are increasingly utilized due to their accuracy and strong practical reliance on these systems, this positively impacts the processing

of professional tasks, reports, and various programs, thanks to the significant facilities offered by artificial intelligence in this field.

Second: Characteristics of Artificial Intelligence

An analysis of artificial intelligence reveals that it simulates human intelligence and is characterized by several features, including the ability to learn, solve problems, and make decisions with the required accuracy and speed, these aspects may be further clarified through the following points:

1. The Ability to Learn and Access User Needs: by leveraging a repository of experiences and pre-programmed software, computer devices track a person's preferences and monitor their behaviour and daily habits, and needs. the system mimics human intelligence in its ability to analyse data, extract results, and retain practices and experiences that occur continuously, it can improve interfaces, tools, and performance, and develop knowledge based on previous technology and its successes and failures³.

Some specialists argue that artificial intelligence programs are unable to perceive without the continuous provision of electronic information, In contrast, others believe that artificial intelligence has the capacity to “think,” however, this ability is seen as a result of its learning and perception processes, one of its most important features in this regard is that it benefits from mistakes and works to improve performance based on its repository of information and experiences⁴.

2. The Ability for Reasoning: we mean by this the power to deduce the causes of problems and identify effective solutions for them in a short period, based on available data and the degree of its advancement and development, and the logical reasoning it contains from a mathematical and computational perspective.

3. Reliance on Empiricism as a Methodology: to address new developments and problems, ai programs tackle issues that do not have pre-existing, clear logical solutions or where the scientific material was previously established, it then offers possible and probable solutions once the conditions are met, and makes decisions by learning from the machine that analyses data at speeds unattainable by humans⁵.

4. The Ability to Propose Solutions: based on the inputs provided by the user to the computer, artificial intelligence offers immediate solutions, if the information is scarce, insufficient, or incomplete, the results of the solutions will be less accurate, taking into account ordinary knowledge, the less information there is, the further the conclusion deviates from accuracy⁶.

5. Autonomy and Increased Efficiency: artificial intelligence can work 24/7 without fatigue or boredom, at the same pace, and with the ability to perform manual tasks without errors, ai systems are also characterised by their ability to operate with a certain level of autonomy, giving them the capacity for independence and inference due to the vast amount of stored information (Mas'ūd, 2018)⁷.

Third: Types of Artificial Intelligence

Artificial intelligence operates by simulating computer and robotic hardware and the human mind's ability to program them with logical problems, enabling them to perform tasks

assigned to individuals by utilising accumulated information and solutions to encountered problems, artificial intelligence is divided into several types, the most important of which are:

- 1. Reactive Artificial Intelligence:** Among its most prominent applications are interactive games on computers or digital tablets, this type does not require storing information and does not use past experiences to make decisions; rather, it deals with reactions from the other party with the same repetition each time the reactions are the same.
- 2. Theory of Mind Artificial Intelligence:** this type of ai proceeds by comparing what is currently achieved in terms of programs and machines with what science aspires to invent in the future, aiming for more development, precision in use, and focus in its scientific outputs.
- 3. Limited Memory Artificial Intelligence:** the development of this type of ai is based on previously accumulated, albeit limited, information, it takes this information into account and adds future concepts for theories and solutions, then makes appropriate decisions with prior experience, as is the case with autonomous driving.
- 4. Self-Aware Artificial Intelligence:** Some classify this as an extension of the theory of mind in AI, it aspires for machines to have a technical self-awareness, where they recognise their internal state, this ability of awareness extends to predicting what surrounds them in terms of people and machines.

Fourth: Risks of Artificial Intelligence

Researching the civil liability of artificial intelligence necessitates addressing its risks, which it may pose to users or the public order and societal morals, in the realm of national security for weak nations, their security will be vulnerable to easy penetration through electronic interference and espionage on confidential data that falls within the safety of the national territory or through organised crime, smuggling, and the like.

Regarding behaviours that affect the internal societal structure, the associated risks are very significant, the widespread use of artificial intelligence eliminates traditional labor, presenting a negative impact on employment on the one hand, while opening promising new horizons for e-commerce and digital activities for a large segment of society that can adapt artificial intelligence for its benefit and create new cross-border activities through e-commerce and electronic contracts⁸.

The development of electronic activity and artificial intelligence without restrictions and regulations violates the sanctity and privacy of personal life, this occurs through the privacy policies of many programs that require users to consent to accessing their personal data for use in statistical operations, situational analysis, and other purposes, this contributes to its dissemination without regard for some of the privacy enjoyed by personal life according to the general rules of civil law⁹, this is in addition to the many risks that threaten both the citizen and the state in the repercussions of using artificial intelligence.

The Penal Code has provided for the protection of the right to privacy indirectly through articles 394 bis and subsequent articles, as it criminalizes all acts and activities that infringe upon individual's privacy¹⁰.

Section 2: The Legal Characterisation of Artificial Intelligence

From the definition of artificial intelligence and the identification of its characteristics, We conclude that it performs several actions, makes decisions, and suggests solutions, this

means we are dealing with it as a being, whether it is a party in the resulting legal relationships, acting on behalf of another, or the subject of those actions, in this context, the balance of contractual obligations may be disturbed, or harm may occur through a personal act, therefore, it is necessary to legally characterise the status of artificial intelligence to determine the resulting civil liabilities, we will attempt to characterise it by comparing it with things and with natural, legal, and virtual persons as follows:

First: Considering Artificial Intelligence as a Thing

Legal liability for things is established if the thing under custody causes harm to another, the harm must result from an autonomous, positive action of the thing, the consideration of artificial intelligence as a thing stems from the inability to recognise it as a personality, given that it has not reached a degree of conformity with a natural or Legal Person, as is the case with today's robots, consequently, they do not recognise its legal personality, a view held by the french jurist g loiseau and others who see the danger in this step (Būshayrib & Kallū, 2020)¹¹.

Some jurisprudence holds that considering artificial intelligence as a thing means that liability for the harm it causes falls on the custodian, which is the most correct view, the law distinguishes between liability for personal acts and liability for living and non-living things a thing is more closely linked to a real right (in rem), which grants the owner direct legal authority over the subject of the right without an intermediary, thus, anything that can be the subject of a right is considered a thing, accordingly, artificial intelligence can be considered a thing whose custodian bears tortious liability for its custody¹².

The idea of legally characterising artificial intelligence, with its technical nature, as a non-material, intangible entity is reasonable under legislations that have adopted the concept of "thing", the opposite is true for legislations that link a thing to a tangible physical entity, which would make it difficult to characterise artificial intelligence in this way, however, modern applications of artificial intelligence bridge this gap, the legislator has moved away from this dilemma, as he did not define "thing" in article 138 of the civil code, which states that "anyone who has custody of a thing and has the power of use, management, and control over it is responsible for the damage caused by that thing" a thing is any non-living material object, regardless of its quality or type, from this, any holder of artificial intelligence as a thing can be held liable for any negligence in its custody¹³.

However, modern technological developments from scientific, commercial, and economic perspectives have imposed the need to consider artificial intelligence as a person with whom one can interact, according to the reality where it now deals in all fields through the information system and provides solutions and proposals, which necessitates a serious look into this matter.

Second: Considering Artificial Intelligence as a Legal Person

If we want to characterise artificial intelligence as a person granted legal personality, it is necessary to compare it with a natural person and legal person, consequently, scholars have debated considering ai as 'virtual person.' this concept posits that:

1. Comparing Artificial Intelligence to a Natural Person: a natural person's legal personality begins at the completion of their live birth, birth is required first, followed by life

after birth, with all its signs, by birth, we mean the infant's emergence and physical separation from its mother, if born dead, legal personality is not established. life can be proven by breathing immediately after birth or by crying, even if the infant dies shortly after, its legal personality is established, and it becomes a natural person capable of acquiring rights and bearing obligations, If born dead, none of this is established for it, as stipulated in Article 25 and subsequent articles of the civil code¹⁴.

Artificial intelligence cannot be considered a material entity possessing the characteristics of a natural person, It is an information system stored in programs and applications on computers, other electronic media and global databases, despite this artificial intelligence exhibits capabilities that in many of its manifestations resemble human intelligence, yet, according to researchers and thinkers, artificial intelligence is not intelligent or thinking in itself like human thought; rather, it is a system of devices and information that has the ability to perform required tasks and can achieve impressive results through inference and patterns stored in digital databases produced by the human mind.

From this analysis, it is clear that comparing artificial intelligence to a natural person and conferring a legal status upon it is not viable, it cannot be like natural persons due to its lack of independence, and characterising it as such is considered an infringement on the rights of a human as a sentient being with awareness, which artificial intelligence does not possess this makes attempting to characterise it in this manner impossible therefore, we must search for another characterisation within the scope of a legal Person , if appropriate.

2. Comparing Artificial Intelligence to a Legal Person : after the great jurisprudential debate that accompanied the emergence of the legal person, the legal personality of a Legal Person has been established in existence as an imposed reality in legal matters and in how liability arising from it is attributed, Article 49 of the civil code defined a Legal Person as any group of persons or property to which the law grants legal personality¹⁵.

Thus, a legal Person is a subject of rights, like a natural person, but it is born legally, unlike a natural person, and acquires characteristics such as a name, capacity, domicile, financial standing, and the right to litigation, among other rights consequently, it can be considered a legal entity that acquires rights, bears obligations, and its civil liability arises from its actions and negligence, however, it does not possess human sense and perception, so it cannot be addressed directly except through its legal representative¹⁶.

The characterization of the legal person has led a number of jurists to contend that it could be extended to encompass artificial intelligence systems and intelligent robots, thereby conferring upon them a form of distinct legal personality, nonetheless, it remains that behind every technological breakthrough and within the digital sphere lies a human intellect that conceives, develops, and directs these innovations, consequently, legal responsibility must ultimately be attributed to the human actor, not to the machine, the software, or the databases.

artificial intelligence cannot be equated with the legal person, which consists of a group of individuals and assets organized to achieve a specific legal purpose as defined in its founding charter, just as a legal person cannot be held civilly or criminally liable except through its legal representative or agent, the same principle applies to artificial intelligence, which cannot bear liability except in a similar manner¹⁷, given this reality, and the difficulty of classifying artificial intelligence as a traditional legal person, some jurists have proposed an

alternative approach-conceptualizing ai as a 'virtual person, this perspective will be examined in the following section.

3. Considering Artificial Intelligence as a Virtual Person: The description of a legal person has led many jurists to believe that it could extend to artificial intelligence and smart robots, thereby granting them a special legal personality however, behind this technological and digital revolution lies a human mind that stands behind these achievements and actions, we realise that legal liability must be attributed to it, not to the machine, the program, or the databases moreover, artificial intelligence cannot be compared to a legal person, which is formed by a group of funds and individuals to achieve a specific legal purpose found in its founding charter, since a legal entity cannot be held legally liable civilly, or criminally, except through its representative or legal agent, the same applies to artificial intelligence, which cannot be questioned except in this manner¹⁸, faced with this situation and the impossibility of characterising artificial intelligence as a legal person, part of the jurisprudence has turned to an alternative approach by proposing its characterisation as a virtual person, this trend may be further examined in the discussion that follows

The idea of considering artificial intelligence a virtual person came about when both natural and legal personality were deemed unsuitable, Proponents of this idea relied on the fact that a range of devices and robots possess the will and ability to interact with users in work relationships that may result in civil liability, whether contractual or due to fault and harmful action, the proponents of this view focus on the idea of a virtual fiction for legal personality, which is a logical and implementable solution by assuming it has a will.

This analysis means that artificial intelligence must have a will, but even if it exists, it cannot reach the stage of creating and designing programs and robots without the intervention of a natural person, directly or indirectly, and this virtual entity cannot acquire rights or bear obligations arising from its actions in isolation from its designer, the owner of the site, the patent holder, and others¹⁹.

Accepting the idea of granting virtual personality to artificial intelligence necessitates its acquisition of certain rights, such as a name, financial standing, and the right to practice the profession assigned to it in its field of specialisation, and other rights this is not feasible for the tools of artificial intelligence, and it is not easy to accept this notion due to the human mind being behind all these electronic achievements and machines, which themselves lack the element of will, separate from their owner.

Professor hamam ai-Qousi believes that naming artificial intelligence a virtual person is more accurate in terms of meaning, even though he opposes granting it legal personality, because compensating for the damage resulting from the actions of the media is better absorbed by the theory of risk and what insurance funds play in compensating the injured party, consequently, there is no need to establish legal liability for artificial intelligence, thereby avoiding equating it with humans, who possess sense, feeling, and consciousness, and avoiding the creation of parallel entities²⁰.

In this context, some ideas also emerge that outline features for establishing the liability of devices and robots for their actions based on the concept of electronic personality and a "person of diminished capacity", these views see the necessity of granting legal personality to the electronic person, i.e., the robot, in the long term, so that it enjoys independence as an

intelligent being, termed an "electronic personality," which would be held accountable for electronic damages, according to a causal relationship between the fault and the damage, this view has also faced sharp criticism due to the aforementioned fears.

As for the idea of a person of diminished capacity, it was used by the European Economic and Social Committee, which combines artificial intelligence and human will that controls the data and actions of the devices and robots, which are inevitably led by that same will this appears to be logical²¹.

the attempt to grant artificial intelligence a virtual personality is an evasion by the responsible parties from these programs, robots, and electronic applications, so that they do not bear legal liability for the actions of the machines and electronic programs, thus, the characterisation that sees artificial intelligence as a thing for which liability for its damages rests on the one who operates and guards it is closer to logic and correctness, in our opinion.

Section 3: The Basis for Establishing Civil Liability for the Use of Artificial Intelligence

The use of artificial intelligence may cause harm to users, whether through interactions with robots or information systems accessed through websites and other platform, Such harm must be compensated because, according to article 124 of the civil code, anyone who causes harm to another through their fault is obliged to compensate (order No. 75-58, 1975), civil liability is divided according to its origin, If it is the result of a contractual relationship between two parties, one of whom is the artificial intelligence, the harm resulting from an imbalance in the contractual relationship would be contractual liability, If it results from a fault, it is tortious liability based on fault, or it could result from the custody of a thing, and it might be objective liability. we will clarify each separately as follows:

First: Establishment of Civil Liability Based on Contract

Contractual liability arises as soon as one of the parties to the contract breaches its obligations towards the other party, this includes non-performance of the obligation, its delay, or if the contract was tainted by fraud, deception, or any other defect of consent, for liability to be established, the electronic contract must have been validly formed, meeting all its elements, the relationship could be, for example, between a seller and a buyer of equipment, robots, and electronic programs where a breach of obligation has occurred, here, we apply the general rules governing the contract of sale on the basis that the current civil law has not yet addressed provisions related to artificial intelligence, or we apply the rules of safety and consumer protection from non-conforming products, both cases can be a basis for establishing liability that requires compensation and redress for the damage²².

1. Contractual Liability for Latent Defects: for a contractor's liability for a latent defect in a thing to be established, there must be a validly formed contract with all its elements of consent, object, and cause, One of the parties must have breached its contractual obligations here, the injured party can seek annulment of the contract and retain the right to a warranty and the penalty clause specified in the contract, or to compensation that will be awarded manifestations of breach of obligation are numerous, including refusal to deliver the sold item according to the agreed-upon conditions, such as an ai program being inaccurate as required or a robot having a technical malfunction, here, the buyer has the right to demand correction of the situation with compensation for the damage incurred from the defect or delay in

performance, and so on, the seller in a sales contract is liable for any latent defect that only appears after the contract is formed and upon its execution, provided that the defect meets the legal conditions of being hidden, pre-existing, and serious²³.

2. Liability Based on Product Safety and Consumer Protection: according to some jurists, liability arising from the use of artificial intelligence traces back to the contracting manufacturer regarding a defect that, if it had been known, the contract would not have been concluded at all, so the manufacturer bears the burden of compensating the consumer for these defective products, the defect here can be characterised as a breach of safety and security rules during its use, the manufacturer's or distributor's liability may arise depending on the case, the designation of a manufacturer may apply to artificial intelligence as stipulated in article 140 bis of the civil code, which considers any movable property, including tangible and intangible movables, as a product, It is required that the product be offered for circulation in the market as stipulated in article 8 of Law No: 04-02, which specifies the rules applicable to commercial practices, as amended and supplemented²⁴.

However, this basis may not apply to damages resulting from artificial intelligence, we can say that the robot, machine, or program is what produces the service through artificial intelligence, meaning it has the ability to make decisions and is independent of its operator, we will find it difficult to determine the liability of the artificial intelligence as a product, as is the case for the manufacturing company or institution²⁵.

Second: Establishment of Civil Liability Based on Damage

Establishing liability for defects in artificial intelligence is extremely difficult due to its precision and adherence to strict technical standards, if we hypothetically accept that liability for product safety has been established, who is the responsible party? is it the artificial intelligence whose legal nature we have tried to characterise as a person, but to no avail, as we have shown above? thus, this liability could also arise from the custody of a thing.

Tortious liability, according to article 124 of the civil code, is based on a harmful act that affects another and requires compensation, the possibility of applying this to artificial intelligence technologies and the actions performed by the user with this party raises the question: **does it arise based on custody of a thing, while the liability of a principal for the actions of a subordinate, like a person and an animal, has been settled by us, stating that artificial intelligence cannot be characterized this way due to the lack of legal personality?**

Articles 138 to 140 bis 2 of the civil code demonstrate that it has organised the provisions of liability for things, represented in the liability of the Guardian of the thing , the custodian of an animal, and the liability of the owner of a building, From this classification, we do not find that the provisions of animal custody apply to artificial intelligence, as it is not a living thing Also, the liability of a building owner does not fit the subject matter, as the owner of a building is not like the ai what remains is to approximate the liability of artificial intelligence to the liability of the Guardian of the thing , as we have previously presented article 140 of the civil code stipulates that anyone who undertakes the custody of a thing and has the power of use, management, and control is responsible for the damage that thing causes, this liability is waived if the custodian proves that the damage was due to an

unforeseen cause, the act of the victim, the act of a third party, a force majeure, or an external event.

Article 291 of the Jordanian civil code stipulates that anyone who has under their control things that require special care to prevent their harm, or mechanical machines, is liable for the damage they cause, except for what cannot be avoided, this provision is closely applicable to damages caused by artificial intelligence²⁶.

The conditions for establishing liability on this basis must be met: the custodian of the thing must have the right to dispose of and control it, and the damage must occur as a result of the custodian's negligence, if these conditions are met in the case of artificial intelligence, the custodian's liability is established.

Third: Establishment of Civil Liability on an Objective Basis

Establishing liability for artificial intelligence is a matter of great complexity, especially since we have analyzed its contractual and tortious types and liability for things, Moreover, the damages resulting from the use of artificial intelligence require compensation and reparation, it has become necessary to adapt liability outside the traditional theory that relies on fault, damage, and the causal link between them²⁷.

E' some jurists believe that the only refuge for establishing liability for the actions of artificial intelligence is to consider it a dangerous activity that involves significant risks and thus to be dealt with based on objective liability, where it is sufficient for the injured party to prove the damage without being required to prove fault, because it is liability for an action and not based on the existence of a fault, strict liability (objective liability) requires only a causal link between the activity and the damage, regardless of fault, Liability arises from the risk inherent in the action itself, not from negligence.

Fourth: Establishment of Civil Liability Based on the Action of an Agent

A modern trend in jurisprudence has emerged to establish the liability of artificial intelligence on the basis of agency, which is granted to a robot to act in the place of the principal in carrying out the actions of artificial intelligence²⁸, agency is a contract between two persons, the first called the principal and the second called the agent, to whom the latter entrusts the performance of permissible and known legal acts according to the agency contract all its elements of consent, object, and cause must be met in this contract In it, all legal effects, including liability, revert to the principal and not to the agent, unless the latter exceeds the limits of what he was entrusted with²⁹, since agency in this form requires the personality of both parties to be a matter of consideration, how can it apply as a basis for establishing the liability of artificial intelligence when we have not yet granted it a legal personality as mentioned above?

Therefore, establishing liability for artificial intelligence on this basis is not viable as it is not recognized as a legal person, thus, jurisprudence has sought an alternative for establishing liability and found in the actions of a representative a proposal that may be suitable for establishing liability on behalf of the one he represents.

Fifth: Establishment of Civil Liability Based on the Action of a Representative (Deputy)

The European Union has established the basis for determining the liability of artificial intelligence on the theory of the representative³⁰, who is legally entrusted with concluding

legal transactions for the benefit of the principal, this is to absorb the damages that result from the work of robots and artificial intelligence in general, this idea, adopted by the European Union in 2017, is based on distributing the damage requiring compensation, starting from the liability of the manufacturer, then the programmer, then the user, then the beneficiary, without regard to fault and without treating artificial intelligence as a thing³¹.

Through this approach, the establishment of the liability of a human representative on the basis of fault that must be proven differs somewhat from establishing liability for the custody of things, where liability is based on presumed fault that does not require proof and on the basis of its tortious liability. Accordingly, we find that the establishment of liability on the representative is according to the levels of fault, and in this way, it differs with the difference of the fault and the stage of its occurrence. However, this representation is not legal in the full sense of the term, as it is limited to the aspect of liability only, and remains an idea capable of development in the liability system of artificial intelligence.

Section 4: Establishment and Effects of Civil Liability for the Use of Artificial Intelligence

If civil liability for the use of artificial intelligence is established according to the characterisation we have addressed, it requires the presence of its three pillars: fault or harmful act, as the case may be, the occurrence of damage, and the existence of a causal relationship between the fault or harmful act and the damage, if liability is established on this basis, it will generate legal effects between the parties to the contract or between the damager and the damaged party, this will establish for the latter a right to seek redress for the damage, a matter that will be further examined in the following discussion.

First: Pillars of Civil Liability for the Use of Artificial Intelligence

As noted earlier, the pillars of civil liability arising from the use of artificial intelligence may be contractual in nature or may result from a harmful act, for such liability to be established, the existence of damage and a causal link between the fault or harmful act and the damage is required, these three pillars will be examined in the discussion below:

1. The Material Pillar in Civil Liability: The material pillar can be a contractual fault or a harmful act.

a. Contractual Fault in Civil Liability: in contractual civil liability, fault is the basis for its establishment, this is what jurisprudence and the judiciary have settled on, contractual fault is the debtor's failure to perform their contractual obligations, in whole or in part, or delay in their performance, or defective performance, it is irrelevant whether the debtor was intentional or not, such as negligence and carelessness, the debtor may be exempted from contractual liability if he invokes a force majeure or an external cause for which he is not responsible, or if he invokes the act of the injured party himself; however, he cannot be exempted from it if the contractual fault is linked to gross negligence, bad faith, or fraud³², an example of this is someone who sells a robot to a buyer while knowing in advance about a defect in its programming.

b. Harmful Act in Civil Liability: liability in legal obligations requires a person to exercise sufficient care to fulfil their legal responsibilities and perform them with the utmost caution, foresight, and diligence, conversely, any breach of this establishes tortious liability as a result of a harmful act that results from a deviation of behaviour from what is customary³³, this falls

within the concept of article 124 of the civil code, which stipulates that anyone who, through their fault, causes harm to another is obliged to compensate, this also includes the abuse of a right, as stipulated in Article 124 bis, if the use is characterized in one of three ways: if the act is done with the intent to harm another; if it aims to achieve a small benefit compared to the great harm caused to another; if it aims to obtain an unlawful benefit.

2. The Pillar of Damage in Civil Liability: damage is a fundamental element in establishing civil liability, whether in a contractual context or arising from a harmful act, if no damage occurs, liability is eliminated, compensable damage must be certain and direct, while actual harm is strictly liable, future or anticipated damage is only recoverable if its occurrence is certain.

The burden of proof falls on the claimant, such as the creditor or the person upon whom the harmful act was inflicted, examples of damage in the use of artificial intelligence techniques include what a robot used to assist in surgical operations on patients might cause.

For civil liability to be established, it is not enough for a fault or harmful act to occur; it must lead to the existence of damage, the occurrence of damage is a material fact that can be proven by all means of proof, including expert testimony, witness testimony, and presumptions, the damage must be certain, such as someone who was actually harmed in his body or property from the use of artificial intelligence, or the damage could be certain to occur in the future, It is also required that the damage be personal, i.e., it has occurred to the plaintiff in the liability lawsuit³⁴, or the damage could be reflected, meaning it extends to affect other persons who have a relationship with the original injured party, it is also required that the damage be direct, meaning a result of the harmful act or contractual fault, the damage can be material or moral; both require compensation³⁵.

If the liable parties for the harmful act are multiple, for example, a fault in manufacturing, a fault in programming, and a fault in use, this will make the liability distributed among all actors in solidarity, each according to their contribution to the harmful act, in accordance with what is stipulated in Article 127 of the civil code.

3. The Pillar of the Causal Relationship in Civil Liability: by the causal relationship as a pillar, we mean that there must be a direct causal link between the fault or act and the damage that occurred to the other party, that is, the fault is the cause of the occurrence of the damage this is expressed by the causal relationship, the essence of which is the connection of the fault to the damage as a cause is connected to its effect, if the causal relationship is not established in this way, the debtor is not held liable despite his committing the fault, the occurrence of the fault does not establish liability unless it results in harm to another³⁶, in the case of using ai software and machines, the injured party must prove the occurrence of the damage and determine its cause, which is necessarily linked to the defect in the programming, for example, the damage can be proven by all means available to the injured party, the other party has the right to rebut this liability with an external cause for which they are not responsible, such as a sudden accident or force majeure, or to prove that the fault was committed by the injured party themselves, or that it was committed by a third party, as provided for in Article 127 of the civil code.

Second: Effects of Establishing Civil Liability for the Use of Artificial Intelligence

The establishment of civil liability is primarily intended to repair the damage arising from a contractual relationship or a harmful act, as previously detailed, such a reparation may only be pursued through a lawsuit brought by the rights holder before the competent judicial authority, accordingly, the lawsuit for damages, the authority competent to adjudicate it, and the mechanisms for repairing the damage will be examined in the following discussion.

1. Lawsuit for Damages: Also called a compensation lawsuit, it is filed by the injured party before the competent court to demand compensation for the harm that occurred to them through the use of artificial intelligence, its parties are the plaintiff (the injured party), who is the person entitled to file the lawsuit, whether it is the injured party themselves, their agent, their guardian, or their curator, or the successor of the injured party, depending on the case³⁷. In such a case, concerning liability for the use of artificial intelligence, the plaintiff may be the user or the consumer of the ai programs, if the injured parties are multiple, each one of them has the right to file a lawsuit without affecting the rights of the other injured parties, the other party in the lawsuit is the defendant, who is the person civilly liable, who committed the harmful act or breached their contractual obligations, or who was responsible for the custody of the thing that caused harm to another. In this case, it could be the owner of the ai machines or programs, the manufacturer, the programmer, or the operator, depending on the case, they are personally liable, and a legal representative may act on their behalf, if there are multiple defendants, they are jointly and severally liable for compensating the damage (al-Sanhūrī, 2004)³⁸.

Jurisdiction for deciding on civil liability lawsuits arising from the use of artificial intelligence falls to the competent court in terms of type and territory, subject-matter jurisdiction belongs to the civil division of the ordinary court, as for territorial jurisdiction, the competent court is the one in whose jurisdiction the defendant's domicile is located, as stipulated in Article 37 of the code of civil and administrative procedure (Law No. 08-09, 2008)³⁹.

2. Compensation in Civil Liability: compensation refers to restoring the financial balance, whether within a contractual relationship or between the party causing the damage and the injured party, so that their standing is restored, this can only be done by repairing their damage through financial compensation, in this regard, Article 124 of the civil code provides that “Every act of any person which, through his fault, causes damage to another, obliges the person by whose fault it occurred to make reparation.” the compensation prescribed under this provision does not necessarily take a single form; rather, its assessment is left to the discretion of the judge, as will be clarified in the subsequent analysis.

a. Types of Compensation in Civil Liability: Compensation takes two forms: it can be in-kind or by equivalent, in-kind compensation is the removal of the damage that occurred and the restoration of the situation to the state it was in before the damage occurred, meaning that the damage is as if it never happened, this type of compensation can be imagined for material damage, unlike moral damage, which the judge cannot repair in kind, the same applies to

reflected damage⁴⁰, an example would be if the use of artificial intelligence caused a person bodily harm that left them with a permanent disability.

For this reason, compensation by equivalent was introduced, by which we mean financial compensation for the injured party, i.e., in an amount equivalent to the value of the damage, to be repaired in cash, due to the impossibility of restoring the situation to what it was before the damage occurred, article 132 of the civil code states that "the judge shall determine the method of compensation according to the circumstances, the compensation may be in instalments, and it may also be a regular income, in these two cases, the debtor may be obliged to provide security" compensation is estimated in cash, but the judge may, according to the circumstances and upon the request of the injured party, order the restoration of the situation to what it was, or rule for the payment of certain benefits related to the unlawful act.

b. Method of Estimating Compensation: The estimation of the value of compensation to repair the damage includes the loss suffered by the injured party and the profit that he has been deprived of this is a general rule with exceptions mentioned in article 182 of the civil code, which states that "if the compensation is not estimated in the contract or in the law, the judge is the one who estimates it the compensation includes the loss suffered and the profit of which he has been deprived, provided that this is a natural result of the failure to perform the obligation or the delay in its performance, the damage is considered a natural result if the creditor could not have avoided it by exerting reasonable effort."

Compensation also covers moral damage resulting from any infringement of liberty, honour, or reputation, as stipulated in Article 82 bis of the same law, when liability for a harmful act arising from the use of artificial intelligence is established, the liable party is obliged to compensate for the damage, including the loss suffered and the profit of which he has been deprived, the judge estimates this in cash (al-Dhanūn & al-Raḥū, 2002)⁴¹.

Conclusion:

From the preceding discussion, it is clear that the expanding scope of artificial intelligence use across various scientific, educational, economic, social, and professional levels has become a technological revolution whose legal effects are difficult to control easily it is necessary to focus on adapting traditional legal issues and applying their provisions to the new, accelerating outputs of artificial intelligence and the daily challenges facing users, and to establish legal mechanisms that govern their effects.

The establishment of civil liability for artificial intelligence actions is still balancing between traditional theories, such as contractual liability in its two forms: damage-based and/or product defect this is alongside what modern jurisprudence has innovated in terms of new foundations for establishing liability, such as the old and new objective bases, the basis of the agent's liability for actions performed for the benefit of the principal, and the theory of the human representative, the latter is the most likely candidate as a future basis for establishing liability.

Through our research paper, we have reached the following conclusions:

1. The use of artificial intelligence is rapidly expanding across all levels, including the legal profession, which requires legislative oversight.
2. The damages arising from the use of artificial intelligence vary depending on the method of use, the level and stage of the fault, and its severity, the legal

characterisation of artificial intelligence takes its course and has its effects on how to compensate for the required damage.

3. The attempt to adapt the legal nature of artificial intelligence and grant it legal personality has failed, however, establishing civil liability based on it being a thing under custody is a feasible idea, although the nature of artificial intelligence may exceed it in some details, which calls for careful consideration with more modern legal provisions.
4. Establishing liability on an objective basis, or what the European Union has innovated in terms of the liability of a human representative, are two important paths worthy of addressing the legal liabilities raised by the subject of artificial intelligence, the development of its provisions remains necessary to keep pace with the speed of development of ai performance.

Based on the results obtained, we offer the following recommendations:

1. Accelerate the regulation of artificial intelligence usage and address its effects that align with technological advancements.
2. Expand the scope and limits of liability related to the custody of objects to include damages caused by devices and robots programmed with artificial intelligence.
3. Adapt a portion of the liability arising from ai programs based on the principle of vicarious liability, this applies when an error occurs that causes damage, by establishing a principle of representation and defining its legal parameters, this approach enables the concept to transition from a theoretical idea to a practical framework applicable in certain areas of artificial intelligence that align with this theory.
4. Leverage the benefits of artificial intelligence while ensuring that users are held civilly and criminally liable for any unlawful use.

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