Civil Liability Provisions Arising from Crimes Committed Using Artificial Intelligence Technologies

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Abstract. In this research, we address the provisions of civil liability arising from crimes committed using artificial intelligence. This is done by clarifying the general concept of artificial intelligence technology, explaining the concept and characteristics of artificial intelligence, and the legal characterization of artificial intelligence by clarifying the relevant laws. The use of artificial intelligence technologies to commit crimes results in civil and criminal liability, while the civil liability resulting from the use of artificial intelligence lies in contractual and tort liability. We also clarify the suitability of traditional civil liability rules to address damages resulting from artificial intelligence, which prevent the injured party from receiving full compensation, or may leave the injured party without compensation due to the multiplicity of contributors. We also clarify the basis of liability for damages caused by artificial intelligence, under which the injured party is compensated.

1. INTRODUCTION

The world is witnessing increasingly rapid development in the field of artificial intelligence (AI) technology (1), particularly with the increasing volume of data collected from information systems, social media sites, and devices and equipment based on the Internet of Things (IoT). With the remarkable development in the computing capabilities of devices and the use and development of algorithms, these technologies have acquired the ability to simulate human behavior and reach decisions that are very similar to those made by humans. Hence, the use of these technologies, especially smart robots, has expanded into many fields, such as industry, commerce, engineering, medicine, education, agriculture, home services, care for the elderly and people with disabilities, and others.

These tools, devices, and machines that rely on artificial intelligence are characterized by their ability to think, perceive, solve problems, and make decisions by collecting and analyzing data and information, and by translating languages. These machines have even begun to enter into legal relationships and conclude legal transactions. With the remarkable development of artificial intelligence technologies, some harms to others have begun to emerge. This necessitates studying and defining the legal aspects of these relationships, identifying errors, and determining those responsible for compensation for damages arising from the use of artificial intelligence technologies. Since traditional legal rules are insufficient to determine civil liability for damages caused by these smart machines, some have attempted, as much as possible, to adapt and expand traditional legal rules to suit artificial intelligence technology. Some have even attempted to invent new legal rules and modern foundations to apply to artificial intelligence technologies, which may be different from and independent of traditional legal rules.

Legal research in the field of artificial intelligence is not new. The first attempts at legal analysis of the problems of developing and using artificial intelligence applications began in 1984 (1). Legal studies on artificial intelligence applications have continued to this day. These studies have found legislative resonance in the countries that produce the most artificial intelligence applications, in the form of non-binding guidelines. These principles and guidelines quickly transformed into specific, binding legislation and laws that regulate the use of artificial intelligence technologies in specific sectors.

In addition to the specific regulatory laws mentioned above, civil law is the law most closely related to regulating relationships related to artificial intelligence applications, as confirmed by the European Parliament's decision of February 12, 2019, regarding the legal regulation of artificial intelligence based on civil law principles (2), and prior to that, the European Parliament's decision of February 16, 2017, regarding the civil regulation of robotics (3). The general rules of civil liability in civil law serve as substitutes for the general principles of Sharia in these laws if artificial intelligence causes harm to others.

1.1. Importance of the Research

The importance of the study revolves around the inefficiency of traditional civil liability rules in addressing harms resulting from artificial intelligence, which prevents the injured party from obtaining full compensation, or may leave them without compensation due to the multiple contributors to the production of artificial intelligence-based devices or robots and the inability to identify the person responsible for the harm suffered by the injured party. This requires the intervention of the legislator to establish a comprehensive legal system that precisely defines the mechanism for dealing with artificial intelligence technology and addressing the resulting harms.

1.2. Research Problem

Since artificial intelligence is a form of technological progress, it raises numerous legal issues, particularly regarding the suitability of current legislation and its ability to accommodate the unique characteristics of this modern technology. Alternatively, the issue may require a new framework based on which to discuss the legal personality of artificial intelligence technology and its implications for establishing legal liability for robots, for example, and determining who bears responsibility for damages.

2. RESEARCH METHODOLOGY

This research relies on a descriptive method through definitions and concepts specific to artificial intelligence technology, as well as an analytical approach to study various opinions and positions on the subject's problematic aspects. It also analyzes legal texts related to the impact of artificial intelligence on traditional legal foundations. Additionally, this study adopts a comparative approach through research into leading legislative experiences in this field.

2.1. Research Plan:

Section One: The General Concept of Artificial Intelligence Technology:
First Section: The Concept and Characteristics of Artificial Intelligence:
Second Section: The Legal Approach to Artificial Intelligence:
Second Section: Civil Liability Resulting from the Use of Artificial Intelligence:
First Section: Types of Civil Liability Resulting from the Use of Artificial Intelligence:
Second Section: The Basis of Liability for Damages Caused by Artificial Intelligence:
Conclusion: (Results - Recommendations)

Section One
The General Concept of Artificial Intelligence Technology
Introduction and Division:

Artificial intelligence is considered one of the most important outcomes of the Fourth Industrial Revolution. It is among the most recent innovative sciences, based primarily on software, computers, and modern technologies. AI serves as the cornerstone for enabling machines to mimic human behavior. Today, many fields have become increasingly dependent on artificial intelligence, including medicine, engineering, industry, commerce, and others.

The period between 1940 and 1950 marks the beginning of the first steps in the development of artificial intelligence, with the emergence of neural networks. The work of two neurologists, Walter Pitts and Warren McCullough, led to a logical formulation of basic ideas in neural activity and to the development of the first mathematical model of the biological neuron and the artificial neuron (1).

In 1956, a conference was held at Dartmouth College, where the term "artificial intelligence" was first coined by American computer scientist John McCarthy. Since then, initial attempts were made to develop automated models capable of basic behavioral analysis, such as learning. However, these early models were largely unsuccessful (3).

In 1967, computer scientist Marvin Minsky, one of the founders of the Massachusetts Institute of Technology's AI lab, predicted that the challenges of artificial intelligence would be resolved within a single generation. However, due to the persistent technical difficulties and mounting political pressure, the British and American governments cut research funding, which resulted in a significant halt to AI development.

In the early 1980s, artificial intelligence research witnessed a revival, driven by the commercial success of expert systems—AI programs designed to simulate the knowledge and analytical skills of one or more human experts.

By 1985, profits from artificial intelligence technologies in the market had exceeded one billion dollars, prompting governments to resume significant funding. In the 1990s and early 2000s, artificial intelligence entered a new era of advancement and began achieving remarkable success (1).

Robotics is considered one of the most distinguished fields of artificial intelligence, focusing on simulating the motor processes performed by humans or animals. These robots have diverse applications, including military robots used for espionage and mine clearance (2), as well as medical robots used for diagnosis and treatment. In 2004, the "Da Vinci" robot was successfully used for the first time at King Khalid University Hospital in the Kingdom of Saudi Arabia to perform a rare pediatric surgery involving a gastric sleeve procedure for a child suffering from morbid obesity (3).

Accordingly, the first section of this study has been divided into two parts:

The first part addresses the concept and characteristics of artificial intelligence, while the second part explores the legal classification of artificial intelligence, as follows:

The first section
The concept and characteristics of artificial intelligence

The concept of artificial intelligence: Despite the growing interest in artificial intelligence in all fields and institutions, there is no unified definition of artificial intelligence. Rather, there are many definitions that reflect the depth and breadth of this field, which has witnessed significant growth in the past few decades. Artificial intelligence is the core technology in many businesses and scientific trends.

Artificial intelligence has been defined in various ways. Alan Turing defined it as the ability of a machine to act indistinguishably from a human being—specifically, by attempting to deceive an interrogator into believing that the machine's responses are those of a human being (1). More broadly, artificial intelligence (AI) can be defined as the science or technology that aims to enable machines to simulate human behavior or to perform tasks in place of humans, using reasoning, deduction, and, in some cases, independent decision-making.

2.2. Characteristics of Artificial Intelligence

2.2.1. The Ability to Learn and Perceive

AI systems possess the ability to learn and understand human needs. These systems monitor human behavior and track routine habits, such as preferred news sources or frequently visited locations. This is evident in personalized content—such as recommended news articles, targeted advertisements, or suggested social media pages—often shown to users even without active searches. This capability stems from automated modeling of specific areas of human life, identifying patterns and relationships among elements, and then generating contextually relevant outputs. This learning process depends on data previously fed to the machine by humans.

While some argue that AI systems do not truly "perceive" but merely respond to pre-programmed data, others support the

idea that AI can "think" based on its capacity to learn and adapt through experience. This includes learning from mistakes—one of the core indicators of intelligent behavior. Known as **"learning by trial and error,"** this concept underlines the AI's potential to refine performance over time. In reality, the extent to which AI can learn, perceive, and innovate is currently limited by the level of technological advancement. However, what may seem impossible today could very well become achievable in the near future (1).

2.2.2. Autonomy and Decision-Making

Artificial intelligence systems are also characterized by their ability to function autonomously, with minimal human intervention. They are capable of drawing inferences and making decisions independently, based on the information they have been provided. Once fed sufficient data by human developers or users, these machines can offer suggestions and respond intelligently to queries or commands (2).

AI systems can perform inference operations through algorithms that match sounds, objects, or patterns—thus enabling them to make logic-based conclusions, similar to human reasoning (3). However, it is important to acknowledge that the logical inference and decision-making abilities of AI systems cannot yet match human cognition. AI still relies on prior human input to function. Without human intelligence, artificial intelligence would not exist—regardless of its performance in specific domains, such as mathematical operations. The distinction lies in the fact that every step forward in AI development is the result of human innovation, oversight, and programming. Humans remain the creators, designers, and supervisors of all AI machines and systems.

Second Requirement
Legal Qualification of Artificial Intelligence
Artificial Intelligence and Natural Personhood:

According to Article 29 of the Egyptian Civil Code and Article 9 of the Kuwaiti Civil Code, "The natural personhood begins

A human being is born alive and ceases to exist upon death. However, if a person is born dead, they do not acquire legal personality. Birth refers to the complete emergence and physical separation of the newborn from the mother. The legal personality of a natural person ends in reality with their death, which occurs when the soul leaves the body, rendering the person incapable of acquiring rights or bearing obligations. Death may also be legally presumed in accordance with specific circumstances outlined by law.

However, when examining whether artificial intelligence can possess legal personality, we find that AI is essentially an information system with intellectual capabilities that simulate human reasoning. It is a machine that performs functions typically associated with human intelligence, yet it is not a natural person whose personality begins with birth and ends with death. Moreover, most AI systems lack the consciousness or awareness required to establish legal personality.

According to some researchers in Europe and the United States, artificial intelligence systems are not truly intelligent or capable of independent thought. Rather, they are systems that can perform tasks and produce intelligent outcomes without possessing actual consciousness or intelligence in the human sense. Machine intelligence, as previously explained, functions through inference—that is, identifying patterns in data and applying pre-programmed knowledge, rules, and models that computers are capable of processing (1).

Therefore, AI entities are not natural persons, nor can they be considered as such, since they lack independence from human input and control. Furthermore, assuming that AI could be granted legal personality as a legal innovation is not only seen by some as a violation of human rights, but also as a potential existential threat, wherein robots may displace humans, leading to the decline or extinction of the human race.

Nonetheless, this opens the door to a contrasting hypothesis: Could artificial intelligence be granted legal personality

2.3. Artificial Intelligence and Legal Personality

Many actors in the field of artificial intelligence have called for the need to seriously review current legal rules to accommodate artificial intelligence, not only as a new technology requiring legal study, but also because it possesses a unique nature that makes traditional rules incompatible with it. Steps have already begun to take this path, albeit at a slow pace. Among the issues discussed was the legal personality of artificial intelligence, which, as we mentioned, some dismiss the idea of comparing it to a natural person, but see it as logical when it relates to a legal person.

Most comparative laws, including Egyptian and Kuwaiti law, recognize legal personality only for natural persons and legal persons. The concept of legal personality was coined as a solution for some new entities. This was confirmed by the French Court of Cassation, which ruled that "civil personality is not a creation of the law; it belongs, in principle, to any group that has the ability to express itself." Collective, to defend legitimate interests, and thus deserve legal recognition and protection...

A legal person acquires legal personality, becoming capable of acquiring rights and assuming obligations, even though it lacks the capacity to discern and have no will. This has led most legislation to appoint a representative, a natural person, who expresses their will and bears civil liability for errors committed by their representative.

This has led some to consider robots to have a new legal status similar to legal persons, meaning that the robot possesses its own legal personality.

However, we believe that as long as humans are behind this technology in bearing responsibility, there is no room to compare a robot with a legal person granted to a group of people or entities, as long as they have a representative to represent them and humans are behind the formation of these legal persons. On the other hand, questions also arise about the true relationship between artificial intelligence and a potential chain of actors involved in its creation and use.

2.4. Artificial Intelligence and Virtual Personality

Proponents of this view tend to grant virtual legal personality to artificial intelligence. Assuming that these tools and devices have the capacity and will, and that they can make decisions and perform actions on their own, proponents of this view rely on the legal fiction theory of legal personality, which is the logical and feasible approach. This theory holds that only humans have will, and the only way to recognize the legal personality of an intangible object is through imagination. This requires that an AI entity possess will, which is currently impossible, given that it cannot achieve a level of autonomous creation or complete self-programming without the intervention of a natural human being—a development that has not yet occurred. Consequently, these entities or technologies cannot bear legal responsibility for their actions.

Furthermore, the claim that virtual legal personality can be granted to AI necessitates recognizing certain rights for these robots, entities, or technologies—rights typically associated with holders of legal personality, such as financial liability, employment rights, and other legal capacities. However, such rights are impossible to confer on AI entities, as they are merely tools that lack both will and awareness, regardless of how advanced they may be in comparison to humans.

We argue that the attempt to grant full legal personality to artificial intelligence is, in reality, an attempt by its developers to evade liability for any damages that may arise from the operation of these technologies and tools. Granting legal personality, in our view, should remain exclusively reserved for those who are inherently capable of acquiring rights and bearing obligations.

Section Two
Civil Liability Resulting from the Use of Artificial Intelligence
Introduction and Division:

Civil liability is one of the most important topics in civil law due to its relevance to most individual rights, as it serves as the primary mechanism for the protection of those rights. Every individual has the right to protect their rights, regardless of the source of those rights (1).

Civil liability essentially refers to the obligation of the responsible party to compensate the injured party when the conditions for liability are met. Article 163 of the Egyptian Civil Code stipulates that any error that causes harm to another person obligates the perpetrator to compensate the injured party. Similarly, Article 227 of the Kuwaiti Civil Code states that anyone who causes harm through a wrongful act is obligated to provide compensation.

Civil liability is defined as the obligation of a person to compensate for the harm caused to another as a result of a breach of an obligation they are required to fulfill (2). With the advancement of technology and the widespread use of artificial intelligence (AI) devices and systems in many fields—which may result in certain harms—legal scholars have begun to examine the nature and extent of the legal classification of the actions of these machines and the scope of their liability.

Civil liability for damages caused by artificial intelligence, like civil liability in general, is divided into contractual liability and tort (non-contractual) liability. This liability may arise from a contractual relationship when based on a contract, or it may be tortious when harm results from the actions of artificial intelligence outside the scope of any contractual relationship (3).

In such cases, no major legal challenge arises when the responsible person is clearly identifiable, and when there is a clear connection between the act, the damage, and the causal relationship. This is also true in cases of strict (objective) liability, where the presence of harm and a connection to the responsible party is sufficient.

However, legal complications arise when it becomes difficult to determine the party responsible for the damage. This often occurs in the context of artificial intelligence, where multiple parties may be involved in the AI system's design, development, and operation—such as the manufacturer, programmer, owner, user, and others. In such scenarios, identifying the responsible party becomes complex.

The problem is further compounded when AI systems independently cause harm, without any direct command from their owner. Because these technologies can make autonomous decisions, they may act unpredictably, beyond the control of any one person. This reality raises the concept of public risk, as it becomes difficult to ascertain whether the harm resulted from learned behavior from the environment in which the AI operates or from a manufacturing defect (1).

As a result of what has been mentioned, we will divide the second section into two sections: the first section presents the types of civil liability resulting from the use of AI, and the second section discusses the basis of liability for The damages caused by artificial intelligence are as follows:

First Requirement
Types of Civil Liability Resulting from the Use of Artificial Intelligence
Contractual Liability:

When two parties enter into a valid contract and one party fails to fulfill its obligation specified in the contract, the other party has the right to absolve itself from its obligation and claim compensation. The amount of compensation may be specified in the contract itself. If it is not specified, the court may determine it based on the loss incurred by the injured party and the lost profit. Therefore, the debtor bears the expected or foreseeable losses at the time of assuming the obligation as a potential result of failure to fulfill its obligation. The obligation to deliver must be fulfilled according to the agreed-upon amount and specifications, or the delivered item must conform to the agreed-upon specifications or be required by professional rules and customary business practices (1).

Breach of contract takes many forms, including, for example, the seller's failure to deliver the sold item in accordance with the specifications specified in the contract (2).

The defect that warrants a warranty must be unknown to the buyer, not apparent, present in the item sold prior to the sale, and significant in nature. In fact, according to the majority of jurisprudence, the rules governing hidden defects have a flexible scope, as they extend to include material damages related to safety issues caused by robots based on artificial intelligence (3).

In such cases, the provisions of contractual liability apply if the robot is not delivered in accordance with the terms and conditions stipulated in the contract between the seller and the buyer (user). Clearly, the robot is treated as a commodity or an item of exchange. Therefore, some scholars argue that applying traditional liability rules in the event of contractual breach poses no legal difficulty.

However, this opinion is subject to criticism, as the application of contractual liability to artificial intelligence has proven insufficient to address the damages it may cause. Furthermore, contractual liability is directed at the natural person who is a party to the contract—not at the artificial intelligence entity itself, since AI cannot be a legal party to a contract.

Even if contractual clauses are included to describe the capabilities and associated risks of artificial intelligence, the contract would still only generate an obligation of means (due diligence) rather than an obligation of result.

It is worth noting that, according to general rules of civil law, it is not sufficient for contractual liability to be established merely by the debtor being at fault and the creditor suffering harm. Rather, there must be a direct causal link between the fault and the resulting damage.

Tort liability is based on a breach of an obligation based on law. This liability assumes the absence of any relationship between the debtor and the creditor. Tort liability is a system based on the idea of a civil wrong committed by one person against another. Despite the differences between Anglo-Saxon and civil law systems, we attempt, as much as possible, to summarize that tort liability is based on error, which is a breach of the general legal obligation not to harm others (1).

From here, it becomes clear that the error is based on two elements: the first is material, which is transgression or deviation,

and the second is moral, which is awareness and discrimination (2).

For the injured party to obtain compensation under the tort liability system, it is required to prove fault (or error), the occurrence of damage, and the causal relationship between them. This framework can be applied to the person responsible for damages resulting from the use of artificial intelligence.

For example, if a doctor relies on an AI-powered clinical decision support system to prescribe medication, and the program issues an incorrect recommendation—one that a qualified specialist could reasonably be expected to notice and disregard—then the doctor may be held accountable for the resulting harm or injuries to the patient. In such a case, liability would rest with the doctor, not with the AI program that issued the erroneous recommendation (1).

It is worth noting that the application of tort liability law to artificial intelligence presents numerous challenges. Courts faced with claims arising from AI-generated harm must identify the natural or legal person responsible for that harm.

However, we argue that the increasing autonomy of AI systems in certain contexts makes it difficult—if not impossible—to establish a clear legal basis for liability. In cases where AI makes independent decisions, the traditional rules of tort liability are often insufficient to determine who bears responsibility for the resulting damage.

2.5. Substantive Liability

The essence of civil liability lies in its role to redress harm and compensate the injured party. However, achieving this goal is particularly challenging in the context of artificial intelligence (AI). The novel legal issues raised by AI technology necessitate an approach distinct from traditional legal frameworks, especially when it comes to determining the party responsible for damages caused by AI-driven machines.

Traditional principles based on fault or defect must be reconsidered, and new foundations must be established to justify civil liability in the field of AI. Under such a liability framework, the responsible party may not deny their responsibility, even by arguing a break in the causal link between their action and the resulting damage. Accordingly, establishing liability based solely on the occurrence of harm provides the injured party with stronger protection, relieving them of the burden of proving fault on the part of the liable party (2).

With regard to objective liability in the AI domain, it has been explicitly addressed in European Directive No. 85/374/EEC, issued on July 25, 1985, which establishes product liability on the basis of strict liability—that is, liability without fault—in the event of harm resulting from a defective product. If more than one party is responsible for the same damage, liability is joint and several (1).

As a result, European Union law now recognizes liability for damage caused by products, regardless of contractual obligations. Claiming compensation does not require proving fault on the part of the producer or manufacturer of the AI system.

The second requirement
The Basis of Liability for Damages Caused by Artificial Intelligence
Liability based on contract:

For contractual liability to apply, there must be a valid contract and a breach by one of the contracting parties of a contractual obligation. This breach constitutes the basis of contractual liability.

There must be a contractual error, i.e., a breach originating from the contract, whether this error is intentional or negligent. This error must also result in harm, i.e., damage that may befall a person in a legitimate area protected by law or in a right. A causal relationship must exist between the error and the harm, i.e., the error is the cause of the harm. The creditor is required to prove this causal relationship. The debtor can deny the causal relationship and be exempt from liability if he proves that the failure to perform the contract was due to an external cause, such as force majeure, a sudden accident, the fault of the injured party, or a third party (2). We note that Egyptian and Kuwaiti civil law are still in their infancy in terms of legal regulation of artificial intelligence, and they have not established specific provisions to regulate the relationship between artificial intelligence and its users. However, this does not preclude liability based on several specific foundations, including:

Contractual liability is grounded in the Consumer Protection Law: Article 27 of the new Egyptian Consumer Protection Law No. 181 of 2018 stipulates that "the producer shall be liable for any damage caused or incurred by the product if it is proven that the damage arose due to a defect in the product, attributable to its design, placement, or installation." Similarly, Article 9, paragraph 1, of the Kuwaiti Consumer Protection Law provides that "the consumer, in addition to any other rights stipulated by laws and regulations, has the right to guarantee his health and safety when provided with any good or service, and to ensure that he is not harmed when using the good or enjoying the service" (1).

The concept of contractual liability for manufacturers and any product for damages caused by AI entities due to failure to comply with safety requirements aligns with the traditional school of thought, as it is linked to liability for defective products. This means that the process of investigating the extent to which AI, as a product, is implicated in causing damages requires examining the reason that led to its failure to meet consumer expectations regarding the assurance of their health and safety.

Liability is based on the theory of warranty against latent defects and the obligation to deliver a conforming product: Article 447 of the Egyptian Civil Code, which corresponds to Article 492 of the Kuwaiti Civil Code, stipulates that the seller is obligated to guarantee that the sold item includes the characteristics it promised would exist at the time of delivery to the buyer. Therefore, the obligation to deliver is not fulfilled unless the item conforms to what was agreed upon with the buyer in the contract. However, the liability of the manufacturer of AI entities does not apply. Based on the theory of warranty against latent defects, the defect must be significant, hidden, unknown to the buyer, and subsequent to the defect. If a hidden defect is found in an AI entity (1), the buyer can choose between filing a claim for a return of the sale or a claim for a reduction in price within a specified period. This raises the issue of a hidden defect that is not discovered until too late, given the long-term use of the entity.

Based on the above, damage caused by AI as a result of the failure of the product—regardless of its nature or the party responsible, whether the manufacturer, programmer, or designer—to provide adequate safety and security measures to control the robot's autonomy can be considered a basis for liability. However, it is difficult to prove a defect in AI due to its ability to learn and evolve. It is also difficult to distinguish between damage caused by AI due to its independent decisions and damage resulting from a defect in the product itself.

The theory of liability for inanimate objects (custody of objects): Article 178 of the Egyptian Civil Code states that "anyone who is entrusted with the custody of objects whose custody requires special care or the custody of mechanical machines shall be liable for any damage caused by these objects unless he proves otherwise." Similarly, Article 243 of the Kuwaiti Civil Code stipulates that "anyone who is entrusted with the custody of something that requires special care to prevent harm from occurring

is obligated to compensate for the harm caused by it."

The responsibility of the custodian of the object, according to the aforementioned articles, requires the availability of two conditions:

1. Custody of the object, which the Kuwaiti legislator has defined as the actual authority over the object and its use, management, and supervision.
2. Occurrence of harm as a result of the object.

When these conditions are met, civil liability arises for damages caused by artificial intelligence. This means that if a robot used in surgical operations causes harm to a patient, the person who has actual control over the robot bears responsibility. This may be the doctor using the robot in the surgical operation, the hospital owner, the manufacturing company, the programmer, or any other relevant party.

However, this theory has faced numerous criticisms, including:

- The difficulty of considering intelligent systems as objects due to their non-material nature, even if they are supported by a physical support (robot, chip, machine).
- The concept of custody of objects is not suitable for application to the liability of robots, due to the machine's capacity for self-learning and the inability of humans to fully control its operation or shut it down. It is often not possible to know what is occurring within the intelligent program, and the harmful actions of AI-powered devices are largely unpredictable.

Theory of the Human Deputy Responsible for Robots:

Most developed countries are moving toward redefining the legal status of AI-powered machines, moving away from treating them purely as objects. This is done by recognizing that these machines possess a legal status distinct from traditional inanimate objects. In response to this evolution, the European Parliament passed a resolution in February 2017 that proposed a civil law framework for robots.

This resolution introduced a new theory of liability for damages caused by robots, somewhat aligned with the concept of product liability, but better adapted to the increasing autonomy of AI-driven systems. It acknowledges robots' ability to learn and interact with the external environment, and accordingly, places liability on a responsible human, referred to as the "deputy"—that is, the person who caused or directed the robot's actions.

3. CONCLUSION

In this research, we presented the provisions of civil liability arising from crimes committed using artificial intelligence through the following topics. In the first section, we addressed the general concept of artificial intelligence technology through two sections: the first section, the concept and characteristics of artificial intelligence, and the second section, the legal classification of artificial intelligence. In the second section, we also addressed civil liability resulting from the use of artificial intelligence through two sections: the first section, the types of civil liability resulting from the use of artificial intelligence, and the second section, the basis of liability for damages caused by artificial intelligence. We reached the following conclusions:

4. CONCLUSIONS

- The legal personality of artificial intelligence technologies has not been established, and therefore the rights inherent in such personality, such as independent financial liability and legal capacity, have not been established.
- Artificial intelligence technologies are merely industrial products involving advanced technology, which requires stricter control. The responsibility of its programmer, developer, or operator is reduced to alleviate the burden of proving the error of such technologies. Jordanian civil law provides support for this when it comes to direct damages caused by these technologies, as liability is based on mere damage, not fault. Furthermore, the programmer's mere breach of contractual obligations establishes contractual liability without the need to prove negligence or transgression.
- Jordan has made significant progress in addressing legal developments, including artificial intelligence. The Ministry of Digital Economy and Entrepreneurship issued a policy on artificial intelligence in 2020, followed by the 2022 National Charter for Artificial Intelligence Ethics, and then the Jordanian Strategy for Artificial Intelligence and its Implementation Plan 2023-2027.
- There is no unified definition of artificial intelligence, as various definitions of the concept of artificial intelligence have been proposed, most of which revolve around the idea of transferring intelligence to machines and making them mimic human mental abilities. Current laws and regulations place full responsibility on the person using the robot, without taking into account environmental conditions and surrounding factors.

The appropriate theory for assigning civil liability for damages caused by AI systems, in our view, is the theory of liability for inanimate objects, which is based on presumed fault, as well as liability for defective products.

Recognizing the legal personality of robots would have dire consequences, resulting in the abdication of liability by those responsible for producing and using robots.

5. RECOMMENDATIONS

- Translate the provisions of the National Charter for Artificial Intelligence Ethics into legislative regulation of AI technologies, so that each sector in which AI technologies are used has its own law, or amend existing laws to meet the requirements of AI technology use, such as amending the Traffic Law, for example, by introducing rules regulating autonomous driving. - Legislating the provisions of the National Charter for Artificial Intelligence Ethics regarding the principle of accountability for AI technologies, so that the responsibilities and roles associated with AI technologies are divided and clarified in a manner that ensures the accountability of individuals and institutions responsible for developing and operating these technologies and prevents their evasion of responsibility. It also provides the opportunity for those affected to submit complaints in a simple and straightforward manner, and for them to be dealt with and resolved without delay. Accountability for damages or losses resulting from the application of AI technologies should not be attributed to the technical system itself, but rather to the natural persons involved.
- Activating the role of academic institutions, particularly universities, institutes, and schools, through Disseminating the culture of artificial intelligence and the ethical principles governing the use of its technologies.

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