



THE ROLE OF CIVIL LIABILITY RULES IN CONFRONTING THE DAMAGES CAUSED BY ARTIFICIAL INTELLIGENCE (ANALYTICAL STUDY)

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Abstract:

Artificial intelligence is considered as the latest creation of the human mind, and it is also one of the pivotal products of the fourth industrial revolution that gave birth to smart programs and applications which facilitated and contributed to serving humanity. Furthermore, artificial intelligence has many advanced mental characteristics and processes through which it can simulate the human mind, such as logical thinking, the ability to answer, renewed and continuous learning, and numerous skills. The list is endless.

The services provided by artificial intelligence have made it an effective investment in many domains, but it also carries great risks and challenges and causes many damages such as violation of personal rights as well as physical harm resulting from smart machines, such as: self-driving cars, robots and others. Therefore, it is necessary to study whether traditional civil liability rules are sufficient to face damages arising from artificial intelligence. Therefore, new and effective rules have been developed to adapt to technological developments and innovations, such as the theory of human deputy, as well as by supporting insurance and compensation funds through which the victim can obtain compensation if he struggles from AI systems.

Keywords: *Artificial intelligence, Artificial intelligence damages, Traditional civil liability, Human deputy theory, Insurance, Indemnity funds.*

Introduction

The current era is considered the age of artificial intelligence applications, and this latter has already become part of our daily life and relationships, and it is not science fiction. Artificial intelligence is, at the same time, one of the pivotal and dangerous products of the fourth industrial revolution, which gave birth to smart applications that served and helped humanity. We could mention some of them like: health, transportation, environment and defense.

AI possesses many distinct characteristics that can challenge human mind such as logical thinking, the ability to respond, continuous learning, and many advanced mental skills.

Despite all these services provided by AI, it also carries great risks, such as ethical and legal challenges, as well as those related to civil liability, intellectual property rights, and criminal law. In the absence of specific, clear rules and provisions in various legislations that define the nature of civil liability resulting from the use of AI, that's why these leads for the application of general rules and provisions of civil liability that do not take into account AI or through new innovative and effective



rules that adapt to the recent technological developments and innovations that have emerged and are used in the market.

Civil liability law contains tools that can be effectively mobilized and adapted to repair AI-related damages, through the diversity of general provisions that characterize the facts giving rise to liability and the adaptability of civil liability law can be enhanced through insurance support. Therefore, we could ask the following question: **How appropriate and sufficient are the general rules and provisions of civil liability to face AI-related damages?**

This issue, in turn, raises several issues that necessarily derive from it, which must be addressed in order to answer the main question: **How could we adapt the legal civil liability for damages arising from artificial intelligence? What is the role of insurance and compensation funds to face AI-related damages?**

To answer the main question and the sub-questions, we decided to address the topic in two sections, the first section devoted to the legal characterization of civil liability for damages arising from artificial intelligence, and the second section devoted to the role of insurance and compensation funds in facing damages arising from artificial intelligence.

In the conclusion, some results have been drawn from the in-depth study of this topic, and some recommendations have been made that we believe will contribute to supporting the rules and provisions of civil liability to face damages arising from artificial intelligence.

In studying this topic, we relied on the descriptive method, which studies the current conditions of phenomena in terms of their characteristics, forms, relationships, and influencing factors. This can be projected onto AI by describing ideas, possibilities, challenges, and legal issues caused by AI systems. We also relied on the analytical or deductive approach, through which it is possible to move from the general to the specific, that is to say, from macro to micro facts. In the field of AI, we analyze the rules of traditional theories in civil law to clarify their suitability for the era of AI, and we also research and analyze various proposals, legislation, and jurisprudential opinions in the field of AI.

Research I: Legal adaptation of civil liability for damages caused by artificial intelligence

It is worth mentioning that jurists and judges have disagreed on the rules used to address the damages caused by artificial intelligence. Some of them believe that traditional civil liability rules should be adapted to accommodate these damages, while others propose the establishment of a liability system specifically designed for artificial intelligence.

Before industrial and technological development, civil liability for personal acts was based on fault. As a result of the risks caused by artificial intelligence, a new trend of jurisprudence emerged that believes that relying on the element of fault in the field of liability is no longer sufficient due to the difficulty of proving who caused the damage. So, the objective theory or assumption of liability emerged through which liability is based on damage rather than fault. Therefore, this research can be divided into two requirements, where we dedicate the first requirement to the legal characterization according to the traditional theory, while the second is dedicated to the legal characterization according to the modern theory.

Requirement I: Legal adaptation according to the traditional theory

Some industries and programs resulting from intelligence technology, such as robots, smart cars, and machines used in medical surgery, have become a source of concern for both states and people due to the errors caused by these industries and programs that may cause harm to others. Because of the lack of laws regulating this field, questions can be raised about the ability of traditional civil liability rules to adapt to face the damages arising from artificial intelligence.

Let us mention the most important traditional systems of liability in various laws, such as liability for personal acts, liability for things and machines, liability for animals, liability for third



parties, and liability for indirect acts¹. In light of the rapid development of AI technologies, are these systems sufficient to regulate civil liability for damages arising from AI? To clarify this, this requirement can be divided into two sections, where we dedicate the first section to establishing liability on the basis that AI is a defective product, while the second section is dedicated to establishing liability based on the idea of guardianship.

Section I: Establishing Liability on the Basis that AI is a Defective Product

Some jurists believe that establishing liability for artificial intelligence for the damage it causes as a defective product aims to protect those who are harmed by the use of the defective product.

Some French jurists believe that the risks associated with artificial intelligence can be addressed through special regulations, and they consider the system resulting from Law No. 98-389 of May 19, 1998 as one of the special regulations that addressed liability for defective products, and the French legislator was influenced in preparing this law by the European Directive (85/374/CEE) issued on July 25, 1985 on the approximation of the laws, regulations and administrative provisions of member states regarding liability for defective products. Certain conditions must be met in order for this liability to materialize, as follows:

A- The product must be defective

We also point out that the French legislator amended the Civil Code and incorporated the law transposing the European Directive on liability for defective products in Articles 1245 and onwards. Article 1245-3 of the French Civil Code defines a defective product as follows: “A product is considered defective when it does not provide a legitimate expectation of safety”². The same article assures that the product is considered defective when it does not provide the safety that can legitimately be expected. According to these articles, liability under French law is linked to the existence of a defective product. This latter is the basis on which liability for the act of defective products is established, whether there is a contract between the parties or otherwise. This is confirmed by Article 1245 of the French Civil Code.

Under the Civil Code, the French legislator surrounded products and defined them as movable property even if they are embedded in a building, as stated in Article 1245-2, and since, prior to the directive, the legislator did not regulate a specific liability regime applicable to health products, which fall within the scope of the law. This is also the case with medical devices, meaning that AI, including its medical applications, could fall within this general field of application of a law that only excludes services and buildings from its jurisdiction.

B- Putting the product into circulation

The product must be put into circulation in the market in order to be considered subject to civil liability, which means that the commodity leaves the sphere of production and enters the sphere of external use, because liability does not materialize until the product is put into circulation³, and

¹ Ammar Karim Al-Fatlawi Ali, Abdul Jabbar Rahim Al-Shahidi, *Civil Liability for Complex Artificial Intelligence Technology*, Arab Training and Publishing Group, Cairo, Egypt, 2022, p. 49.

² See article 1245-3 of the French Civil Code.

³ Mohamed Shaker Mahmoud Mohamed, *The Role of Artificial Intelligence in Developing Civil Liability Rules (Analytical Study)*, *Journal of the College of Law for Legal and Political Sciences*, Volume 11, Issue 42, College of Law and Political Science, University of Kirkuk, Iraq, 2022, p. 622.



this is confirmed by Article 1245-3 of the French Civil Code, which states that the product must be offered¹, as well as what is stipulated in Article 1245-4 of the French Civil Code as follows: “A product is put into circulation when it is voluntarily abandoned by the producer”².

It is understood from the text that the product must be put into circulation voluntarily and disposed of legally, and this must be accompanied by giving up possession and custody, such as sale, gift, and other legal dispositions.

C- Damage

According to the general rules, the producer is not liable unless he makes a mistake that causes harm to others, and according to the French Civil Code, Article 1245 stipulates the following: “The producer shall be liable for the damage caused by a defect in his product, whether or not it is linked to a contract with the victim: “The producer shall be responsible for the damage caused by a defect in his product, whether or not he is bound by a contract with the victim”³.

The jurists differed on intangible products and how the damages arising from them, such as artificial intelligence programs. The legislator of the French Law does not mention it in the text, there are simple jurisprudential interpretations, centered on Article 1245-2 of the French Civil Code, which considers damage caused by electricity, an intangible thing, to be within the scope of the law. A comprehensive interpretation that allows for the inclusion of artificial intelligence in this special regime could also be based on this interpretation⁴.

D- Causation relationship

Causation is one of the pillars of liability, which is an independent pillar in addition to defect and damage, the injured party must prove that the damage is caused by the defect in the product, proving causation is difficult, especially in front of the multiple parties to production.

It is not easy to prove AI damage, the wrongful act that causes AI damage may exist, but it is still necessary to prove its existence. The process can be particularly complicated due to the characteristics of AI. The complexity of the computer system may prevent us from realizing the different stages in the operation of the program that led to the damage. Often, it will only be possible to observe the damage without being able to reconstruct the internal process of the thing that led to it⁵.

Proving the causal relationship is difficult, especially in the face of multiple parties to the production⁶, and what has been put forward by French jurists about the causal relationship can be highlighted by extrapolating the articles of the French Civil Code. First, the defect is considered present in the commodity at the time of its release into circulation, as confirmed by Article 1245-11, as follows: “The producer cannot resort to the following: “The producer cannot resort to the cause of exemption stipulated in Article 1245-10 (4) when the damage is caused by something in the human

¹ See article 1245-3 of the French Civil Code.

² See article 1245-4 of the French Civil Code.

³ See article 1245 of the French Civil Code.

⁴ Alexandra Bensamoun, Grégoire Loiseau, *Artificial Intelligence Law*, Second Edition, LGDJ Editions, Paris, 2022, p. 96.

⁵ Samir MERABET, *Towards a law on artificial intelligence*, First edition, Editions Dalloz, Paris, 2020, pp. 469-470.

⁶ Najja Al-Attraq, *Liability for Defective Products in the Light of the French Civil Code (Law 389/98)*, *Journal of Legal and Sharia Sciences*, Issue 6, Faculty of Law, University of Zawiya, June 2015, p. 86.



body or by the products resulting from it"¹. Secondly, the producer must prove that the moment the defect appeared was after the product was put into circulation, which is what Article 1245-4 of the French Civil Code stipulates².

In fact, proving the causal link between the harmful act and the damage falls on the one who has been harmed, so he has to prove the availability of the elements of liability. If the harmed person proves the harmful act and proves the damage, a simple presumption in his favor that there is a causal link³, and Article 1245-8 of the French Civil Code refers to this as follows: "The plaintiff must prove the defect and the causal link between the defect and the damage: "The plaintiff must prove the damage, the defect and the causal link between the defect and the damage"⁴. However, it is a simple presumption that the responsible party can prove the opposite by denying the causal link between his act and the damage, as indicated in Article 1245-10 of the French Civil Code⁵.

Section II: Establishing liability based on the idea of guardianship

When reviewing some laws, such as the French Civil Code, for example, we find that it stipulates in Article 1242 as follows: "We are responsible not only for the damage we cause through our actions, but also for the damage caused by the actions of the persons for whom we must answer, or the things in our custody"⁶. A general principle can be deduced according to which we are responsible for the things in our custody. The benefit of this discovery lies in the objective nature of this new liability, as victims are exempted from proving the fault of the custodian of the object, and the custodian can only exonerate himself by proving another cause, such as absolute necessity⁷. This is also referred to in Article 231 of the Iraqi Civil Code⁸, we note from this article that liability for the damage caused by the object is linked to the use, management and control of the thing, so the owner of the thing remains responsible for it and also responsible for the damage caused by the thing with the exception of some cases, such as the theft of the object, which results in the loss of possession and custody accordingly, and the presumption of responsibility can only be removed in the absence of a foreign cause of major force or a sudden accident that is not attributable to the guard⁹.

Questions arise about the liability of artificial intelligence, can it be established according to the idea of custody, and is artificial intelligence one of the things that need to be guarded according to the aforementioned legal texts?

Applying the concept of custody to AI is more accurate. The concept has been defined through case law as an effective force in using, controlling and directing things. The difficulty lies in reconciling the need for control that characterizes physical custody with the learning and autonomy capabilities of AI. Indeed, AI has the potential to escape the power of human control and direction

¹ See article 1245-11 of the French Civil Code.

² See article 1245-4 of the French Civil Code.

³ Adnan Hashim Jawad, Aqeel Majeed Kazim, The civil liability of the producer for his defective products according to the European Product Liability Directive No. 85 of 1985 (a comparative analytical study), Karbala University Scientific Journal, No. 2, Faculty of Fanon, Karbala University, 2011, p. 124.

⁴ See article 1245-8 of the French Civil Code.

⁵ See article 1245-10 of the French Civil Code.

⁶ See article 1242 of the French Civil Code.

⁷ Alexandra Bensamoun, Grégoire Loiseau, *op. cit.*, p. 87.

⁸ See Article 231 of the Iraqi Civil Code.

⁹ Mohamed Shaker Mahmoud Mohamed, *op. cit.* pp. 624-625.



and thus prevent the guardian from being recognized at the time of harm. However, the flexibility and potential of the concept of guardianship allows it to be applied to these new risks of harm¹.

In the end, it is the guardian of the intelligent object who owns the reality of the object because he uses it, decides the purpose of its use, and is in a position to prevent it from acting abnormally. This notion of the guardian was perfectly suited to the technical reality at the time it was formulated. It proved particularly effective because it continued to be applied to many of the technological innovations that followed. Consequently, some things have proven to be unsuitable for this definition of guardian. But today, the autonomy of the smart object is challenging traditional standards of custody².

Requirement II: Legal adaptation according to modern theory

We have presented the various legal texts and jurisprudential opinions addressed by the traditional theory, and through this section, we will show the basis of civil liability for damages arising from artificial intelligence according to the modern theory. In this regard, an innovative and modern theory known as the “responsible human deputy” theory has emerged, and the European Parliament is the first to create it, according to the European Parliament resolution issued on February 16, 2017, which includes recommendations to the Commission on civil law rules related to robots. To clarify this theory, we will divide this requirement into two sections, where the first section is devoted to the legal adaptation of the theory of the human deputy for artificial intelligence robots, while the second section is devoted to the images of the human deputy responsible for errors in the operation of robots.

Section I: Legal adaptation of the human deputy theory for AI robots.

The European Parliament believes that the current rules will not be sufficient to determine legal liability for damages caused by AI robots, as they will not allow determining the party responsible for paying compensation or requiring that party to repair the damage caused, so it emphasizes the need to develop new, effective and modern rules, adapted to the recent technological developments and innovations used in the market³.

According to the theory of the human deputy for AI robots, the European legislator did not treat the robot as an inanimate object, nor did he make it an irrational being, as evidence of which he described the person responsible for the robot as a deputy and not a guardian. According to this theory, the European legislator believes that responsibility cannot be directly attributed to the robot, because the current legal system does not allow relying on it to attribute responsibility to the robot, and what can be concluded is that the legal characterization adopted by the European legislator did not take into account robots, this is evidenced by the fact that he used the term deputy and did not use the term guardian⁴.

Through this theory, and contrary to the traditional theory, the European legislator created a new idea that transfers responsibility from the robot, which does not have legal personality and capacity, to the human being by force of law, and this can be highlighted through the use of the term

¹Alexandra Bensamoun, Grégoire Loiseau, *op. cit.*, p. 88.

²Samir MERABET, *op. cit.*, p. 474.

³See the official website of the European Parliament, The European Parliament Resolution of February 16, 2017 with recommendations to the Commission on civil law rules on robotics, p. 6.

https://www.europarl.europa.eu/doceo/document/TA-8-2017-0051_FR.html

Accessed September 06, 2024.

⁴Ammar Karim al-Fatlawi Ali, Abdul Jabbar Rahim al-Shahidi, *op. cit.*, p. 66.



shifting the burden of responsibility and attributing it to the responsible deputy in the event that responsibility arises¹. The theory makes it clear that the damages caused by the robot should be the responsibility of the human deputy and not the robot itself.

To summarize, the aim of this theory is to shift from the ideas of the traditional theory, which is based on establishing liability on the basis that artificial intelligence is a defective product or establishing liability based on the idea of guardianship, to an innovative and modern theory that transfers liability from AI robots to humans, which means that the damages caused by robots fall on the human deputy and not the robots themselves².

Section II: Images of the human deputy responsible for errors when operating robots

Through the theory of the human deputy for AI robots, the European legislator clarified the images of the human deputy responsible for errors in the operation of robots, and these images can be highlighted as follows:

A- The manufacturer

The manufacturer of the robot may ask about machine defects resulting from poor workmanship, as this defect may cause the robot to run loose and perform actions that are not in line with its normal use. Examples of robots used in surgical procedures, which may cause harm to the patient. The error made by the robot may be due to faulty programming or lack of maintenance³.

B- Operator

This is the professional person who exploits and manages the robots, for example the operations carried out by modern banks that adopt artificial intelligence. The operator may make a mistake in managing the customers account⁴.

C- The owner

He is the person who operates robots personally to serve him or his customers, for example, a physician who owns a hospital, he may operate a robot for examination or surgery, so the owner will be held accountable for the mistakes made by the robot⁵.

D- The user

He is the person who uses the robot other than the owner or operator, and in this case he is responsible for the behavior of the robot that may cause harm to others.

¹ Hammam Al-Qusi, The issue of the person responsible for operating the robot (the impact of the human deputy theory on the feasibility of the law in the future) - a forward-looking analytical study in the European civil law rules for robots - Journal of Generation of In-depth Legal Research, Issue 25, 2018, p. 77.

² Nila Ali Khamis Mohammed Kharoor Almheiri, Civil Liability for Robot Torts (An Analytical Study), Master's Thesis, College of Law, United Arab Emirates University, 2020, p. 37.

³ Ahmed Hassan Mohamed Ali, Civil Liability for Artificial Intelligence Robot Damage, New University House, Alexandria, Egypt, 2024, p. 72.

⁴ Hammam Al-Qusi, op. cit. p. 79.

⁵ Mohamed Shaker Mahmoud Mohamed, op. cit., p. 627.



Research II: The Role of Insurance and Compensation Funds in Confronting Damages Arising from Artificial Intelligence

Through the previous study, it was found that the civil liability rules used to face damages arising from AI are not sufficient, so alternative liability regimes have been proposed, such as recognizing the legal personality of AI. This was indicated by the European Parliament's resolution issued on 16 February 2017, which includes recommendations to the Commission on civil law rules relating to robots. The European Parliament considered it appropriate to consider the creation of a legal personality for robots, so that they could be considered the most advanced autonomous machines at least act as responsible electronic persons to repair any damage caused to a third party, and this recognition would make it possible to centralize the liability on the head of the intelligent machine and avoid diluting the responsibilities of various actors, designers, manufacturers or users, but jurists in Europe currently reject this idea and consider it premature and unfounded¹.

Repairing the damage would also be ensured by insurance and compensation funds, which do not have to be done by robots but can be done by traditional managers. Therefore, we will address the idea of insurance and insurance funds and their role in facing the damages arising from artificial intelligence in two requirements, where the first requirement will be dedicated to the role of insurance in facing the damages arising from artificial intelligence, and the second requirement will be dedicated to the role of compensation funds in facing the damages arising from artificial intelligence.

Requirement I: The role of insurance in facing damages arising from artificial intelligence

Long before and even now, man has been suffering from constant anxiety due to his exposure or potential exposure to multiple risks, whether in his person or his money. He tried various means to prevent the occurrence of these dangers, and one of the most important means he used in order to feel safe and secure is insurance.

In light of the rapid technological progress and development, especially in light of the Fourth Industrial Revolution, which resulted in the so-called artificial intelligence, questions can be raised about the possibility of insurance to face the risks arising from artificial intelligence.

To answer these questions, we define insurance in the first section and then outline the proposed system to address the damages arising from AI in the second section.

Section I: Definition of insurance

Abdul Razzaq al-Sanhouri defined it as follows: "Insurance is nothing but an organized and careful cooperation between a large number of people who are all exposed to a single danger, so that if the danger is realized for some of them, all of them cooperate to face it with a small sacrifice made by each of them to avoid serious damage to the one to whom the danger is inflicted". Abdul Razzaq al-

¹See the official website of the European Parliament, The European Parliament Resolution of February 16, 2017 with recommendations to the Commission on civil law rules on robotics, p. 6.
https://www.europarl.europa.eu/doceo/document/TA-8-2017-0051_FR.html
Accessed September 06, 2024.



Sanhuri also believes that the insurance company is in fact only the intermediary that organizes this cooperation on a technical basis¹.

Liability insurance is one of the most important fields of application of insurance contracts nowadays, as its scope has expanded over time to include various fields, as insurance for the risks of machinery, equipment, and automobiles has become mandatory. The idea of liability insurance is represented by the existence of a person who fears that he may be responsible for the damage caused to others, so he enters into an insurance contract that transfers the responsibility of compensating that damage from his burden to another party, the insurer. The purpose of insurance is to compensate for the damage caused to the insured in his financial liability.

We have given these definitions in order to show the extent to which insurance can be included to face the damages arising from AI, especially with regard to liability insurance.

Section II: Proposed AI Damage System

The adaptability of risk in civil liability law is enhanced by subsidizing insurance. If new liability risks can lead to the emergence of new insurance policies, insurance possibilities also facilitate and develop civil liability. This effect is manifested the interrelationship between liability and insurance in particular in the field of AI².

It is well known that land insurance is divided according to the insured interest into insurance for persons and insurance for damages. Damage insurance is an insurance for money and property, also called compensatory insurance, and as such, it is subject to the compensatory principle, whether it is related to insurance for things (property) or liability insurance. In tort insurance, we distinguish between property insurance and liability insurance. Property insurance contracts constitute a broad field of application of insurance contracts.

Property insurance is not particularly affected by the development of AI, but liability insurance is. Liability insurance relies heavily on developments in civil liability law.

As liability law has evolved, questions have also arisen about the extent to which the development of AI will affect insurance law, especially the expansion of compulsory insurance. Should the legislator provide for a new state of compulsory insurance? This was answered by the European Parliament, which in its resolution of February 16, 2017, devoted several developments to the issue of insurance against damage caused by robots, and envisaged the creation of a compulsory insurance system similar to that of automobiles³.

The need to protect the rights of the injured party against risks arising from AI has recently paved the way for the European Parliament's Legal Affairs Committee to propose laws on civil liability and compensation for damage caused by AI robots, based on existing defective products. The Committee has also proposed the introduction of a mandatory insurance system similar to the one currently in place for car insurance⁴.

Insurance companies are facing difficulties, including the issue of assessing the risks arising from artificial intelligence, as well as the lack of data on which to base potential and expected risks. Some specialists believe that these issues can be resolved through joint cooperation between insurance companies and manufacturers of AI robots and programs, by conducting continuous testing of these technologies to identify potential risks.

¹ Abd al-Hadi al-Sayyid Muhammad Taqi al-Din al-Hakim, *The Insurance Contract (Truth and Legitimacy)*, Manshurat al-Halabi al-Huqqamiya, Beirut, Lebanon, 2010, p. 37.

² Alexandra Bensamoun, Grégoire Loiseau, *op. cit.*, p. 93.

³ Alexandra Bensamoun, Grégoire Loiseau, *op. cit.*, p. 94.

⁴ Ammar Karim al-Fatlawi Ali, Abdul Jabbar Rahim al-Shahidi, *op. cit.*, pp. 155-156.



Requirement II: The role of compensation funds in confronting damages arising from artificial intelligence

Compensation funds play an important role in protecting the injured, and we find that the legislations that adopted the compulsory insurance system have adopted the idea of establishing a compensation fund that intervenes in specific cases. Through this requirement, we define compensation funds in the first section and outline the European Union's proposal regarding compensation funds in the second section.

Section I: Definition of Compensation Funds

The main objective of the establishment of compensation funds in general is to seek to obtain the compensation due to the injured person, regardless of the financial circumstances of any person responsible for the damage or the insurance companies that cover that liability¹. We mention the most important legislations that created a compensation fund (guarantee fund), such as the French legislator who created a traffic accident compensation fund under the Finance Law of December 31, 1951, and the rules of intervention and the operating rules governing it fall within the insurance law. The Traffic Accident Compensation Fund intervenes when the harmed person has not been able to obtain compensation from another known responsible party. Guarantee funds are of great importance as they are the main means of reassurance for the victim as well as the tortfeasor.

This fund provides compensation if the victim suffers damage as a result of dealing with AI systems².

Section II: The European Union's proposal for compensation funds

The 2017 resolution of the European Parliament provided for the establishment of compensation funds for damages arising from AI, such as the mandatory damage insurance guarantee fund, which can take the form of a general fund or a specific fund according to the categories of robots. Through this fund, the injured person can receive compensation without going through the financial liability of the actual cause of the damage, but this idea may not be shared by everyone³. The European Parliament resolution of October 20, 2020 on the Civil Liability Regulation for Artificial Intelligence⁴,

¹ Said Elsayed Kandil, *The Problems of Compensation for Traffic Accidents between the Targeting of Comprehensive Coverage and the Inadequacy of Limited Direct Compensation (A Comparative Study)*, New University House, Alexandria, Egypt, 2014, pp. 115-116.

² Omar Nafi Reda Al-Abbasi, *The Legal System of Artificial Intelligence (A Comparative Study)*, First Edition, Arab Center for Studies and Research for Publishing and Distribution, Cairo, Egypt, 2023, p. 185.

³ See the official website of the European Parliament, *The European Parliament Resolution of 16 February 2017 containing recommendations to the Commission concerning civil law rules on robotics*, pp. 6 et seq.

https://www.europarl.europa.eu/doceo/document/TA-8-2017-0051_FR.html
Accessed September 06, 2024.

⁴ See the official website of the European Parliament, *Article 4/4 of the European Parliament Resolution of 20 October 2020 containing recommendations to the Commission on a civil liability regime for artificial intelligence*, p. 27

https://www.europarl.europa.eu/doceo/document/TA-9-2020-0276_FR.html
Accessed September 08, 2024.



through Article 4/4, states: “The front-end operator of a high-risk AI system shall ensure that the operation of such AI system is covered by appropriate liability insurance with regard to the amount and scope of compensation”.

Conclusion

Through our study of the role of civil liability rules in addressing the damages arising from AI, we have found that we can face some of these damages arising from AI by adapting traditional civil liability rules, and for their inadequacy they were supported by insurance and compensation funds. During this study, a set of findings were made and some recommendations were proposed:

A- Findings

- 1- The inadequacy of traditional civil liability rules to determine legal responsibility for damages arising from artificial intelligence, as traditional civil liability requires proof of damage, fault, and the causal relationship between them by the harmed party.
- 2- Artificial intelligence plays a major role in the development of civil liability rules by creating a legal system to protect those affected by the mistakes of AI technology.
- 3- Through the theory of the human deputy for AI robots, and contrary to the traditional theory, the European legislator created a new idea that transfers responsibility from the robot, which does not have legal personality and capacity, to the human being.
- 4- Through the proposals of the European Parliament, insurance and compensation funds play an important role in protecting the victims as well as repairing the damage if it occurs.

B- Recommendations

- 1- We recommend that different legislations should develop legal rules that regulate the topic of artificial intelligence because it carries great risks and challenges, such as ethical and legal challenges, as well as challenges related to civil liability, intellectual property rights, criminal law and others.
- 2- The need to develop new and effective rules in the field of civil liability, adapted to modern technological developments and innovations, such as artificial intelligence, for example, some jurists propose the establishment of a special system for robot liability within the civil law.
- 3- The need to insure products arising from artificial intelligence with the aim of obtaining compensation for the victim as a result of errors that may arise from these products.
- 4- We call on various legislations to impose compulsory insurance for risks arising from AI, especially industrial robots and self-driving cars.
- 5- Given the role of compensation funds in protecting the injured, we urge the insurance sector in various countries to establish such funds as a mechanism to cover some of the damages arising from AI.
- 6- Develop a code of ethics for the development, and use of AI, so that AI systems, throughout their exploitation process, remain compatible with the principles of human dignity, integrity, freedom, respect for privacy, cultural diversity, equality between men and women, as well as fundamental rights.
- 7- Establish a code of ethics for the dissemination, development and use of AI, through which AI systems remain compatible with the principles of human dignity, integrity, freedom, respect for privacy, cultural diversity, equality, etc.

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