# Legal Responsibility Arising From Intellectual Property In The Age Of Artificial Intelligence

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## Introduction:

Responsibility is the focal point of the legislative philosophy of civil law, and, in fact, of all legal systems. Civil liability is one of the important issues, because, in fact, it relates to most of the rights that people deal with, at the present time. Every person has the right to protect his rights, regardless of their source (<sup>1</sup>). The UAE legislator realized the importance of civil responsibility, organized it and formulated it according to special rules. close to Islamic law, (Jurisprudence), when it stipulated it from the Civil Transactions Law that: "If the judge does not find a text in this law, set rules according to Islamic Sharia." (<sup>2</sup>)."

Responsibility, in general, is defined as: "The sanction resulting from violating one of the duties entrusted to a person, whatever the source of this duty" (<sup>3</sup>). Civil liability is defined as: "the obligation of a person to indemnify the damage he caused to another person, because of his breach of an obligation imposed on him" (<sup>4</sup>)". Or things he asks about.

**Keywords:** contractual liability, artificial intelligence, responsibility, damage, infringement.

In this paper, we will expose the error, or damage, in the contractual liability for artificial intelligence, the harmful act caused by artificial intelligence, and the causation relationship:

# A- The contractual liability for Artificial Intelligence:

Contractual liability does not apply unless the conditions for its application are met. It is the penalty that results from breaching contractual obligations, because the contract is the law of the contracting parties, so, it is necessary to respect its content and not to violate it, and the responsibility must be held by the party who violated the terms of the contract, and compensation must be incurred, the amount of compensation can be specified in the contract itself, and, if it is not specified, the court can determine it on the basis of the loss suffered by the injured party.

"Damage is the foundation of the civil liability law, and civil liability in Egypt is based on error, while in the UAE it is based on an act of harm ( $^{5}$ ).

Which is what the Federal Supreme Court ruled by saying: "Every harm to a third party obliges the doer to guarantee the harm, and that the court must examine the three elements of responsibility, which is the occurrence of the infringement, that the doer does not have the right to perform the act from which the harm occurred, or deliberately that act..." (<sup>6</sup>).

Here, the research raises the study of two hypotheses that may face the injured, when the damage occurs, which are: to be a machine or the invention of artificial intelligence, such as selfdriving cars and smart robots working in the industrial and medical fields, as well as, machines that operate independently of humans, and here, the nodal responsibility is raised in the first hypothesis, and the hypothesis the second is that the application is owned by one of the perpetrators, or those witch are responsible for operating it during the occurrence of the damage, which necessarily raises the issue of noncontractual liability."

"Act, damage and the causal relationship between them, are three pillars on which contractual liability is based, in accordance, with its general provisions. And the responsibility of the latter is established, as soon as, it is proven that he did not implement what he was committed to  $(^7)$ .

In order for the contractual liability to be available, it is required first: the existence of an actual contract between the two parties (for the contract to be concluded, the two parties to the contract must agree on the basic elements), and, secondly: that one of the parties breaches one of the obligations of that contract, and, third: that the breach of the contractual obligation is due to the debtor, and that The victim is the creditor (<sup>8</sup>)". "Under this, we will discuss the concept of error and the elements of error. "

# AI: The error:

Error, as a cornerstone of contractual liability is the debtor's failure to perform his obligation arising from the contract. intentionally, or negligently.

The forms of the complex error are represented in  $(^9)$ :

The contractor's failure to fully or partially perform his obligation.

- "Delay in implementation."

- "Defective execution, i.e., not in the form required and agreed upon (<sup>10</sup>)."

The nodal responsibility for artificial intelligence is based on the availability of three pillars of the first of which is: the contractual error, which is the failure of the owner of the machine, or the owner of the invention, to implement its obligations arising from the concluded contract, or the delay in the implementation of these obligations or defective implementation, and secondly: the damage, which is: "Every harm that a person inflicts on his money, body, honor or affection", (and if the harm results from a breach of a contractual obligation, compensation is to be made in accordance with the provisions of the contract guarantee), third: the causal relationship, where the existence of damage and error is not sufficient, but must be the error, (the harmful act), is the one who caused the damage, and the creditor bears the burden of proving causation, which is assumed, as long as, the creditor establishes evidence of the error and the damage, and the debtor bears the burden of denying this causation and that the non-performance of the contract is due to a foreign cause, and the foreign cause may be force majeure or A sudden event, the victim's fault, or the fault of a third party (<sup>11</sup>).

That is, if the artificial intelligence machine made a mistake, as a result of a defect in its programming, which prompted a third party to contract with it, the third party in this case would have the right to claim invalidation of the contract by filing a nullity lawsuit against the programmer or designer as the original party to the contract."

It is, also, permissible for a third party to claim compensation from the programmer or designer for the damages incurred by him as a result, and the latter has the right to refer to the designer of the smart program, as he is responsible for the error in the programming and design of this program  $(^{12})$ .

Also, third parties may claim not against the programmer or designer, but against the investor or user of the smart program who developed the software, or the necessary algorithms to compensate for the damages incurred by him because of developing incorrect software or algorithms.

Here, the question arises about the extent to which civil liability can arise for the error emanating from the artificial intelligence machine itself, without the fault of the programmer or the information entry.

In theory, the researcher believes that it is possible to provide advanced generations of artificial intelligence machines with the ability to work independently, and not only automatically. This means that through the development of artificial intelligence, these machines will be able to negotiate, negotiate, modify the instructions they contain and elicit instructions New and analyzed, and here the problem may arise about who is the owner of the hand and control in the field of civil liability that falls on the error or the act of harming smart programs if there is no manufacturing defect and incorrect software was installed by the investor? "

"It is not possible for others to refer to the smart program as an independent legal person because it does not have the legal capacity to conclude contracts, and thus there is no contractual responsibility. Does the UAE legal system require the development of special laws for artificial intelligence?"

# A2: Damage:

## - The concept of Damage

Damage is "the real loss suffered by the creditor and the missed gain when they were a direct result of the failure to fulfill an obligation."

"The concept of harm is in the realizing and legitimate interest of the injured person, in his money or person, that is, the harm inflicted on a person because of one of his rights, and harm is the essential and basic element of contractual responsibility, rather it is the basis of this responsibility, because it is the object of the obligation to compensate, so compensation is targeted, so compensation is intended. The amount of compensation is determined by the amount of the damage (<sup>13</sup>).

An example of this in artificial intelligence is if a medical robot that is used in treatment and surgical operations diagnoses a specific condition and the operation was performed to remove the gallbladder and the robot removed another unrelated part.

Some people differentiate between the words harmful and harmful, the first covers the basic elements of tangible and moral, and the other is reserved for the financial assessment of these elements by the judge. Obtaining compensation and when the injured person proves his right to receive compensation, this right shall arise and the date of the damage. "

# A3: terms of damage:

Fiqh has adopted some conditions that must be met in it, and these conditions are

deduced from the relevant legal texts, but their numbers differ. Four, but the one who includes all of these opinions finds that most of them deal with the same rulings and the difference between them in merging more than one condition with each other, given the existence of a large body of jurisprudence literature, we will look at these terms somewhat briefly, according to the

"It is necessary to ascertain when the damage occurs in the contractual liability for artificial intelligence, that several conditions are met:"<sup>14</sup>

## - Damage to be realized:

following division:

It means that the damage is real, i.e., it is fixed with certainty and categorically confirmed, and it will be so if it occurs, and this is the damage, whether the damage is a loss incurred by the injured person, or a lost gain. The damage shall be immediately assessed by the judge, whether the experience was unable to estimate such damage (<sup>15</sup>)." "As if a passenger traveling on a passenger bus sustained an injury that caused him a permanent disability that rendered him unable to work throughout his life, then he shall have the right to compensate for the damage that he will sustain. Certainly, in the future due to this deficit. The damage must be direct:

Direct damage is the natural result of nonperformance or delay in fulfilling the obligation.

# - Damage to be expected:

"Direct damage must be foreseeable, and it is usually the foreseeable damage when the contract is concluded. As for unexpected damage, the will of the contracting parties did not go to it." "Therefore, there is no compensation for it, unlike in tort for direct damage, even if it is unexpected.

## - Causation

It is not sufficient for the debtor's contractual liability to cause harm to the creditor. Rather, there must be a causal relationship between the debtor's mistake and the damage being directly arising from the error. The causal relationship is the third pillars of responsibility, and it is an element independent of the error. the debtor, and there may be damage to the creditor without that error being the cause of the damage. "

The principle is that the burden of proving a causal relationship falls on the creditor claiming compensation, and when he proves that the damage, he has incurred results from the debtor's failure to implement his contractual obligation, the debtor must deny the causation relationship by proving that the damage is due to a foreign cause that he had no control over, such as force majeure or a sudden accident. Or the fault of the creditor or the fault of a third party who did not replace him in the performance of the contract.

# **B:** The harmful act of artificial intelligence and causation:

A harmful act or harm in general is a violation of the legitimate interest of the injured person, either in his money or his person  $(^{16})$ .

"The liability arising from the breach of a contractual obligation is called contractual liability, while the liability arising from the breach of non-contractual duties is called tort, non-contractual liability, or liability for a tortuous act." The damage and the causation relationship are the two pillars of civil liability arising from intelligent machines or invention (<sup>17</sup>).

And since it is decided in the judiciary of the Federal Supreme Court in accordance with the text of Article (282) of the Federal Civil Transactions Law, "Every harm to others obliges the doer, even if he is no discriminator, to guarantee the harm."

And the following article (283) of the law stipulates that "the harm is direct or causing, and if it is direct, the guarantee is necessary and there is no condition for it"

If the damage was caused by a defect in the contracted robot and others were harmed as a result of this defect, the injured person has the right to refer to the official with a claim for harmful acts. Liability for harmful acts is generally defined as "the situation that arises outside the scope of the contract and the source of commitment to it is the law"(<sup>18</sup>). "For liability for

harmful acts to be established, three pillars are required: the infringement, the harm, and the causal relationship.

# BI:Error/Infringement.

"Infringement" means an intentional or unintentional deviation in the behavior that a person must adhere to in the first place or omission ( $^{19}$ ).

Based on the foregoing and despite the legal difference in determining the means of the content of the error, its basis in the legal responsibility that we have explained and detailed is as follows:

# 1. "The infringement element (the tangible element of the error):"

Infringement is a breach of the general legal obligation not to harm others, i.e. a complete deviation from the normal behavior of an ordinary person, as it is exceeding the limits that a person must abide by in his behavior. For example, the law suggests lighting cars at night and not exceeding a known speed. By complying with the law is an infringement, and the infringement occurs if a person intentionally harms another, i.e. intentionally (<sup>20</sup>).

In this regard, the criterion on which the infringement is based has been presented as an element of the error, in terms of whether the criterion is subjective or objective, where the subjective criterion refers to the subjective person in view of the person from whom the behavior occurred, so this behavior or action must be considered In addition to taking into account a group of considerations, including age, gender, marital status, and the circumstances of the time and place surrounding the commission of the challenge, that is, when holding a person accountable for his actions, we look at his appreciation for the work he committed, which means that a person does not commit a legal error unless he feels that he committed a mistake.

As for the objective criterion, it looks at the behavior of the familiar person or the ordinary person in the same circumstances that surrounded the doer, so that the act is considered an infringement if the ordinary person does not perform it in the same circumstances in which the responsible person was, and the act is not considered an infringement if the ordinary person performs in the same circumstances in which the responsible person was  $(^{21})$ .

Accordingly, since the adoption of the personal criterion that shows the true subjective thoughts that require the researcher to reveal, in addition to the fact that they differ from one person to another, it can be said that the objective criterion, or the fate of the ordinary man is the criterion closest to logic, which is what civil legalization took the French as well as the Egyptian."

This is because their considerations are clear, and known, and do not change by changing the person, which helps to establish prejudice among people in the idea of compensation. It ensures that it does not vary from one doer to another, and therefore we are in front of the principle of equality for all doers, so that the public results in renewal and is achieved.

# **B2:** The pillar of perception or discrimination (the moral element of error):

Perception here means that the infringer is able to discriminate disclosure Between and confidentiality, so he is aware that what he does harms others, and this is in implementation of the text of Article (158) of the UAE Civil Transactions Law, where it states that "the non discriminator minor has no right to spend his money and all his actions are Invalid"(<sup>22</sup>), and is contrasted with the text of Article (164/1) in the requirement of discrimination by saying that a person is responsible for his illegal actions when they are issued by him and he is discriminator for them, and accordingly the insane is not responsible for his harmful actions to others, despite the infringement of the rights of Others, and from a tangible breach of the duties corresponding to these rights, because, the legislator's discourse on these duties is directed to people with discrimination, and presumes in each person the availability of discrimination and freedom, and assumes the possibility of the harmful consequences of his actions, unless he proves that he knew at the time of the commission of the harmful act without discrimination, or lack of freedom  $(^{23})$ .

Accordingly, the non-discriminator child, the insane, and the one who lost his senses due to an accident such as the drunk, the sick, and the hypnotist, all of these are not blamed for the backwardness of understanding and discrimination in their actions.

# B3.damage:

# -The concept of damage:

Damage is the second pillar of tort liability, and it is not sufficient for tort liability to make a mistake, but this error must result in harm to others, and damage linguistically is: "against the benefit, that is, you harm the owner and benefit from it."

It is: it is harm to others, and the harm here is tangible or moral. "There is more than one type of harm, where the harm is classified according to the tangible benefit or the moral benefit." damage pictures".

"The damage resulting from accidents with intelligent machines (robots) may be tangible damage, as it affects the person's body or money, and it may be moral damage to the person's reputation and honor."

# I. "Tangible damage:

It is the person who suffers from one of his rights related to his financial liability. Or it is the financial loss that the victim suffers, and the loss of earnings, and it can be determined by an amount of money, as if a person was injured as a result of a self-driving car or The robot was injured and suffered a physical disability or injury." "Such harm must be achievable, given the actual existence of the harm, where the injury actually exists, or the handicap that prevents the victim from earning." "Or that the damage will happen in the future, but it must be ensured that it occurs. As if the injured person is injured and this injury will worsen, resulting in, for example, amputation, or permanent disability. Here the immediate loss of the person is compensated and

the judge can give the injured person the opportunity during a certain period to return to to the person to finally estimate the value of the compensation ( $^{24}$ ).

## 2. Moral damage:

If the tangible damage is the harm inflicted on the victim in a non-financial interest, then the moral damage constitutes a damage to the psychological aspects and moral considerations that make up the psychological and emotional existence of the affected person." "It is the harm that does not affect the person with his money, and it is represented in the violation of moral and moral interests, and accordingly, the moral harm that occurs to a person other than his money may affect him in the body or honor And one's act can cause both types of harm. (physical and moral damage), as in the case of the accident in which the face of the injured person is deformed, especially if she is a woman, and here the injured person suffers moral damage represented in the psychological suffering he was exposed to as a result of the deformity, as well as the tangible damage represented in the physical deformities that occurred on the body. his face  $(^{25})$ .

In the harm that causes civil liability for artificial intelligence damage, the UAE legislator stipulates the conditions for damage that serve as a reason for a civil lawsuit in Article (22).

# Among the types of harm are the following:

Moral damage to the human body: such as wounds and disfigurement caused by an act harmful to the human body, moral damage to human honor: such as slander, insults, indecent assault, and assault on his dignity, moral damage that affects the emotions and feelings of the human being: such as the attack on his belief and his freedom to practice his faith. And moral harm inflicted on a person in a fixed right to him: such as using his name or surname in a legitimate or illegal act.

## **B4:terms of damage:**

- One of the conditions for compensable damage is that the damage is inflicted on a legally acquired right or on a legitimate area that does not rise to the rank of fixed, but does not violate public order and morals. It falls on the soul and kills it, and all bodily functions are disrupted, and this aspect of this responsibility originally includes the misdemeanor responsibility, the basis of which is punishment (<sup>26</sup>).
- The Damage must be personal to the person claiming it

A request for compensation is only accepted from the aggrieved person or from a legal capacity such as the agent or the general successor, and this is only from the applications of the "no lawsuit without interest" rule. What is meant by this condition is that the damage is personally afflicted to the applicant (the plaintiff), so the damage is to the victim's body or money A lawsuit called a personal lawsuit is instituted, and this designation remains even for those who are not qualified to file it as a lack of awareness (<sup>27</sup>).

## **Causation:**

Causality is the third pillar of responsibility, and it is an independent pillar of error or damage .

The relationship of causation is known in the law: "It is a direct relationship between the mistake committed by one person and the harm inflicted on another, which is the injured." The cause of harm, so a tripartite relationship is formed consisting of a verb, a subject, and an effect" (<sup>28</sup>).

And since it is not sufficient for liability to exist that there was a mistake or harmful act committed by one person, and harm befallen another, rather that act must be the cause of the occurrence of this harm, or what is expressed by the necessity of a causal relationship, except that the defendant can To negate a causal relationship by proving that the damage arose from a foreign cause that he had no control over .

The researcher concludes that the presence of a causal relationship between the act and the harm is an important pillar for the establishment of responsibility. It is not enough for the act to occur, and for harm to be inflicted in order for civil liability to take place. Rather, this act must be the cause of this harm, and this is the meaning of the causal relationship between the act and the harm. Because without the availability of this relationship, there is no responsibility, and the nodal and non-contractual responsibility of the programmer, designer, or the owner of smart programs (robots) provides three pillars, the action which is the error, or the damage that is represented in their failure to implement their obligations arising from the contract, or Delay in the implementation of these obligations or defective implementation, damage is proven, and there is a causal relationship between the act and the damage. "

# **Conclusion:**

The researcher reached a set of conclusions and recommendations with regard to the issue of civil liability for the legal liability resulting from the invention in the era of artificial intelligence, and that this issue still suffers from a lack of legislative regulation due to the absence of special legal texts regulating the actions of this invention of damages and consequences. We can apply the general rules of the UAE Civil Transactions Law to acts of invention, since its legislative texts deal with the natural and legal persons granted by the law that personality. "

"Here, the researcher will present the most important results that have been reached, and then the researcher will resort to identifying the most important recommendations that the Emirati legislator wants to implement in practice:

# **Results:**

1-Technological developments in recent times have led to the manufacture and production of smart machines programmed according to artificial intelligence technology, "which has begun to be used in various fields of life" such as "industry, agriculture, health, education, domestic service and military aspects," and others, "due to their accuracy in work and their ability to last for hours." long compared to humans. " 2. "The concept of a smart machine has been defined as a machine programmed electronically according to artificial intelligence technology, as it has the ability to analyze and make appropriate decisions in different environments and conditions."

3. "The UAE legislator has established a kind of guarantee in the liability for things and machines that require special care, including smart machines to cover compensation for the injured and protect them according to the law." This error is assumed by default, and the contrary cannot be proven unless the foreign cause is established, and this aims to reduce the burden of proof placed on the victim to ensure access to his right to compensation.

4. "The causal relationship between the act of the smart machine and the harm to the affected person is based on a manufacturing or programming defect in the manufacture of the smart machine, or the control of the owner, operator or user, over its operation."

5. "Compensation is the main purpose of the existence of the civil liability system, and compensation is extended to liability for damages of smart machines, whether it is compensation in kind, or in return to include tangible and moral damage, but the person responsible for paying compensation may pay his responsibility by proving the foreign cause."

# **Recommendations:**

1. "The researcher recommends the legislator the necessity of enacting special legislation regulating all aspects of the potential harm caused by robots operating with artificial intelligence programs and their programs," in all its aspects, "indicating cases of privacy violations by artificial intelligence programs, as well as indicating cases of overlap of the harmful act between more than party."

2. "The need for legislative intervention with new rules determining liability for compensation for damages caused by intelligent machines," "according to the type of machine; based on the fault of artificial intelligence and not the owner, inventor, manufacturer, user or operator."

3. "Inclusion of the sciences and technologies of smart machines in the school curricula since the early years, and the dissemination of the culture of artificial intelligence, its sciences and technologies in the country."

4. "Expanding the establishment of advanced centers and laboratories for research and development in artificial intelligence technology."

5. "The necessity of cooperation between Arab countries to come up with Arab innovations in the field of artificial intelligence, and to expand the holding of local and international competitions in this field."

6. "Conducting more in-depth legal studies, and holding international conferences to study and discuss the issue of recognizing the legal responsibility of smart machines in the age of artificial intelligence that invades the world today."

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