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CRIMINAL LIABILITY FOR MANIPULATION OF GENERATIVE ARTIFICIAL INTELLIGENCE

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ABSTRACT

In recent time, there has been significant changes in the field of Artificial intelligence, popularly called AI, especially in generative AI. This field is able to produce texts transcript, images and audio which tightly resembles human output, but the field is facing legal and ethical challenges. The importance of the study stems from: To establish digital crime acts: this study will provide approaches towards addressing the misapplication of AI in the legal system; hence, it will enhance and protect individuals and the society in general. The study aims to achieve to explain the construct of generative artificial intelligence (GAI), its different forms and the possibility of its application. One of the most important findings of the study is that generative artificial intelligence is an effective tool for exploiting forgery and data management, and therefore, poses a major threat to the security of trusted information and societal progress. This study seeks to examine the extent to which individuals can be held accountable for the misuse of these technologies, and the challenges that may arise in the process of prosecuting these crimes and determining appropriate penalties. This study will apply a legal analysis methodology consisting of two main elements: the descriptive method and the analytical method.

KEYWORDS: Generative AI, Criminal Liability, Digital Manipulation, Deepfake, Cybercrime.

1. INTRODUCTION

In recent time, there has been significant changes in the field of Artificial intelligence, popularly called AI, especially in generative AI. This field is able to produce texts transcript, images and audio which tightly resembles human output, but the field is facing legal and ethical challenges. These problems arise from the technological advancement that are exploited for malicious reasons, which include advancing fraudulent identities, spreading misinformation or committing cybercrime activities. Since there is the massive use of technologies across the globe it becomes necessary to investigate the misuse of this mechanism in order to provide strategies to protect the society from the potential threat.

1.1. Importance of the Study

1. To establish digital crime acts: this study will provide approaches towards addressing the misapplication of AI in the legal system, hence, it will enhance and protect individuals and the society in general.
2. To formulate new legislation: The study will help legislators towards developing new laws that are desirable to progresses in generative artificial intelligence technological innovation.
3. To enhance public awareness: This study will contribute in the dissemination of knowledge with regards to risks in the use of generative AI and the legal techniques available to attack these threats.

The study aims to achieve the following objectives

1. To explain the construct of generative artificial intelligence (GAI), its different forms and the possibility of its application.
2. To examine the possibility of the misuse of GAI and the strategies where individuals can engage in these practices.
3. To investigate the legal implications of these actions in relation to both local and global legislation.

1.2. Statement of the Problem

Despite the swift advancements in the application of generative artificial intelligence technologies, the current criminal law in the use of GAI technologies, especially the criminal law has not fully changed. This chasm calls for the need of serious investigation. This study therefore, seeks to investigate the extent

where people can be held accountable for the misapplication of it and to investigate the challenges that may arise in the process of prosecution of these offences and in the determination of suitable sanctions.

1.3. Study Methodology

This study will apply a legal analysis methodology which comprises of two main components.

1. A descriptive methodology: this approach aims to elucidate the primary concepts in relation to Generative Artificial Intelligence (GAI) and its possible misapplication.
2. The analytic component: This is designed to analyse major national and international legal constructs and to assess their application to offenses regarding GAI.

2. SECTION ONE-THE NATURE AND FORMS OF GENERATIVE ARTIFICIAL INTELLIGENCE MANIPULATION

As the use of artificial intelligence (AI) continues to make rapid advancement, its interaction in various parts of daily life become obvious. It is worth noting that AI may consequently have the possibility to command autonomous decisions. This adoption causes high concerns with regards to the potentiality that the engagement of AI in several illegal activities away from the key owners or concerned individuals, mainly the programmers. So, it would be imperative to look into the manifestation of responsibility for these possibilities in order to support the appropriate legal implications that may follow.

Criminal liability involves all the legal bases that the accusation of a certain person whose moves to commit a crime. Some of the elements that constitute this action may include: the presence of a legal provision that defines the crime, the constituted commission of a material act(s) and also, the mental position of a legally competent person who has the requisite intention to commit the crime. Most of the criminal systems across the globe need both material and moral dignity of the offense, in addition to mental element that seek to encourage the consequences of the crime. of the crime ⁽¹⁾.

It is well known that criminal liability is not founded on the concept of harm, unlike civil liability, which is. Criminal liability does not determine punishment based on the extent or severity of the

⁽¹⁾ Mohammed Fakhri Abdul Hassan, The Legal Framework of Criminal Liability for Artificial Intelligence Acts, Islamic University of Lebanon, Faculty of Law, Department of Public Law,

harm, but rather on the moral gravity of the criminal act itself.

The concept of harm, when it occurs, plays only a subsidiary role in this accountability. Thus, criminal liability remains independent of the damage resulting from the criminal act. In most cases, the accused is prosecuted and tried solely for his fault, regardless of the resulting harm. Nevertheless, this does not mean that the criminal legislator ignores the harm caused when penalizing criminal acts and behaviors; rather, the harm is viewed from a distinct perspective, which legal scholars refer to as the material gravity of the criminal fault.⁽²⁾

2.1. First Requirement: The Concept of Artificial Intelligence Manipulation

The issue of AI manipulation happens when people or organizations use artificial intelligence to change how others think or act, often without them knowing or agreeing, and not always for their benefit.

This manipulation can be as simple as giving suggestions or as forceful as coercion, mainly to help the person or group doing the manipulating, like a company or government. As more people start using AI technology, there are many negative effects on society. One major problem is that more people are losing their jobs because AI can do many tasks better and faster than humans. Because of this, business owners might prefer to use AI since it can save them money and improve quality.

This could lead to more crime related to unemployment, like theft, drug problems, sexual crimes, and even suicide.⁽³⁾ Another major drawback resulting from the unregulated growth of artificial intelligence is the violation of personal privacy. Most modern technological services require users to grant AI-powered software access to specific data—whether from their smartphones or other devices used to access these services.

The AI systems then analyze this data to identify users' interests and exploit the information for various purposes, primarily commercial targeting

and advertising.⁽⁴⁾

3. SECTION ONE-DEFINITION AND FOUNDATIONS OF GENERATIVE ARTIFICIAL INTELLIGENCE

Generative artificial intelligence is a technology within the field of artificial intelligence that relies on producing a variety of content in the form of images, sounds, videos, or data quickly and accurately.⁽⁵⁾

This type of intelligence primarily depends on generative algorithms and large databases as a technical foundation to access information and interact with the required task in a manner closely resembling human brain function.

What distinguishes it from artificial intelligence in its general concept is that the latter was defined by the British mathematician Alan Turing⁽⁶⁾ as the intelligent behavior in computers that grants them the ability to simulate human behavior.⁽⁷⁾

Therefore, generative artificial intelligence represents a very advanced stage of artificial intelligence, where it transitions from merely providing information from limited databases to creating it through research, composition, and storage at extremely large scales. Generative AI relies on two main pillars that enable it to generate information and mirror human thought processes when dealing with unexpected situations: Big Data and Machine Learning.

1. Big Data The foundation of generative AI is large-scale databases, defined as a collection of large datasets that traditional database tools struggle to process in terms of transfer, storage, management, and analysis due to their massive size⁽⁸⁾.

The reason for relying on this type of database stems from the nature of generative AI, which produces content in a manner similar to the human brain. Databases serve as the knowledge reserve that allows AI technologies in general, and generative AI in particular, to interact with the required tasks. The larger the dataset, the wider the range of responses the generative AI program can provide. Large databases are closely linked to generative AI, as the

⁽²⁾ Mohammed Fakhri Abdul Hassan, *ibid.*, p. 552.

⁽³⁾ Gentsch, P. *AI in Marketing, Sales and Service*. Palgrave Macmillan, Cham, 2019, p. 50.

⁽⁴⁾ Mohammad Nabhan Al-Suwailim, *Artificial Intelligence*, Cairo: The Science and Life Series, 2000, p. 35.

⁽⁵⁾ George Lawton, "What is Generative AI? Everything You Need to Know," article published on TechTarget website, visited on 5 Nov 2025, 3:51, link:

<https://www.techtarget.com/searchenterpriseai/definition/generative-AI> .

⁽⁶⁾ Alan Turing, British mathematician considered one of the founders of artificial intelligence, born in 1912 and died in 1954 (

⁽⁷⁾ Ahmed Hamza Mansour, "The Issue of Granting Patent Rights for Drugs Developed by Artificial Intelligence Programs," *Journal of Sharia and Law*, Faculty of Sharia and Law, Al-Azhar University, Issue 41, Cairo, Egypt , April 2023, p. 1132.

⁽⁸⁾ Melyani Fatiha & Sefahlo Rashid, "Big Data: Opportunities, Challenges, Areas of Application," *Journal of Quantitative and Qualitative Research in Economic and Administrative Sciences*, Issue 02, Volume 01, Algeria, December 2019, p. 65 .

latter relies on them for content creation. These databases, in turn, depend on the foundation of general AI for storage and processing operations.⁽⁹⁾

2. Machine Learning Machine learning refers to designing models in which computer algorithms depend on training data for an educational model through testing the machine on data and improving performance to resemble human behavior when dealing with new data in the same field of learning. In more precise terms, machine learning is teaching the computer self-learning skills from past experiences in order to handle new developments through prediction and making fast and correct decisions simultaneously⁽¹⁰⁾.

One of the most notable forms of machine learning is what is known in computer science as deep learning, where the programmer attempts to mimic the work of neurons in the human brain by creating what is known as an artificial neural network, which enables the machine to analyze vast amounts of heterogeneous data such as languages, sounds, and images by passing them through this neural network.⁽¹¹⁾

4. SECTION TWO: THE LEGAL NATURE OF GENERATIVE ARTIFICIAL INTELLIGENCE

We do not reveal a secret if we admit that the jurisprudential and legal treatment of generative artificial intelligence (AI) is still very modest. This is justified by the novelty of this phenomenon, which has only emerged in recent years. Most of the studies conducted so far have focused on general AI. Accordingly, we will review below the main jurisprudential positions on this subject, attempting to link them to the recent surge of generative AI.

4.1. First: Recognition of Legal Personality for Generative AI

AI has asserted itself strongly across all fields, making it necessary for the law to intervene and provide a clear answer regarding its appropriate legal classification. As a result, some initial jurisprudential initiatives have emerged attempting

to establish this foundation. Some researchers consider that AI possesses an independent legal personality, separate from that of its original creator, and there is no legal obstacle to this, by analogy with the rules governing legal entities recognized by law as intangible entities lacking physical existence⁽¹²⁾.

Accordingly, AI, in its comprehensive sense, enjoys all the effects derived from legal personality, including rights and obligations. Some even go further, advocating a transition from the traditional concept of legal entities to recognizing the legal personality of robots or machines, thereby making them subjects of law independently.⁽¹³⁾

We tend to adopt this latter view. The emergence of generative AI presents us with a superintelligent machine capable of innovation across various creative domains, emulating and even competing with human cognitive abilities. If the law has previously recognized a legal entity for groups of people and assets under the term "legal person," there is no objection to granting a similar status to generative AI technologies.

4.2. Second: Denial of Legal Personality for Generative AI

In contrast, another jurisprudential current tends to deny legal personality to AI in general. They have several arguments for this, the most prominent being the constant presence of human intervention in this field. Regardless of a machine's interactive capabilities, it cannot operate independently of humans, who created it and retain the ability to control it. Furthermore, AI-dependent machines often rely on the same programs,⁽¹⁴⁾ and the same databases, which raises a serious question regarding granting each machine an independent legal personality despite relying on the same program. In addition, accepting legal intervention for machines can be used as a pretext applied by AI developers at individual levels and in group to avoid legal damages and liabilities caused usually by technologies at advanced stage. This is in tandem with some scholars' view that moral motivations

⁽⁹⁾ Mirena Stankovic, Aminato Amadou Garba, and Nikola Niftinovic, "Emerging Technology Trends: Artificial Intelligence and Big Data for Development 4.0," a study published in the International Telecommunication Union (ITU) publications, Geneva, Switzerland, 2021, p. 5.

⁽¹⁰⁾ Milad Wazzan & translation by Alaa Taima, "Machine Learning and Data Science: Fundamentals, Concepts, Tools, and Algorithms," publisher, place, edition, and year not mentioned, p. 140.

⁽¹¹⁾ Narmin Magdy, "Artificial Intelligence and Machine Learning," series of introductory booklets issued by the Arab Monetary Fund, Issue 3, Abu Dhabi, United Arab Emirates, 2020, p. 7.

⁽¹²⁾ Amrouche Fawzia, Copyright in the Era of Artificial Intelligence, Annals of the University of Algiers, Special Issue on the International Conference "Artificial Intelligence: A New Challenge for Law," held in Algiers on November 27-28, 2018, Algeria, November 2018, p. 176.

⁽¹³⁾ Alain Bensoussan, Plaidoyer pour un droit des robots: de la personne morale à la personne robot, La Lettre des Juristes d'Affaire LJA, No. 1134, Paris, France, October 28, 2013.

⁽¹⁴⁾ Amrouche Fawzia, op. cit., p. 177.

often overtake physical actions and this is another characteristic that is not recognised by machines recognizing legal⁽¹⁵⁾ While the major perspective in jurisprudence is reasonably sound, the launch of generative artificial intelligence is greatly attached to huge challenges and problems regarding to its validity. Numerous studies have analysed the relative capabilities of human gift in comparison to the machine, which is purely artificial. Through this, they highlight that human intelligence is greatly superior in dealing with authentic problem scenarios. The machine may often demonstrate effective proficiency in storage and rapid recovery when needed⁽¹⁶⁾.

4.3. The Second Requirement: Managing Images in the Use of Generative Artificial Intelligence

Artificial intelligence has been transformed from the act of speculation and fiction in science subjects to a matter of reality. This exhibit a wide range of various applications that are not only limited to the imitation of human cognitive role, but several instances have exceeded that assumption. In the medical field, we now see intelligent systems used to analyze medical data and test results for the early diagnosis of certain diseases and to suggest appropriate treatments. Some leading global hospitals have even started using surgical robots, albeit on a limited scale, in clinical operations that require extreme precision and high speed.

In education, intelligent robots have emerged that can recognize students and Interact with them by reading their expressions, analyzing their brain activity, and then teaching them new concepts tailored to the learning trajectory of each individual student.⁽¹⁷⁾ In the military sector, AI technologies and cyber warfare tools are increasingly penetrating defense sectors, providing remote sensing capabilities, predicting military threats, and responding to them. The transportation sector has not remained untouched by AI technology, as many leading car manufacturers are putting the final touches on production lines for self-driving vehicles equipped with motion detection sensors and spatial awareness capabilities. In the financial sector, some

major markets have started using intelligent programs to analyze financial data and predict fluctuations in stock and bond prices. Some of these programs can now make deals and complete transactions on their own, without needing people to help. In the same manner, there has been some online shopping techniques that have evolved and were added to some websites. These facilities have also changed from just helping consumers to shop to acquiring the ability to make several choices. Millions of alternatives were offered to these consumers.⁽¹⁸⁾ One of the basic characteristics of artificial intelligence (AI) programmes in relation to traditional software is the unique capacity for independence for learning, decision making and experiential acquisition without human interference. These qualities provide an avenue for deductive reasoning and the possibility for fast advancement. The AI technology is instrumental in its approach and hence, it will expediate any assigned task effectively. The AI will enhance productivity through the identification of optimal roles and swift adaptation of changes. This potentiality underpins the detail strategy employed by the UAE to adopt AI, which is motivated by the future developments and create innovation and have innovative data that may actualize the performance of the human aspect.

5. SECTION ONE: ARTIFICIAL INTELLIGENCE IN TERMS OF ITS SCOPE AND USE

Artificial intelligence (AI) technologies can be categorized into three types In terms of their scope, and they can be arranged chronologically **as follows**⁽¹⁹⁾

First, there is narrow (or specialized) AI, which represents the oldest and most well-known attempts to simulate human intelligence In machines. This type of AI has reached a high technical level in practical applications. It refers to intelligent systems and programs designed to perform specific technical tasks based on reactive capabilities. Examples include self-driving cars, which rely on an AI program to Issue movement and stop commands after receiving data from LiDAR, radar-like sensors, lasers, and other sensors embedded in the vehicle.

⁽¹⁵⁾ Dane Leigh Gogoshin, Robot Responsibility and Moral Community, *Frontiers in Robotics and AI Journal*, Northern Illinois University, USA, Volume 8, November 2021.

⁽¹⁶⁾ J.E. Hans Korteling, Romy Blankendaal, Gillian Christine van de Boer-Visschedijk, Rudy Christiaan Boonekamp, A.R. Eikelboom, Human-versus Artificial Intelligence, *Frontiers in Artificial Intelligence*, March 2021, Volume 4, USA, 2021, p. 6.

⁽¹⁷⁾ Bensoussan, *Droit des robots: science-fiction ou anticipation*, D., 2015, 1640; A.-S. Chone-Grimaldi & Ph. Glaser, *Responsabilité*

civile du fait du robot doué d'intelligence artificielle: faut-il créer une responsabilité robotique?, CCC, 2018, Alerte 1.

⁽¹⁸⁾ Loiseau, M. Bourgeois, *Du robot en droit à un droit des robots*, JCP G n° 48, Nov. 2014, doct. 1231; see also A. Bensoussan, *Plaidoyer pour un droit des robots: de la "personne morale" à la "personne robot"*, *La Lettre des Jurists d'Affaires*, 23 Oct. 2013, n° 1134; A. Bensoussan, J. Bensoussan, *Droit des robots*, Larcier, 2015.

⁽¹⁹⁾ Select Committee on Artificial Intelligence, op. cit, pp. 15-16; Independent High-Level Expert Group on Artificial Intelligence, op. cit., p. 7.

These sensors collect information about roads and any human or physical objects in the vehicle's surroundings.⁽²⁰⁾

Other examples include autonomous weapons, speech or image recognition software, and intelligent games, the most famous of which is chess played through smart devices.

Next, general AI is about trying to create machines that can think and plan like humans. So far, no one has made a working version of this idea. Researchers hope to turn this concept into something useful in real life.

On the other hand, superintelligent AI is a theory that suggests we might be able to create machines that are smarter than humans. This kind of AI would be able to learn on its own, make decisions, gain experience, and communicate without help.⁽²¹⁾

In practice, AI applications can also be viewed in terms of their uses and implementations from multiple perspectives. There is industrial AI, which relies on highly advanced technology in complex fields such as self-driving cars, computer manufacturing, and high-tech medical devices. This type of AI does not aim to interact with humans, nor is it designed to possess conscious or emotional capabilities.

There is also service-oriented AI, which seeks to simulate human cognitive and psychological abilities. This type of AI often attracts legal interest in general—and criminal law interest in particular—raising questions about the possibility of attributing acts to intelligent machines independently and holding them accountable for risks and damages arising from their actions, in a manner similar to the legal personality enjoyed by humans⁽²²⁾.

6. SECTION TWO: ARTIFICIAL INTELLIGENCE IN TERMS OF ITS STRUCTURE

Artificial intelligence can also be classified according to its composition, leading to several categories of this intelligence. There is intelligence based on algorithms, expert systems, machine learning, neural networks, or deep learning.⁽²³⁾

Algorithms represent a fundamental component of all artificial intelligence systems, as they are a

series of instructions designed to perform calculations or solve problems.

An expert system, on the other hand, involves programming a machine to act in a specific way when a certain event occurs; it simulates human decision-making behavior in response to particular situations.

Meanwhile, a self-learning system endows the machine, through a set of algorithms, with the ability to predict and solve problems based on data it processes and learns from automatically—without being explicitly pre-programmed to do so. A typical example is enabling a machine to recognize objects in images.

Neural network-based artificial intelligence involves machine learning that simulates the human brain by creating interconnected artificial neurons or “nodes” through which data and instructions flow upward and downward between layers.

Deep learning systems do not fundamentally differ from neural networks, except in their far greater ability to solve more complex problems, such as deriving information from images, texts, and sounds⁽²⁴⁾.

Artificial intelligence is fundamentally founded on data, which serves as the raw material the system “feeds on” to learn patterns of the real world. These data may include text, images, sounds, numbers, or even sensory signals, all stored and organized using massive databases and advanced processing systems. Without large and diverse datasets, no AI system can achieve acceptable performance, since the learning process depends on discovering hidden relationships within the data and transforming them into knowledge that can later be utilized.⁽²⁵⁾

The second cornerstone in the formation of artificial intelligence is algorithms, which are sets of mathematical and logical rules that define how data are processed and how results are derived. Algorithms can be defined as the mathematical sense of the system which enables it to learn and adapt through trial and error to update some internal measures to make perfect predictions and decisions.

In this sense, there is a crucial relationship between the machine learning and the systems employed by the artificial intelligence for their functionality to respond to the new and unique data

⁽²⁰⁾ Yahya Dahshan, *Criminal Responsibility for AI Crimes*, *Journal of Sharia and Law*, United Arab Emirates, Vol. 34, No. 82, April 2020, p. 101.

⁽²¹⁾ Mohamed Saad El-Din Mohamed, *Artificial Intelligence and Life in 2030*, Center for Future Foresight and Decision Support, Issue 303, 2017, p. 2.

⁽²²⁾ Mohamed Saad El-Din Mohamed, *op. cit.*, p. 6.

⁽²³⁾ Saeed Khalfan Al Dhaheri, *Artificial Intelligence: The New Competitive Power*, Center for Future Foresight and Decision Support, 2017, Issue No. 299, p. 3.

⁽²⁴⁾ Faiq Awadin Mohammed, *Fingerprint Technology and Modern Techniques in Combating Crime - Detection, Prevention, and Execution of Penalties*, Cairo, Police Press, 2014, p. 7.

⁽²⁵⁾ Mohammed Saad Eldin Mohammed, *Modern Police Innovations*, Issue No. 7, previously cited reference, p. 7.

input. One of the important aspects of this approach is the deep learning which employs neural connectivity to imitate the structure and operation of the real brain. Significantly are the neurons that do the work collaboratively through the sophisticated perception of the complex data.⁽²⁶⁾

Neural networks form an essential aspect of current artificial intelligence; they need knowledge through the broader mathematical calculations that address the establishment of links among different elements. Through the repetitive training on huge number of datasets, the networks improve their efficiency in understanding complex tasks such as facial perception, behavioral analysis and text translation. This training aspect is contingent upon a sort of metric levelled as the loss or cost role, which equates the differences between the models' assertions and the real results. In the end, the system changes its internal measures to improve the predictive accuracy.

Similarly, the algorithms used and the efficiency of artificial intelligence is greatly dependent upon authentic computational infrastructure, as the learning processes motivates calculations optimally. There is a special component; Graphics Processing Units (GPUs) or assigned AI that executes a significant task in structuring these tasks through the use of special programming languages.

7. SECTION TWO: CRIMINAL LIABILITY FOR THE MANAGEMENT OF GENERATIVE ARTIFICIAL INTELLIGENCE

The advancement in the field of Artificial Intelligence brought the capability to generate and produce audio, text and images that closely resembles human-generated images. These developments trigger numerous legal questions, especially with regards to criminal activity as such tools can cause several internet issues and challenge the qualities of a specific person.

Generative AI may be misused in the conduct of identity theft, fraud and the dissemination of fake information mostly without the identification of a defined perpetrator. This issue may call for critical dialogue with regards to accountability and the devices for utilizing sophisticated mechanisms that function with a degree of independence from the real creators⁽²⁷⁾

The traditional legal system faces serious challenge with the eminence of the artificial intelligence because these frameworks were formed with the essence of attributing all acts on specific individual for his conduct. In most instances now, there is no clear law with regards to liability when there is a harm in the independence of algorithm. The issue becomes tricky when there is a harmful content being generated without any valid consent.

In order to respond to these problems, scholars seem to propose genuine solutions where programmers may be held responsible and operators accountable where there is negligence in the management of these sensitive materials. Likewise, some advocates request for the introduction of new laws to acknowledge the special features of artificial intelligence and enforce liability on these modern platforms that fail to comply with the safety measures⁽²⁸⁾. For one to determine the offences committed through the artificial intelligence platform, there is the need for an interface between the user and the specific system. If an attempt was made to mislead a government agent and there is evidence on the implication of a specific individual, then that person must be accountable for that action.

However, when there is a failure from the part of the artificial intelligence system, and a crime is committed without the intervention of a human being, then that may be hard to establish the mental situation of that person (*mens rea*) in relation to the crime. Then this may create a big problem and it may need further attention.

Another challenge lies in the fact that some AI tools are difficult to trace, and their use does not necessarily leave clear digital footprints upon which investigations can rely. Therefore, the development of advanced digital forensic tools is one potential solution, alongside international cooperation to track cross-border crimes.⁽²⁹⁾

7.1. First Requirement: Determining Who Bears Criminal Responsibility

The establishment of criminal responsibility in criminal law requires the occurrence of a crime with both its material and moral elements. In the case of artificial intelligence (AI) crimes, the material element does not raise much legal controversy, since the criminal act is realized through the commission

⁽²⁶⁾ Fareedoun Mohammed Najeeb, Describing the Crime of Pickpocketing through Indicators – Police Research and Studies, Decision-Making Center, July 2016, p. 2.

⁽²⁷⁾ Ahmed Abdel Halim, "Criminal Liability for Acts Resulting from Artificial Intelligence," Arab Journal of Legal Studies, Issue 12, 2023, p. 43.

⁽²⁸⁾ Khalid Al-Kubaisi, "Artificial Intelligence in Criminal Law – Challenges and Issues," Journal of Law and Technology, Qatar University, 2022, p. 13.

⁽²⁹⁾ Yahya Al-Shuraida, "Cybercrime and Artificial Intelligence," Dar Al-Thaqafa for Publishing and Distribution, Amman, 2021, p. 11.

of an offense resulting from the use of AI. However, it is the moral element that sparks debate as the basis for criminal responsibility.

In AI-related crimes, if the moral element of the crime must be realized in one of its two forms – intent or negligence – then the criminal intent, with its two components of knowledge and will, represents the moral element of intentional crimes; that is, the offender must know the nature of their act and will its criminal outcome.

Negligence, on the other hand, constitutes the moral element of unintentional crimes. It reflects the psychological relationship between the offender and the material element of the crime in such a way that the offender's will becomes blameworthy in the eyes of the legislator, as it deviates from the duties of caution and prudence that led to the occurrence of the criminal result⁽³⁰⁾.

Although the legislator did not explicitly define unintentional fault (negligence) in the penal text, legal scholars have deduced two essential elements for it. The first is the violation of the general duty of care and caution, and the second lies in the psychological relationship between the offender and the criminal result.

The offender may foresee the result that could arise from their conduct but hope that it will not occur, relying on their ability to avoid it – yet it does occur. Alternatively, the criminal result may occur without the offender having foreseen it, even though they should have foreseen it according to the standard of a reasonable person.⁽³¹⁾

8. SECTION ONE: CRIMINAL LIABILITY OF THE ARTIFICIAL INTELLIGENCE DESIGNER

The designer of artificial intelligence is the party responsible for developing the software algorithms that govern how AI functions and how it makes decisions.

8.1. First: The Designer's Liability for Intentional Crimes

The issue of criminal intent does not raise much controversy when AI is specifically designed to commit a crime—for instance, when a high-frequency trading (HFT) program is created to manipulate prices, or when software is developed to hack into others' bank accounts. In such cases, there

is no legal debate regarding the criminal liability of the programmer, as the AI system merely serves as a tool in the hands of the offender⁽³²⁾.

However, the controversy arises when determining the criminal liability of the designer if the AI algorithms were designed for a lawful purpose, yet the AI made erroneous decisions and executed them due to its self-learning and self-developing capabilities—leading to the commission of a crime. This question was raised: Does it mean that the programmer may be implicated in the liability, and what is the main reason for such an implication?

When there is a failure in the algorithms, for example, when there is a failure in the activity of a drone attack, and it creates chaos, that failure may lead to disruption in the market of that product and consequently a complex issue may arise. This may be attributed to the complexity of these algorithms and other human oversights. A pertinent U.S. court of justice was cited, through the ruling that market control may not be supported owing to the absence of clear intent. The court stressed that a proper perception of the market needs a scrutiny of the underlying intention linked to the actions under investigation.

In this sense, the value of some stocks may change due to a trading programme which automatically placed false data about the stocks. Giving access to programmes like this will not equate the false information to be retweeted or give fake orders. The retweeting attitude was obtained through specific experience but not designed by the programmer⁽³³⁾.

The court, as such, moved to establish the conviction on the ground that the AI algorithm acted perfectly in place of the defendant. However, since the algorithm acted independently of any human control, the programmer may not be held responsible for some shortcomings. Therefore, in the absence of any visible human intent, there was no liability for such offences⁽³⁴⁾.

8.2. Second: The Designer's Liability for Unintentional Crimes

As previously mentioned, the high trading AI functionalities are designed through algorithm to perform trades and consequently to generate profits previously, based on data analysis and automated

⁽³⁰⁾ Ahmed Awad Bilal, Principles of Egyptian Criminal Law – General Part, Dar Al-Nahda Al-Arabiya, no publication date, p. 192.

⁽³¹⁾ Ahmed Awad Bilal, *Ibid.*, p. 193.

⁽³²⁾ MONIKA SIMMLER and NORA MARKWALDER, Guilty Robots, p.7

⁽³³⁾ Twitter is one of the most prominent social media platforms, which publishes its terms of use and privacy policy at <https://twitter.com/login?lang=en>

⁽³⁴⁾ Yavar Bathae, The Artificial Intelligence Black Box and the Failure of Intent and Causation, p.912

order execution. There is no dispute regarding liability when an economic offense results from an error in the AI's design itself – that is, when the AI commits an offense due to faulty programming.

In such cases, the criminal liability of the programmer is determined according to the general principles of negligence and product liability standards, as defined by various local regulations and legislative frameworks.⁽³⁵⁾

These cases are likely to be the most common. It is also worth noting that designers typically protect themselves through clauses in user agreements that assign sole responsibility for any damages arising from use to the owner or user.⁽³⁶⁾

However, the designer's liability becomes more contentious in situations where AI evolves autonomously through experience, making decisions based on its "black box" architecture and the lack of transparency in its decision-making process.

In previous AI applications, it has been shown that such systems can "learn" mistakes just as they can learn correct behavior. Recent research in AI and deep neural networks indicates that even minor, imperceptible changes – beyond human detection – can cause AI to interpret its environment completely differently.⁽³⁷⁾

For example, a small sticker placed on a traffic sign could render it unrecognizable to an autonomous vehicle, while a human driver would still easily recognize it and understand its meaning. If such behavior is inherently unpredictable to the designer, how can criminal liability for negligence be established in such a case?

9. SECTION TWO: OWNER'S RESPONSIBILITY FOR ARTIFICIAL INTELLIGENCE

The owner is the person who has access to and uses artificial intelligence (AI) technologies, and who is expected to potentially misuse them for various purposes. It is therefore necessary to distinguish between liability for intentional crimes and liability for unintentional crimes.

9.1. First: The Owner's Liability for Intentional Crimes

Discussing criminal liability for intentional crimes on the part of the owner requires distinguishing

between situations where the AI system is under supervision and those where it is not.

If the AI system is subject to the owner's or user's supervision, then the owner's criminal liability for intentional crimes raises no legal controversy. If the owner deliberately misuses the AI system – whether by intentionally manipulating its use or by tampering with its programming to commit a crime.

For example, disabling certain control software in self-driving cars, or collaborating with another party to use AI in committing or concealing a crime. Similarly, if the owner had the ability to prevent the harmful outcome – such as in the case of supervising drones that deliver parcels directly to customers' homes – and failed to do so, the owner may be held criminally liable for the resulting harm through omission, provided the legal conditions are met. The court determines this on a case-by-case basis.⁽³⁸⁾

This liability is grounded in the existence of a specific duty imposed on the owner, who deliberately abstained from performing it with the intent to commit a crime. The same applies to supervisors or controllers of high-frequency trading algorithms, where manipulation of such algorithms to alter market prices constitutes an intentional criminal act.

In all these situations, AI functions merely as an instrument in the hands of the human perpetrator – the programmer or user – whose conduct is legally attributable to them.

However, this attribution becomes difficult in the case of self-learning and decision-making AI systems that commit crimes without any human intervention or programming error. Can the owner still be held criminally liable in such cases?

For instance, a financial institution that owns high-frequency trading systems or the owner of a self-driving car cannot be held criminally liable for an intentional offense in the absence of any intent to commit the act.⁽³⁹⁾

9.2. Second: The Owner's Liability for Unintentional Crimes

Applying the general principles of fault to crimes committed through AI reveals that determining the owner's criminal liability in such cases depends on the assumption that the owner had both the ability to

⁽³⁵⁾ Mohamed Al-Awadhi, *Product Liability for Industrial Goods*, Journal of Civil Law, Moroccan Center for Legal Studies and Consultations, 2014, p.26

⁽³⁶⁾ Yahya Dahshan, *op. cit.*, p.36

⁽³⁷⁾ Yahya Dahshan, *op. cit.*, p.37

⁽³⁸⁾ Hassan Abdel Hakim, *Criminal Liability for Crimes Committed by Artificial Entities: A Comparative Study Between Criminal Law and Islamic Jurisprudence*, Master's Thesis, Faculty of Sharia and Law, Tanta University, 2019, p. 12

⁽³⁹⁾ Hassan Ezz Al-Din Al-Diyab, *The Moral Perpetrator*, Journal of Legal and Political Studies, Algeria, 2015, p. 32.

supervise the AI system and the capacity to prevent the harmful outcome.

This duty often arises from the contractual obligations governing the acquisition and use of AI, which reflect the special relationship between the owner and the associated risk.

For example, if an owner uses a self-driving car in snowy conditions despite the manufacturer's warning that it is designed for desert environments, or neglects to monitor a drone's control screen, resulting in a collision with a nearby house, such conduct may give rise to criminal liability.

Similarly, if an AI algorithm allows human supervision but the owner abandons the control interface during operation – leading to market manipulation in the stock exchange – the owner would be criminally liable for negligence in supervision.⁽⁴⁰⁾

However, liability becomes more complex when the offense occurs without any programming error or intent, for instance, when a drone or trading algorithm disregards user commands and causes significant harm. Should the owner be held committed for such independent behavior?

This question requires us to think about the possibility of legal analogy: mediated criminal liability. This legal construct was realized during the industrial period in order to deal with the difficulties of managing overseeing agents. It is the same with the responsibility of principals in a more advanced jurisdiction.

When artificial intelligence is defined as an important mode that can be delegated to act independently to achieve a certain objective, it may then, occasionally look indistinguishable from the part off human actor which exhibits similar tendencies.

Nevertheless, the chasm between artificial intelligence and the human actors as well as the doctrine of obvious liability should become applicable in contexts where AI is operated independently within the risky contexts. In such scenarios, it is necessary for the owner to take responsibility of the risks connected with the usage of vague AI systems. The ethical issues should also be regarded appropriate particularly, where the user may be held responsible for the consequences.

It is necessary to recognize that to determine the

owner's liability to be neglected in these situations is equivalent to liability for such harm caused by domestic animals, as a result they frame AI liability as perfect form of accountability for such activities. Given that AI systems are machines capable of learning and adapting to their environments, the extent of liability should be contingent upon the level of risk associated with the specific context in which the AI operates. In scenarios characterized by low risk and devoid of medical or physical implications, attributing criminal liability to the owner for the actions of another may be less justifiable. The imposition of strict liability, irrespective of intent or negligence, could hinder the development of numerous advantageous applications of AI. Consequently, it is recommended that conventional insurance frameworks be utilized as a more effective approach to managing such situations.⁽⁴¹⁾

9.3. Second Requirement: Penalties for Artificial Intelligence Crimes

The principle of legality in criminal law constitutes the foundation of the criminal justice system: there is no crime and no punishment without a legal provision. A person's conduct may not be criminalized and the person cannot be criminalized nor be punished for an offence committed unless it is clearly defined by a specific law. Therefore, it is necessary that all legislation be kept in accordance with the developments in the artificial intelligence. The occurrence of new crimes being committed makes it necessary to provide legislative intervention to implicate such acts as well as the penalties.⁽⁴²⁾

10. SECTION ONE: SANCTIONS OBLIGATORY ON AN ARTIFICIAL INTELLIGENCE TECHNOLOGY FACTORY

The manufacturers of artificial intelligence is an entity that has responsibility of producing technologies and finally, holds special control against the implementation of the operating techniques. These systems should be included to specifically protects and control the devices to affirm the safety and security when the technology operates far beyond ordinary human control. As stated earlier, artificial intelligence are motivated by self-learning and they may eventually reach the stage of independent thinking⁽⁴³⁾.

⁽⁴⁰⁾ Sayed Tantawi Mohamed, *Legal Aspects of Artificial Intelligence and Robotics*, Arab Democratic Center, 2020, p. 19.

⁽⁴¹⁾ Carl Smith, *Will We Continue to Regard Robots as Mere Tools While They Are Being Used for Killing?*, 2016.

⁽⁴²⁾ Dorota Jelonek, Agata Mesjasz-Lech, Cezary Stepniak, Tomasz Turek, Leszek Ziara, *The Artificial Intelligence Application In the*

Management of Contemporary Organization: Theoretical Assumptions, Current Practices and Research Review, Springer, Cham, 2019.

⁽⁴³⁾ Dragoni, M. & Rospocher, *Applied Cognitive Computing: Challenges, Approaches, and Real-World Experiences*, Springer Berlin Heidelberg, 2018, p. 21.

Stricter legislative measures should be put in place that will necessitate the manufacturers to provide steady measures and to abide by the obligations. Hence, they will be held responsible for any possible offence committed by the AI technologies owing to noncompliance. The range of the proposed penalty should be equivalent to the offence magnitude of the offense and any neglect to adhere to the adequate control measures could be extended which ranges from severe to capital punishment or life imprisonment with hard labor, detention or any form of monetary fine depending on the severity of the harm perpetrated⁽⁴⁴⁾.

It is endorsed that the current legislation should be changed to specifically deal with crimes in relation to artificial intelligence. This sort of law should be imposed on the AI manufacturers. They should also adhere to recognised norms and their safety and quality standards should be maintained. Similarly, these legislations should prohibit the usage of AI technologies pending the evaluation of its limitations and capabilities.

In addition, an authentic category of crimes connected with artificial intelligence has appeared which include actions that are parallel with societal norms, values and religious beliefs. One of the prominent examples is the construct of extension of human life far beyond the real limits on the use of technology. It is imperative to analyse these developments and to assess the length of scientific progress in this entity to find out their consonance with religious beliefs and societal values and ultimately to determine if these practices should be allowed⁽⁴⁵⁾.

11. SECTION TWO: PENALTIES LEVIED ON OWNERS OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES

The innovators of artificial intelligence (AI) technologies should benefit from such technologies and soon as the ownership is transferred to them, they should be responsible for such items and in case of any crime that is committed with these technologies should be held responsible. However, there is the need for a clear-cut distinction between the two scenarios as explain below

- Crimes committed through the use of AI

technologies owing to the negligence of the dedicated owner:⁽⁴⁶⁾

These crimes may represent the contemporary realistic issue. AI-related crimes usually take place as a result of wrong intervention by the producer of those technologies. Owing to the lack of knowledge about how to operate and take full control of these technologies. There may be a tendency to command incorrect inputs and this may eventually lead to crimes or any criminal act. In a situation like this,

The liability may fall under the producers of the technology because their intent directly has a link with the crime committed. The evaluation of blame is liable to whether the acts of the owner were purposeful or dangerous as to the correspondence of the sanctions. A criminal act. In such cases.⁽⁴⁷⁾ Some criminal actions committed with the use of artificial intelligence where safety precautions accompanying the technology are not respected. This is a form of negligence that can be called the unlawful engagement of AI. Ultimately, the same procedure as presented in the previous case **applies** the owner of technology takes the full blame of liability⁽⁴⁸⁾.

- Offenses committed autonomously by the artificial intelligence technologies without any external intervention: these sorts of offences will be the main focus of our discourse in the following section. At this point, it will be simply acknowledged that this issue will be examine.⁽⁴⁹⁾

12. CONCLUSION

This study revealed that the advancement made in the innovation of generative artificial intelligence (GAI) technologies provides a significant potential for societal and economic growth. Conversely, it introduces key risks connected with cybercrime and the disintegration of information. This research indicated that the present legal framework is enough to deal with these challenges. Similarly, the research highlighted the importance of addressing technological advancement with the basics of protecting society from distinct threats posed by AI management, while also dealing with the need for international cooperation to advance combined standards necessary for effective case resolution.

⁽⁴⁴⁾ F. Patrick Hubbard, "Sophisticated robots: Balancing Liability, Regulation, and Innovation," 66 Florida Law Review, 2014, p. 23.

⁽⁴⁵⁾ Gentsch, P., AI in Marketing, Sales and Service, Palgrave Macmillan, Cham, 2019, p. 11

⁽⁴⁶⁾ Gentsch P., AI in Marketing, Sales and Service. Palgrave Macmillan, Cham, 2019, p.32.

⁽⁴⁷⁾ Gentsch P., AI in Marketing, Sales and Service. Palgrave Macmillan, Cham, 2019, p.13.

⁽⁴⁸⁾ Maggi Savin-Baden, David Burden, Postdigital Science and Education, Springer International Publishing, 2019, p.46.

⁽⁴⁹⁾ Visvam Devadoss, A., Thirulokachander, V., & Visvam Devadoss, Efficient Daily News Platform Generation Using Natural Language Processing, Springer Singapore, 2018, p.23.

12.1. Study Findings

1. Generative artificial intelligence has been considered as a powerful tool to exploiting forgery and data management, hence, it poses significant fears to the security of certified information and societal advancement
2. The present legal construct has not substantially adapted to deal with the existed cybercrimes connected with generative AI.
3. Providing accountability for the management involves artificial intelligence provide substantial threats, especially in an effort to identify the real perpetrators of the possible harm.
4. There is the need for combined efforts between legal and technical domains to enhance the tools for monitoring offenses in relation to generative artificial intelligence.

12.2. Recommendations of the Study

1. It is important to formulate a detailed national law that will infor4m criminal responsibility for the management of generative artificial intelligence including the specific fines.
2. It is essential to create special divisions within the law enforcement that will be responsible for dealing with cybercrimes connected with artificial intelligence.
3. The need for effective international synergy to facilitate the transfer of expertise and unified legal standards to counter the manipulation of artificial intelligence.
4. The need to promote awareness among the public in relation to possible risks caused by artificial intelligence and the effective measures in protecting cybercrimes activities.

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