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CUSTOMS PROCEDURES AND CRIMINAL LIABILITY OF AI - MACHINA SAPIENS CRIMINALIS

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ABSTRACT

Robots and AI are rapidly becoming the dominant forces on our planet. Customs authorities globally are progressively adopting AI to improve efficiency, security, and compliance in response to the rising volumes of international trade. Like every other advancement, we anticipate this breakthrough to have a significant influence on law in general and criminal law in particular. This development highlights the fact that there is no defined legal process for dealing with the consequences of AI's independent actions. This situation raises questions about whether criminal liability applies to artificial intelligence, and whether such an application may supplement existing criminal law doctrines and general ideas. This study examines these and related legal questions through the lens of criminal law's core principles and doctrines. The research focuses on the two questions: is criminal liability applicable to machines? Is criminal punishment applicable to machines? According to traditional views, punishing AI goes against basic ideas of criminal law, especially the ideas of culpability and the need for a guilty mind, where if we want to prove criminal liability, two main parts must be present: a factual part (actus reus) and a mental part (mens rea).

KEYWORDS: criminal liability, artificial intelligence, customs administration, AI EU law, AI sentencing

INTRODUCTION

We call ourselves Homo sapiens, or "man the wise," because we value our intelligence immensely. For thousands of years, we've sought to figure out how humans think and act—how our brain, a small handful of matter, has the ability to comprehend, anticipate, and manage a universe far larger and more complex than itself. The area of artificial intelligence, or AI, is concerned with not just comprehending but also creating intelligent entities—machines that can calculate how to operate successfully and safely in a broad range of unexpected circumstances. (Russel & Norvig, 2021)

Comparable challenges emerge in establishing a definition of the notion of artificial intelligence. The central focus of 'AI' is to replicate human approaches to addressing challenges, which is known as 'human intelligence'. Although so-called intelligent agents follow predetermined and set rules, they independently interpret data for each scenario. (Gless & Weigend, 2015)
To date, there is no generally accepted definition of artificial intelligence (AI). Nevertheless, a number of definitions do encompass the fundamental aspects, such as the one updated by the OECD from an earlier version in 2019. The law on artificial intelligence adopted in the European Union will likely incorporate this definition. This definition stipulates: “An AI system is one that is based on a machine that, for explicit or implicit purposes, deduces, from the inputs it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptability once deployed." (OECD, 2024)

The EP Resolution on a Framework of Ethical Aspects of Artificial Intelligence, Robotics, and Related Technologies explicitly advises the Commission to propose legislative proposals to capitalize on the advantages of AI while protecting principles of ethics. The resolution comprises a legislative proposal for a law concerning ethical standards governing the development, deployment, and utilization of AI, robots, and other related technologies. (EUR-Lex - 52021PC0206 - EN - EUR-Lex, n.d.)

The OECD has updated its definition of an AI system to include machine learning, which is defined as "a set of techniques that allows machines to improve their performance and typically generate models in an automated manner through exposure to training data, which can help identify patterns and regularities, rather than through explicit instructions from a human."

"Training" is the process of enhancing a system's performance through the use of machine learning techniques.

The OECD countries began working on it six years ago, in 2018, and the debates have grown in length and complexity. While they have not discovered the holy grail of definitions, they have achieved a consensus on one. And that's a first. We opted from the start not to define "AI" but rather an "AI System," which is a more practical and usable idea, particularly in policy-making contexts. For clarity, the following are some explanations of what constitutes AI and the ideas that influenced the OECD definition of an AI system. Countries modified the definition in 2023. The revised definition of AI is comprehensive, covering systems from basic to advanced levels of complexity. Classifying a system as "simple" does not imply the absence of risk or the irrelevance of safety assurances; rather, it suggests that ensuring such assurances may be less complicated compared to a complex system. AI encompasses a variety of technologies and methodologies that are applicable across diverse contexts. Certain techniques, including machine learning, present specific considerations for policymakers, such as bias, transparency, and explainability. Furthermore, specific application contexts, such as decisions regarding public benefits, may elicit more substantial concerns than others. Because of this, in real life, it might be necessary to come up with more criteria to make the definition more specific or fit certain situations. Also, different types of AI systems might need different rules, even in the same usage situation. (Grobelnik et al., 2024)

An individual always initiates the AI system development process, even when the goals are implicit. However, certain artificial intelligence systems have the ability to "adapt" or generate implicit sub-objectives, as well as occasionally provide goals for other systems. The OECD AI Principles emphasize the importance of human agency, autonomy, and supervision in relation to AI systems. These principles are contingent upon the specific circumstances of AI use.

As the amount of international commerce grows, customs authorities around the world are increasingly using AI to improve efficiency, security, and compliance. They protect and help legal trade from dangers like terrorism, global organized crime, commercial fraud, counterfeiting, and piracy. Given this role, customs administration, particularly customs officials, can significantly influence preventing and detecting customs frauds. (Vasileska, Miloshoska, 2012, Vasileska, L., Miloshoska, D., 2022). Streamlining customs procedures is one of AI's most important contributions to customs

operations. AI-powered systems may automatically process a significant number of import and export documents, eliminating the need for manual entry and expediting the clearance process. This benefits merchants by providing them with quicker access to markets and lower expenses, which promotes a more competitive climate for global commerce.

Artificial intelligence recognizes patterns and deviations, making it an essential instrument for customs authorities in risk management. AI algorithms can forecast which shipments are likely to include forbidden or restricted items, as well as identify potentially false statements, based on previous data analysis. This risk-based methodology allows customs authorities to optimize inspections by focusing on high-risk shipments and streamlining the passage of low-risk merchandise. This maximizes resource distribution and improves the overall security of global commerce. Smuggling and customs fraud are ongoing issues that result in billions of dollars in annual revenue losses for countries. Artificial intelligence has the potential to revolutionize this field. Advanced machine learning algorithms may analyse data from diverse sources, such as shipping records, social media, and satellite imagery, to identify suspect patterns suggestive of smuggling or fraud. For example, AI may detect inconsistencies between stated merchandise and past shipment records or discover atypical routes that indicate efforts to circumvent customs regulations. AI enhances the capacity to proactively detect and investigate suspected unlawful activity, hence strengthening efforts to prevent smuggling and customs fraud.

The correct classification of commodities is critical for determining relevant tariffs, taxes, and regulations. However, the sheer variety of items and the complexity of categorization systems provide significant challenges for AI entities.

We all know that AI is machine learning, in which a scientist or programmer sets up some code for it to work. Without programmers' systematic coding, AI will never work. Could an AI responsible for customs clearance possibly make a mistake? We are all aware that artificial intelligence is a form of machine learning in which a scientist or programmer creates some code in order for it to function. Artificial intelligence will never be able to function without the methodical coding of programmers. Despite the meticulous coding by programmers, the AI working on customs clearance can still make mistakes. Factors such as incomplete or inaccurate data input, unexpected variables, and evolving regulations can all contribute to errors in the AI's decision-making process. The OECD definition of an AI system purposely leaves out the

question of who is responsible for AI systems and any harm they may cause. In the end, that question lies with humans, and it doesn't affect or limit the regulatory decisions that each jurisdiction makes in this case. (OECD, 2024) The proliferation of artificial intelligence (AI) raises concerns about accountability for AI crimes, primarily due to the fact that AI operates independently and with only a limited amount of human supervision. Focusing on the actus reus component of responsibility—the external element—this paper seeks to investigate this liability dilemma pertaining to AI.

The actus reus is typically defined as the external and objective element, specifically the execution of the offense. The structure remains consistent across all types of offenses, regardless of whether they are intentional or negligent. The framework consists of three primary components: a necessary element, the criminal act itself, and two supplementary elements, namely circumstances and outcomes. Conduct may involve either commission or omission, with omission typically being criminally relevant only when the agent has a duty to act. Therefore, the actus reus delineates the actions the defendant must have undertaken (commission) or neglected to undertake (omission) (Lagioia & Sartor, 2020, 439).

The society in question establishes the definition of criminal responsibility and the individuals who can face consequences for criminal acts. In the same vein, the question of what really constitutes misconduct in the first place must be considered. Therefore, sociological research guides the current investigation into the elements of criminal responsibility and their application to the question of robots' criminal liability. We must address the question of whether there are societal systems in place that facilitate the assignment of blame for illegal acts committed by AI.

The rise of artificial intelligence (“AI”) brings forth questions regarding accountability for crimes committed by AI, primarily due to its autonomous actions and limited control from humans. This paper investigates the liability issue associated with AI, focusing specifically on the external aspect of liability, known as the actus reus element. The analysis aims to elucidate the legal definition of AI and explore the appropriate parties to hold responsible for its involvement in criminal activities.

Simester and von Hirsch (2014, 11) argue that criminal law provides moral direction, requiring potential offenders to be morally accountable and deterred by the prospect of penal sanctions. The pursuit of developing a super-intelligent artificial entity poses significant challenges to criminal law, as

maintaining human control is a crucial factor in determining liability for criminal actions. Fletcher (1988) asserts that “when an AI acts autonomously, the human’s limited control over the AI seems problematic already when examining the guilty act of the crime.”

Without a doubt, the attributes of AI will inevitably intersect with the criteria for determining liability. Criminal law and its foundational principles will serve as the primary limitation on the extent to which human responsibility can extend to AI, due to the lack of legislative and case law guidance regarding accountability for AI behaviour. Prior investigations into the intersection of law and artificial intelligence are notably sparse, particularly within the realm of criminal law. The work of Hallevy (2015) on Criminal Liability for Artificial Intelligence Systems stands out, alongside a select number of scholarly articles, including those by Karnow and the collaborative efforts of Grimm, Smart, and Hartzog, which are of significant relevance to this thesis. Artificial intelligence (AI) is the science that imbues computers with intelligence, enabling them to perform tasks that typically require human intelligence. Self-driving cars, engaging in stock market transactions, and identifying military objectives during conflict are instances of activities that previously necessitated human cognitive capabilities. In contemporary society, there exist artificial intelligences capable of executing identical tasks independently of human control.

RATIONAL THOUGHT: THE APPROACH OF "LAWS OF THOUGHT"

Aristotle (384–322 BCE) was one of the first philosophers to try to codify the “right thinking," which means processes of reasoning that can't be argued with. The rational mind's laws were first defined by him.

Based on preliminary premises, he developed an unofficial system of syllogisms for proper reasoning, which theoretically could generate conclusions automatically. Philosophers complete their understanding of the mind by demonstrating the connection between knowledge and actions. AI needs to know the answer to this question. Furthermore, understanding the justification of actions is crucial for creating a logical or justifiable agent. Given a physical mind that manipulates knowledge, the next challenge is to identify the source of knowledge, or as John Locke (1632–1704) stated, “Nothing is in the understanding, which was not first in the senses.”

According to Russell and Norwig (2021), we can determine that compared to other methods, the rational-agent approach to artificial intelligence offers two major benefits. To begin with, it encompasses a broader range of potential methods for attaining rationality than the narrower "laws of thought" approach. Second, we may be able to implement scientific advancements more easily. The concept of rationality is fully generalizable and has a clear mathematical definition. Contrary to what would be practically impossible if the objective was to mimic human behavior or cognition, we can frequently construct agent designs that demonstrably accomplish this specification by working backwards from it.

SYSTEMS THAT THINK LIKE HUMANS: CAN AI MAKE MISTAKES?

For a long time, philosophers have been intrigued by the mysterious nature of the mind. Can computers behave intelligently like people do? Could these robots really think and feel? Additionally, we incorporate other ones: What are the moral implications of using intelligent machines in everyday life? Should machines be able to choose to kill people? Are algorithms reasonable and impartial? When machines can do everything, what will people do? Also, how do we control AI machines that might get more intelligent than us? Finally, can machines truly think and bear criminal responsibility for their actions?

According to research (Hallevy, 2013), we can determine that machine learning, an inductive approach to learning that AI technologies pioneered, involves computers analyzing a variety of examples and scenarios and then generalizing the results to create a picture of the facts that can be used later on. Knowledge that is analogous to human experience is known as experience, although people would rather not label these automatic programs intelligent. Research into artificial intelligence has resulted in an ongoing hunt for the new species, and it appears that Machina sapiens development is slipping further and further into the future with each new technological advancement. While technology propels the advancement of new inventions, the law tends to adhere to a more traditional stance. What one may regard as technological advancement, the law may interpret as a step backward. Sometimes, society's moral frameworks shape the law, and other times, humanity's fears shape it. This scenario involves sophisticated robotics based on AI technology, culminating in the emergence of the "machina sapiens criminalis." (Hallevy, 2013)

The critical question of whether AI is capable of making errors arises as AI becomes more prevalent in our society. In fact, artificial intelligence is more prone to making errors than humans are because it relies on data that is frequently wrong or incomplete. It follows that AI is in a perpetual state of learning and evolution due to its increased data interaction. When it has access to a greater quantity of data, the accuracy of its forecasts and suggestions increases substantially. Because of this, businesses are constantly seeking new ways to capture higher amounts of data. Artificial intelligence-driven chatbots are one method businesses use to connect with clients. Chatbots have the ability to gather information about the preferences and actions of customers. By using this information, chatbots can enhance the customer experience by providing more personalized service or generating more accurate suggestions. More accurate data and improved algorithms may eventually replace (at least in part) AI's errors or inaccuracies. If an error occurs in the artificial intelligence system, who will bear the responsibility? Is it the user, the programmer, the owner, or the artificial intelligence itself? The artificial intelligence system could be solely accountable at times. Sometimes the humans who created or use the AI system are partially or fully responsible. It can be difficult to determine who is at fault for an artificial intelligence error, and it might be necessary to consult with legal experts to assess culpability on a case-by-case basis. One could argue that holding individuals accountable would be challenging if there was no clear connection between the errors made by AI and the individuals involved. As a result, it is reasonable and just to hold artificial intelligence accountable rather than people.

How can we hold artificial intelligence accountable? Should we be able to bring lawsuits against AI? We are able to do so, but only if it is established beyond a reasonable doubt that artificial intelligence is a legal person. It is possible to file lawsuits against individuals, whether they are natural or legal, according to the law or the judicial system. Does artificial intelligence constitute a legal person or entity? In addition, it is unclear whether artificial intelligence functions as an agent or as a legal entity similar to a firm. Those who advocate for legal personhood contend that it is a legal concept that confers certain rights and obligations on entities, such as companies or natural persons. Artificial intelligence systems, on the other hand, are considered property and do not have the same legal rights and obligations as people or other legal entities. Some argue that we shouldn't hold artificial intelligence accountable for its mistakes because it lacks consciousness. This is because we cannot hold AI accountable for its activities in the same way we hold humans accountable for their actions. Is it possible to punish artificial

intelligence? However, many believe that we should hold artificial intelligence accountable for its actions, just like we would any other human.

IS PUNISHING AI MORE SCIENCE FICTION OR LEGAL FICTION?

The presence of 'actus reus' and 'mens rea' is essential for establishing criminal liability. If an AI meets both criteria, there is no reason to exempt it from direct liability for the crime committed. If a robotic AI attacks an individual with its hydraulic arm, it meets the actus reus criterion. Similarly, we may hold an AI entity accountable for the actus reus of omission if it assigns a responsibility but fails to fulfil it. The primary problem is attributing mental culpability to AI for a crime. We need to prove that AI had mens rea, or knowledge or intent, when it committed a crime. Many sensory organs, such as the eyes, hearing, tongue, nose, and skin, provide information to humans, which the brain then processes to produce behavior or actions. Advanced artificial intelligence technology performs identical tasks. They aggregate data from several sources. It learns from it, processes and analyzes the information, and determines its own course of action. Artificial intelligence can process information more rapidly and effectively than humans. What is the rationale for exempting AI from criminal liability? Both AI and humans may be co-perpetrators, subject to appropriate penalties. According to the third model of direct liability, an AI's criminal culpability is equivalent to that of humans. We should apply the same criminal laws to AI, perhaps with slight tweaks or revisions.

Initially, the idea of punishing an AI appears ridiculous; nonetheless, it is not without merit. Initially, we must comprehend the concept of punishment. According to H.L.A. Hart, punishment comprises five components: Initially, it entails pain or other outcomes that are typically perceived as unpleasant. Secondly, it must be a violation of the legal statute. The perpetrator must be an actual or suspected criminal, according to the third requirement. Fourthly, punishment must be deliberately administered by individuals other than the perpetrator, and finally, it must be imposed and executed by an authority established by a legal system against which the offense is committed. The global debate is intensifying over AI's direct punishment for crimes it autonomously commits, even in the absence of human involvement. Gabriel Hallevy asserts that "“when an AI entity establishes all elements of a specific offense, there is no reason to prevent the imposition of criminal liability upon it for that offense.” He strongly advocates for criminal accountability for AI and is considered a proponent of this concept.

As AI becomes more advanced, complex, autonomous, and capable of making independent decisions, it can become involved in crimes without human intervention. As we mentioned earlier, the dilemma of whether to hold a person criminally liable—a natural person or an artificial person, such as a corporation or artificial intelligence—is the most crucial one in criminal law. Criminal liability against anyone necessitates the presence of two primary factors. The first is criminal conduct (or omission), known as actus reus, and the second is criminal intent, the mental element known as mens rea.

Consider for a moment that AI is subject to trial, prosecution, conviction, and criminal liability. The next question is about how to punish AI. How is it possible to impose imprisonment, the death penalty, or a fine? In the majority of instances, AI does not possess a physical body, such as an AI robot. As a result, it becomes challenging to decide who warrants arrest and imprisonment. The AI may not possess the financial resources or a bank account necessary to pay a fine.

“It's the algorithm's fault, not mine!” People typically invoke this line of argument when a frequently used application on a digital platform malfunction. Despite the possibility of a defective algorithm enabling artificial intelligence (AI) to cause an undesirable event that affected people's legally protected interests, the responsibility issue remains unresolved. This issue has not been resolved. When it comes to artificial intelligence, the problem takes on a startling level of complexity because every AI application involves several parties, each of whom performs a distinct and essential function. In these kinds of scenarios, identifying the responsible party is of the utmost importance.

As previously mentioned, the form of the factual element required (actus reus) is the same for all types of offenses: intentional, negligence, and strict liability. For some offenses, this structure has two optional components (circumstances and consequences), and for all offenses, one required component (their conduct).

The emergence of criminal liability for intentional offenses necessitates meeting both factual and mental element requirements. The mental element required for intentional offenses is general intent, more precisely referred to as mens rea, which translates to “evil mind” in Latin. We opt for the more precise term, mens rea, because there is a possibility of confusion between the term’s general intent and either intent and specific intent. If AI technology

meets the mens rea requirement, it is possible and feasible to impose criminal liability on AI entities for intentional offenses. (Hallevy, 2013)

Hallevy also notes that in general, the imposition of criminal responsibility for strict liability offenses necessitates the fulfillment of both the factual and mental elements of these offenses. Humans develop, design, program, and operate artificial intelligence technologies and entities. Therefore, when the artificial intelligence entity fulfills both the factual and mental components of the violation, the critical question arises as to who should bear criminal responsibility for the committed offenses. Strict liability offenses, like mens rea and negligence, impose criminal responsibility when the perpetrator fulfills both the factual and mental element criteria of the offense. As previously stated, the court does not have to evaluate whether the perpetrator exhibited "evil" or "immoral" behavior in cases involving mens rea and negligence charges. This applies universally to all categories of perpetrators, encompassing individuals, organizations, and artificial intelligence entities. Because of this, the same arguments that are used to prove criminal liability for AI in mens rea and negligence cases can also be used to prove strict liability. Provided that these criteria are strictly fulfilled, criminal responsibility can be imposed. General defenses in criminal law complement the mental element requirement, as both relate to the offender's culpability in the commission of the offense. The mental element requirement signifies the positive aspect of fault, indicating what must be present in the offender's mind during the commission of the offense. Conversely, the general defences represent the negative aspect of fault, highlighting what must be absent from the offender's mind during the commission of the offense. Awareness constitutes a component of the mental element requirement (mens rea), while insanity serves as a general defence. The offender in mens rea offenses must possess awareness and not be considered insane.

And here we come to the main objective of the criminal process: sentencing. Is it possible to impose a prison sentence on an AI entity? How can we practically implement such a punishment? The issue at hand concerns the applicability of sentencing and criminal punishments in criminal law to AI, given their known purposes of retribution, deterrence, rehabilitation, and incapacitation.

Retribution, or Lex talionis, represents the very first purpose of sentencing. The subject pertains to historical contexts and encompasses various dimensions of retribution. The principle of "an eye for an eye," which signifies the reciprocation of one's actions, forms the fundamental concept of

retribution. Retribution involves intentionally inflicting pain on the offender to match but not exceed their suffering. The question is whether retribution is relevant to AI systems.

The fundamental goal of retribution is to satisfy societal expectations. Inflicting pain upon the offender, in and of itself, holds no inherent prospective value. The suffering may deter the perpetrator, but this is part of the overall goal of deterrence rather than retaliation. Punishing machines via retribution may have a cathartic impact on society and victims by forcing the perpetrator to suffer. However, it is unrealistic in this case.

The goal of deterrence is to prevent future offenses through the use of intimidation. Current computer systems are unable to detect the sensation of intimidation. The fear of future punishment for wrongdoing is the root of intimidation. When considering appropriate punishment for robots, the absence of pain in machines renders both intimidation and its underlying cause irrelevant. Simultaneously, both retribution and deterrence may serve as pertinent objectives for penalizing human individuals involved in the perpetration of crimes by artificial intelligence entities (such as users and programmers).

Rehabilitation is a relatively recent addition to the goals of sentencing, which is predicated on the notion that both the penalty and the sentencing procedure may present chances to address offenders' social issues. Artificial intelligence systems can undergo decision-making processes, resulting in decisions that may seem unreasonable. Sometimes an artificial intelligence system may require external direction to enhance its decision-making process, an integral component of the machine-learning process. For artificial intelligence entities, rehabilitation operates in a similar manner to that of humans, enabling them to make better decisions in their daily activities for the benefit of society. If this method were adopted, the punishment imposed on AI entities would be focused on improving the machine-learning process.

According to Padhy, in the case that an AI system commits a crime and cannot be instructed to behave otherwise, the only viable solution is to incapacitate it. Regardless of whether the AI system comprehends the significance of its actions or possesses the necessary resources to effect personal transformations, failure to prevent delinquency persists. In this case, society must take measures to prevent the AI system, despite its other talents, from physically committing more violations. In comparable situations, this is how society deals with human criminals. (Padhy 2005)

Given the uncertain future scope of AI research and its possible application domains, it is premature to make biased and conclusive assertions on the criminal responsibility of such software. It would be oversimplifying to argue that algorithms, which consistently make judgments within a predetermined framework, suggest that only human programmers should bear responsibility. The capacity to differentiate between moral and immoral actions is intrinsically human, so only a human being may be considered a criminal offender under criminal law. Given the current level of sophistication in super AI, it is worth examining AI's direct accountability for illegal activities. Therefore, it is necessary to evaluate the presence of a crime and its components under criminal law in connection to artificial intelligence.

CONCLUSION

As we discussed in the paper, as technology develops and AI interacts with humans, questions of legal and criminal accountability surrounding AI, which may appear strange when considering an action carried out alone by AI or in conjunction with a human, may soon be up for legal discussion. From this perspective, we must not underestimate the potential criminal liability of AI that humans construct and program. The future length of AI research and potential applications are unclear; therefore, it is premature to draw biased and conclusive conclusions about the criminal responsibility of such software. Believing that algorithms, constantly making decisions within a predetermined framework, suggest that only human programmers should bear accountability is an oversimplification. Because the ability to discriminate between beneficial and evil is inherent in humans, only humans may be criminals under criminal law. However, given the sophisticated nature of super AI, direct accountability for illegal activities may be considered. In conclusion, the existence of a crime and its parts under criminal law must be considered when it comes to AI. The problem of AI criminal liability will be solved by the new EU regulations from the European Parliament and the Council that set uniform rules for AI.

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