

ARTIFICIAL INTELLIGENCE'S LIABILITY, JUDGING THE FUTURE-TODAY

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Abstract: *The Paper reads into how, Artificial Intelligence (AI) has become part of our lives than we know of. It will focus on the different interpretations given by nations in determining the liability of AI. The paper will analyse the landmarks cases pertaining to AI and the genesis behind it. One of the common problem that many nations face in AI is, determining who's at fault, while in some nations believe it is the company that made the AI is liable, while in some nations have opted the view that the person who drew the algorithm for the AI is responsible others believe is the company that bought the AI software/machine and used it. The paper further looks into the principle Ryland's v Fletcher set in 1860's and how it is being applied in judging the present AI situation, along with setting the precedents for the future. While some countries do agree with the strict liability principle set in Ryland's v Fletcher other don't. AI is not only limited to industrial machines, cars, smartphones it is also a part of medical field as many AI machines/ software do perform surgeries or give a report based on their algorithm, which in the recent past has caused a medical negligence, the paper will further draw focus on medical negligence and AI and different nations. The paper will also further talk about a much needed uniform policy for interpretation of AI and its liabilities which would help innovators and entrepreneur make / sale their product.*

Artificial refers to something that is not real, but rather a simulation of the real thing. One example of this is artificial grass, which is used as a substitute for real grass in various applications such as sports fields. Artificial grass is often preferred due to its durability and ease of maintenance compared to real grass. Intelligence is a complex concept that can be defined in many ways, including logic, understanding, self-awareness, learning, emotional knowledge, planning, creativity, and problem-solving.

Artificial Intelligence or popularly known as AI, has become popular than ever specially in this millennium. One of the definition of Ai is "that is a broad topic of computer science concerned with creating intelligent machines capable of accomplishing tasks that normally need human intelligence"¹ A vast majority of people think this technology has been developed in recently, but actually the term AI and the technology has been developed in the early 1950's developed states like the US, that took a keen interest and developed the technology and this was done by Defence Advanced Research Project Agency (DARPA). DARPA has been one of the agency that has initiated many work, from street mapping to creating intelligent personal assistant like Siri, in the early 1990's even before they were launch 2003². AI has developed as years passed, in the 1950's-1970's

the phase of AI was Neural Network, in era of 1980's -2010's this phase of AI was in machine Learning and in the present day AI is more about deep learning. The problem lies that Nations have different way treating the legal aspect and dealing with AI. There is no uniformity in AI liability laws like in the case of intellectual property.

Liability is a legal term that refers to a person or entity's responsibility for their actions or inactions. If an individual or organization does not meet this responsibility, they can be held liable for any damages or court orders resulting from it, such as in a breach of contract or violation of a statute. To win a lawsuit, the plaintiff must prove that the defendant is legally liable, which requires evidence of a duty to act, a failure to fulfill that duty, and a connection between that failure and harm to the plaintiff. Liability also applies to criminal acts, where the defendant can be held responsible for committing a crime and subject to conviction and punishment. As an example, if a driver runs a stop sign and hits a pedestrian in a crosswalk, the driver has a duty of care to the pedestrian and has breached it through negligence, thus making them liable for the pedestrian's injuries. A car owner may also be liable for damages caused by their vehicle under statutory law, even if they were not personally at fault. Similarly, a signer of a promissory note, co-

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¹ Alyssa Schroer, *Introduction to AI*, (Nov. 11, 2022, 14:30)

² SAS, *Artificial Intelligence History*(Nov. 11, 2022, 14:30) https://www.sas.com/en_us/insights/analytics/what-is-artificial-intelligence.html

signer, or contractor may be held liable for any unpaid debts or failure to complete a project respectively. In the field of law, liability refers to being legally accountable for one's actions or inactions. In terms of the relationship between a principal and an agent, the principal may be held liable for the actions of the agent in certain circumstances. Specifically, the principal may be held directly liable for any torts (civil wrongs) committed by the agent in the course of carrying out their duties. This can include situations where the principal is found to have authorized or ratified the agent's actions, or where the agent's actions were within the scope of their employment or agency.

The legal responsibility of a principal for the actions of their agent is a distinction in the field of tort law. If the principal directly caused or was aware of the potential harm caused by the actions of their agent, they are held liable. This is based on the principle that one cannot delegate an illegal act and avoid responsibility. For example, an organization that hires a hitman would be held as responsible for murder as the person who carries out the act. Additionally, a principal can also be held liable for the negligence of their agents if they fail to properly supervise or give appropriate instructions. This type of liability is considered to be direct as it is the conduct of the principal that is at fault.

In summary, when an agent enters into a contract on behalf of a principal, the principal is legally bound by the contract. There are three types of authority that can bind the principal: express authority, which is explicitly given; implied authority, which can be inferred from the relationship between the parties and is related to the express authority; and apparent authority, which appears to have been given by the principal to a third party based on the circumstances. Even if the agent does not have authority, the principal can still approve the agent's actions.

THE LANDMARK CASE OF RYLAND'S VS FETCHER

AI is present in a variety of forms in various industries, such as mobile apps, satellites, cars, surgeries, and farming. However, when accidents or injuries occur as a result of AI-powered machines or algorithms, the question of liability arises. Who is responsible in these cases? The company that sells the product, the person who created the software, or the person who purchased the product? Different countries have adopted different legal approaches to AI liability, with many basing their understanding

on the principle established in the historic Ryland vs Fletcher case. In this case, the defendant was found liable for damages caused by water flowing on the plaintiff's property due to improperly sealed mines, even though the defendant was not at fault. This established the principle of strict responsibility, which has been applied to AI liability cases.

NATIONS AND DIFFERENT INTERPRETATION FOR AI LIABILITY

While AI is being used more than ever, but the laws are coping up with the same speed. There are many reasons why laws for AI aren't being framed. The first reason is just like the Intellectual Property, AI too is a universal concept and there isn't a common platform like TRIPS Agreement due to which many nations are that interested in making AI laws at the moment. So every nations are drawing their own rules based on their understanding. The Second reason is, that many nations believe that concept of AI and Liability follows under Tort or Negligence and due to which these nations believe that don't need separate law to deal with AI. The Third reason is, many under-developing nations believe that they have other important issues to deal with, rather than making laws on AI.

Vicarious liability

The principle of liability for an agent's actions is broad, covering acts that the principal had no knowledge of, did not intend for to happen, and may have even explicitly prohibited. This principle, known as respondent superior or the master-servant doctrine, holds the principal accountable for the actions of their agent while they are acting within the scope of their employment, even if the principal is not directly involved or at fault. This is referred to as vicarious liability.

PRINCIPAL'S CRIMINAL LIABILITY

The principal is generally not held responsible for an agent's unauthorized criminal actions, especially if they require a specific intent. For example, a store owner who tells their buyer to get the best deal on clothing will not be held liable if the buyer steals the clothes. However, the principal can be held liable if they directed, approved, or participated in the crime. In some cases, courts have ruled that an agent's criminal behavior can be attributed to the principal, as in the case of certain regulatory statutes and regulations. These include laws related to food

and drugs, building regulations, child labor laws, and minimum wage and maximum hour legislation. Corporations and individual employees can also be held criminally liable for selling or shipping adulterated food in interstate commerce, even if they had no knowledge of the food being adulterated at the time of the sale or shipment.³

AI AND USA

Currently, there is no federal law in the United States specifically addressing AI issues. In 2020, the Electronic Privacy Information Centre called on the Federal Trade Commission (FTC) to establish standards for the use of AI in commerce in order to prevent consumer harm caused by AI products. While the FTC has provided guidelines to manufacturers regarding the use of AI technology, this year, around 17 states have proposed laws related to various AI-related issues.⁴

Different states have proposed various laws related to AI, such as the Artificial Intelligence Video Interview Act in Illinois, the California Age Appropriation Design Code Act (pending), and CA S.B. 1018, which requires social media companies to disclose their statistics to the public annually. However, there is currently no federal law addressing AI liability. The question arises, how do we deal with AI liability cases and what laws will be used? The answer is that currently, the concept of negligence under tort law is being used to deal with AI liability cases. In some cases, the concept of strict liability is being used, where the manufacturer is held liable for a defective product only. Since there is no special law dealing with AI liability, the federal court system has opted to use negligence or strict liability. United States have gone beyond the concept of strict liability and have created different concept of AI liability.

AI and criminal liability is a complex issue where artificially intelligent entities could potentially face criminal charges. For a criminal act to occur, two elements must be present: Actus Rea (the act itself) and Mens rea (guilty mind).

1. Perpetrator-via-another: If a mentally incapacitated person, a minor, or an animal commits an offense, they are considered innocent as they lack the mental capacity to

construct Mens-rea (even for strict liability offenses). However, if the innocent agent is directed by another individual, such as a dog owner instructing his dog to attack someone, the owner is held criminally accountable. In the case of AI programs, they could be considered innocent agents, with the software programmer or the user being considered the perpetrator-via-another.

2. Natural-probable-consequence: This concept refers to when an AI program meant for good purposes is activated inappropriately and commits a criminal act. For example, a Japanese employee of a motorbike manufacturer was killed by an artificially intelligent robot that incorrectly classified the employee as a threat to its objective and estimated that throwing him into an adjacent working machine would be the most efficient way to eliminate this threat. The robot killed the employee and then continued its job.

Under US law, individuals who are involved in a crime as accomplices, known as co-conspirators, may be held legally accountable for the crime's natural or likely consequence. This means that even if no conspiracy can be proven, a person who helped or supported a criminal scheme and was aware of it may be held liable for any criminal conduct that naturally or likely occurred as a result of the scheme. Therefore, programmers or users of AI systems may be held liable if they knew that committing a criminal offense was a clear outcome of their actions. However, it is important to distinguish between AI systems that are aware of a criminal scheme and those that are not, as the latter may not be held accountable for offenses that require knowledge for the Mens-rea. But, those requiring a reasonable person Mens rea, or strict liability offenses, can be prosecuted.

AI AND PRODUCTS LIABILITY

AI and products liability is a complex issue, as AI-based robots or cars are considered products that are made, distributed, and sold to consumers. Product liability law, as outlined in the Restatement (Third) of Torts: Products Liability, holds manufacturers accountable for any harm caused by a faulty product. However, AI-based robotics pose significant challenges to

³ Don Mayer, Daniel M Warner, et.al. *The Legal Environment and Business Law: Executive MBA Edition* (v. 1.0), (Nov. 12, 2022 14:30) <https://2012books.lardbucket.org/books/the-legal-environment-and-business-law-executive-mba-edition/s15-liability-of-principal-and-age.html>

⁴ Foley and Lardner and Louis Lehot, *United States , Artificial intelligence comparative guide* (Nov. 12, 2022 14:30) <https://www.mondaq.com/unitedstates/technology/1059776/artificial-intelligence-comparative-guide>,

the traditional concept of product liability, potentially making it difficult to apply in this context.

The products liability concept is based on three main triggers: manufacturing faults, design defects, and failure to properly instruct or warn consumers. The manufacturing defect doctrine holds manufacturers accountable for harm caused by a product that has an unintended flaw that goes against the planned manufacturing requirements. This trigger does not pose many concerns in the case of AI-based robotics. If an AI-based robot fails to work as intended due to a manufacturing fault or flaw in accordance with the manufacturer's standards, the product liability doctrine might readily apply, just as it would to any other device. However, the difficulties in the AI setting come when the product functions as expected. These scenarios are handled by the doctrine's other basic triggers. The challenges of product liability for AI-based products arise primarily from the second and third triggers, which are concerned with reducing the likelihood of harm. This may not be a problem for some types of AI-based products, such as autonomous vehicles, but it is a major issue for fully AI-based products.

If the unexpected is an inherent part of the product and what the customer demands it to be, it would be difficult to hold anyone accountable for foreseen or predicted risks of injury. It is hard to argue that an AI-based product's design is defective because of its AI component, or that users should have been warned or instructed about the product's specific risky behaviour (which is itself unpredictable). The normative arguments for such claims are challenging to prove and the conventional normative justifications for the design defect approach cannot support it. Ultimately, because AI-related hazards are unpredictable by definition, they cannot be covered by the design defect or duty of warning and instruction doctrines. Therefore, there may be situations where injury falls outside the scope of product liability doctrine.⁵

INDIA AND LIABILITY OF AI

India is the world's youngest country and the second largest in terms of population. As the world's youngest country, we Indians are very much into technology and gadgets, and we

employ AI technologies more than ever, whether it's for online courses or agricultural tasks. Despite our technological advancement, we have yet to establish specific legislation dealing with AI liability.

Current liability frameworks that can be used to fix culpability for AI acts are characterized as follows.

1. Liability based on Respondent Superior
2. Vicarious Liability or Agency Theory
3. Strict Liability
 - a. Tort - Negligence
 - b. Contractual Product Liability
4. Common Enterprise Liability

LIABILITY BASED ON RESPONDENT SUPERIOR

The following sections will explore the scope, reach, and limitations of each of the concepts discussed above, as well as potential concerns with their application to AI systems. The most traditional analysis applicable to intelligent or semi-intelligent robots is as complex products. The "Master-Servant Rule," also known as Respondent Superior Liability, is a legal restriction that originated from the praetorian law of ancient Rome.⁶ This rule allowed for claims against slaveholders based on duties stemming from transactions involving a slave who was personally involved in commercial activity. Both AI and slaves are considered objects of law, not subjects of it, and thus unable to engage in litigation. If a legal relationship is established between the legal position of AI and that of slaves, it could be argued that damages caused by AI's actions should be paid by its owner, creator, or the legal entity on whose behalf it functions. This would mean that the head of the household is responsible for individuals *Alieni iuris* (subordinate slaves), and their owner would be held liable for the slaves' torts.

VICARIOUS LIABILITY AND AGENCY LAW

Vicarious liability is the legal principle that holds a person liable for the actions of another, not because of their own wrongful behaviour, but because of their relationship to the wrongdoer. When viewing robots as tools, the responsibility for their actions falls on their

⁵ Hallevey, Gabriel "The Criminal Liability of Artificial Intelligence Entities - from Science Fiction to Legal Social Control, " *AIPJ* . (Nov. 12, 2022 14:30) <https://ideaexchange.uakron.edu/akronintellectualproperty/vol4/iss2/1>

⁶ Paulius, C., Grigien, J., & Sirbiky, G. (2015). Liability for damages caused by artificial. *Computer law & security review* 31,

owners or users. If an AI enters into a contract with another party on behalf of a principal, the rights and duties established by the AI immediately bind the principal. The principal cannot avoid accountability by claiming that they did not intend to enter into the contract or that the AI made a critical error.⁷ Agency law, which is based on vicarious liability, provides a framework for addressing harm caused by intelligent software. When a software licensee installs and runs a program, an agency relationship is formed and intelligent software agents can be governed by agency law. The software agent acts as the "agent" and the software licensee acts as the "principal."⁸ Under e-commerce rules, machines are recognized as participants in typical consumer transactions. According to Article 12 of the United Nations Convention on the Use of Electronic Communications in International Contracts, the person (whether an individual or a legal organization) for whom a computer was designed is ultimately responsible for any communication generated by the machine. This is based on the principle that the owner of a tool is liable for the results gained by using that instrument, as the tool lacks independent will. In India, electronic contracts have legal validity under sections 10A and 11(c) of the Information Technology Act, 2000. The wording of section 11C, "by an information system programmed by or on behalf of the originator to operate automatically," makes it clear that an information system can be programmed on behalf of a human being.⁹ As intelligent software agents have the ability to cause harm and make promises, including unauthorized commitments, once they are recognized as legal agents in an agency relationship, liability can be assigned to their conduct, thereby linking the software licensee (principal) to legal duties. Analogous automated technology rulings can be used to develop AI jurisprudence. For example, a ruling in a combined class action in the District Court for the Eastern District of Missouri determined that the use of a computer program to replicate human interaction could give rise to fraud liability. Current agency laws may not apply when autonomous machines make their own decisions and the agency relationship is broken. A principal is only responsible for an agent's actions when the agent is operating within the scope of their employment. As AI programs

become more adaptable and capable of self-learning, courts will have to determine whether they can be subject to a unique variation of agency law.

PRODUCT LIABILITY

Product liability can be classified into three distinct categories: Negligence (Tort), Contract Law and, Strict liability under consumer protection legislation (in the UK the Consumer Protection Act 1987).

Product Liability through Contract

The purpose of a contract is to ensure that both parties fulfil their obligations, and if something goes wrong, they can seek damages from the court. Contracts may include express terms, such as warranties and defects, or implied terms. In the United Kingdom, the Sale of Goods Act 1979 (for B2C contracts) and the Sale of Goods Act 2015 (for C2C and B2B contracts) include implied terms of quality, fitness for purpose, title, and description. Although the Sale of Goods Act does not specifically address "defects," it places emphasis on conformity with the description. This can be considered similar to a "fault" in practice. In India, similar legislation exists in the form of the Sale of Goods Act of 1830 and the Consumer Protection Act of 1986.

STRENGTHS AND WEAKNESSES OF CONTRACT LIABILITY

The main advantage of contract liability is that the parties to the contract can define the scope of their responsibilities and obligations, and therefore the liability, if something goes wrong. This allows the agreement to be customized to the functions and performance of the specific AI system. The main disadvantage of contract liability is that it only applies to the parties to the contract and not to the general public. Some exceptions exist, such as the Contract (Rights of Third Parties) Act 1999 in the United Kingdom. In terms of criminal liability, it's important to note that India does not have specific laws dealing with criminal acts committed by AI. Since AI is a program, it cannot possess human emotions such as *Mens rea* or *Actus Reus* to show criminal conduct. Gabriel Hallevy, an expert in criminal law, proposed that AI entities can fulfil the two elements of criminal culpability, *Mens-Rea* and

⁷ Jamon pJose, Legal liability issues and regulation of Artificial Intelligence (AI),2016

⁸ Supra Note 5 at page 4

⁹ Information Technology Act, 2000, Government of India available at <https://eprocure.gov.in/cppp>, See also Supra Note 15

Actus-Rea, under three different models of criminal liability.¹⁰

- (i) The Perpetration-by-Another liability model
- (ii) The Natural-Probable Consequence liability model
- (iii) The Direct liability model.

The Perpetration-by-Another Liability (PBAL) Model: AI as Innocent Agents

The Perpetration-by-Another (PBAL) model views AI robots as lacking human traits and therefore not capable of having the intent to commit a crime. Instead, the model considers AI entities to be similar to individuals with mental disorders, like children, and thus lacking the criminal intent required to commit a crime. In this model, the AI robot is seen as a tool and the actual perpetrator is the person who planned the crime. The perpetrator, who is in control of the AI, is held liable for the conduct of the innocent agent (the AI). The perpetrator's actions and mental state are used to determine criminal liability. This model would likely be applied when an AI is programmed or instructed to commit a crime, like a smart jet that ejects its pilot from the cockpit, killing him. The AI software developer or the person who instructed the AI to act in a criminal manner would be held responsible in this case. This model would not apply if the AI committed the crime on its own based on its accumulated experience or knowledge.

The Natural-Probable-Consequence Liability (NPCL) Model: Foreseeable Offenses

The Natural-Probable-Consequence Liability (NPCL) Model posits that programmers or users may be held liable for crimes committed by AI robots, even if they did not intend for the offense to occur. This model is based on the idea that programmers or users should have been able to predict the possibility of a crime and taken steps to prevent it. In cases where the AI robot's actions were a natural and probable result of the programmer or user's behaviour and the programmer or user should have been able to anticipate and prevent the crime, they may be considered negligent. However, this model has been widely criticized and is not widely accepted in several US states and comparable jurisdictions such as the UK.

The Direct Liability (DL) Model: AI Robots as subject of Criminal Liability

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Common Queries

As technology continues to advance at a rapid pace, the laws that govern product liability have struggled to keep up. This is especially true when it comes to software, apps, and related artificial intelligence. Traditionally, product liability laws were established in contract law for direct suppliers, in statute law through the Sale of Goods Ordinance for other products, and in negligence law for both direct and indirect suppliers. Under these laws, manufacturers are held liable if they supply a defective product that breaches their duty of care and causes foreseeable damage. This is known as the chain of causation.

However, what happens when this chain of causation is broken? If a manufacturer produces a product and provides specific instructions for its use, and the product is then used in a way that contradicts those instructions, it is possible that the chain of causation has been broken and this may result in a change in liability. The same is true for software. As long as the software is used in the form it was delivered, whether it is "vanilla" or customized, liability rests with the developer. But if the user makes changes or alterations to the software, the developer may no longer be fully responsible for any performance issues that arise and liability may shift to the user.

The legal issues surrounding product liability are further complicated when it comes to software that is intended to be modified by the user through learning to perform a specific task. Once the software begins to learn, the chain of causation is potentially broken and this can lead to a change in liability.

In the context of artificial intelligence, this raises a number of important questions. For example, could there be a flaw in the algorithm used by the AI? Was the data used to train the

¹⁰ Supra Note 5 at page 4

AI corrupt or insufficient? Could the user have misused the AI in some way? And what if more than one entity was involved in developing the initial code? Answering these questions can be difficult and may lead to legal action if the end-user suffers actionable loss. Even if the cause of the problem can be identified, the process of determining liability can be time-consuming and expensive.

Given the complexity of determining liability in these cases, contract terms may need to be written to allocate blame. This also means that insurance contracts will need to be re-evaluated to focus on third-party loss and damage. The concept of vicarious liability, which holds employers responsible for the actions of their employees, is well established in both common law and certain statutes, such as discrimination laws. However, with the increasing use of technology in the workplace, the definition of an "employee" may need to be expanded to include "robots" or other forms of artificial intelligence. This is because, as it stands, robots do not have any legal status and are not considered employees, so there can be no vicarious liability for their actions. However, if a robot has been trained by employees of a company, the employer may still be held liable in an indirect way. For instance, if a robot makes a discriminatory decision during the hiring process, the employer may be held responsible. The question of who is responsible for the underlying problem, whether it be the software developer or the employer, will also be an important factor in determining liability in such cases.

CONCLUSION

Diversity for AI laws based on nations condition; It is difficult to set out uniform guidelines /rules or laws in relation with liability of AI, for the simple reason every nation has different priority. For Under developing nations use of AI in day to day life is not common, due to which they might be not keen in making AI laws. Developed nations are more advance in AI due to which they are more indulge in making AI laws, but that may not be the case in under developing nations. Further the legal remedy set out under vicarious or strict liability are more than sufficient to deal AI's liability in the current situation. Many nations have tried to developed Criminal Liability for AI laws, European Union also drafted AI laws but still hasn't been passed. The bill drafted for European Commission only provides for the civil remedy and does not set out the criminal liability. Similar is the case in United States where there is yet pass a Federal law for AI. Individual States of US have set up their own laws/guidelines for AI. India too, doesn't have the specific AI laws and is dealt under the common law of tort. One of the significant contribution for AI's criminal liability is the guidelines proposed by Gabriel Hallevy, from which nations can built their AI criminal's liability. Which actually deals the AI liability as per the gravity of the wrong committed. Developing Uniform laws may not be possible at the moment but nations developing their own laws is highly commendable, which would help in understanding different concept and treatment.