

Legal Challenges of Artificial Intelligence in Transportation and Healthcare: Negligence under Malaysian and European Law

Jessica Sinnappan

Faculty of Law, Multimedia University, Malaysia

1211101178@student.mmu.edu.my

ORCID iD: 0009-0006-1147-0034

(Corresponding author)

ABSTRACT

This paper explores the legal issues raised by the integration of artificial intelligence (AI) in two key sectors: transportation and healthcare. It examines the historical development of AI and the emerging legal challenges surrounding AI technologies. As autonomous transportation evolves, this paper traces its roots from early automotive advancements to modern AI-powered vehicles, emphasising the legal implications. In healthcare, the adoption of AI in diagnostics and treatments raises questions regarding liability when mistakes occur. This paper delves into the issue of whether AI systems should be granted legal personhood, entitling rights and responsibilities akin to humans. It also discusses the complexity in the law of negligence, particularly determining the duty of care and breach of duty of care involving autonomous systems. This paper also justified that liability should rest with the human agents involved in the creation and deployment of AI technologies due to their lack of personhood and capacity for moral judgement. A qualitative research methodology has been adopted to undertake in-depth research on case laws and regulations made on civil liability involving AI. The findings underscore the necessity for the legal framework to adapt evolving AI landscape, ensuring accountability while fostering innovation in both transportation and healthcare sectors.

Keywords: Artificial intelligence; Negligence; Legal personhood; Strict liability; Vicarious liability

Received: 13 March 2025, **Accepted:** 10 July 2025, **Published:** 1 December 2025



® (2025) 5(3) Asian Journal of Law and Policy 295–314

<https://doi.org/10.33093/ajlp.2025.16>

© Universiti Telekom Sdn Bhd. This work is licensed under the Creative Commons BY-NC-ND 4.0 International License.

Published by MMU Press. URL: <https://journals.mmu.press.com/ajlp>



1. Introduction

Artificial Intelligence (AI) continues to evolve at a faster pace, and it has managed to integrate into every facet of human life, ranging from autonomous transportation, healthcare diagnostics, and economic to social aspects of human life.

The development of autonomous transportation can be traced back to German engineer Karl Friedrich Benz, who in the late 19th century created the first successful internal combustion engine-powered car. While this discovery led to significant advancements in personal and commercial transportation, it also brought with it new challenges, most notably, road accidents and fatalities. Despite the technological progress, human error remained a significant factor in vehicular accidents.

As per Chris Urmson, the former leader for the Project of Google's Self-Driving Car in 2015, he opined that, 'Throughout the history of the car, we've been working around the least reliable part of the car: the driver'.¹ This recognition of human unreliability has driven the development of autonomous vehicles, wherein AI systems take control of the vehicle. Thus, a driverless car or autonomous transportation implies a computer-directed vehicle's navigation, braking, and speeding, devoid of the need for real-time human input.²

AI also swiftly captured its place in medical healthcare, as the percentage of healthcare companies utilising AI from 2017 had risen from 86%³ to 94% by 2024.⁴ These developments have been further facilitated by regulatory approvals, such as the European Union, which had approved 224 medical AI tools to be used from 2015 to 2021. Weekly releases of new AI-based healthcare products and innovations emphasise the rapid pace at which AI is transforming medical practices, from diagnostics to treatment planning.

The question of liability in the event of harm or failure has become a critical concern, especially in the law of torts. Traditionally, the law has relied on humans to attribute responsibility for their acts of negligence that result in damage or injury. However, in the age of AI, the division between humans and machines has become increasingly clouded.⁵

¹ Kate Torgovnick May, Laura McClure and Thu-Huong Ha, 'Machines That Learn: A Recap of Session 3 at TED2015' (*TEDBlog*, 17 March 2015) <<https://blog.ted.com/machines-that-learn-a-recap-of-session-3-at-ted2015/>>.

² Bryant Walker Smith, 'Automated Vehicles Are Probably Legal in the United States' (2014) 1(3) *Texas A&M Law Review* 411 <<https://doi.org/10.37419/LR.V1.I3.1>>.

³ Jason Chung, 'What Should We Do About Artificial Intelligence in Health Care?' (2017) 22(3) *New York State Bar Association Health Law Journal* 37.

⁴ 'AI in Healthcare 2024 Statistics: Market Size, Adoption, Impact' (*Vention*) <<https://ventionteams.com/healthtech/ai/statistics>>.

⁵ Agustina D Saenz, Zach Harned, Oishi Banerjee, Michael D Abramoff and Pranav Rajpurkar, 'Autonomous AI systems in the Face of Liability, Regulations and Costs' (2023) 6 *npj Digital Medicine* 1 <<https://doi.org/10.1038/s41746-023-00929-1>>; Julia Farhana Rosemadi, Dennis WK Khong and Gita Radhakrishna, 'Civil Liability of Autonomous Vehicles: A Review of Literature' (2022) 30(2) *International Islamic University Malaysia Law Journal* 155.

As such, this paper points to the growing uncertainty on how to attribute fault in a world where machines are allowed to make decisions and learn from the data without human participation. Whom should we blame when an AI system makes an error and causes harm? Is it the company that manufactured the machine, the designer who programmed the system, the developer, or the machine itself? This dilemma also raises questions about the law of negligence. Where harm occurs due to failure, how does the law apply to AI? Does the traditional method apply the same to AI?

This paper therefore seeks to address the growing uncertainty around legal liability and fault attribution when autonomous AI systems cause harm, challenging the adequacy of traditional negligence laws in an AI-driven world, particularly in two main key sectors: transportation and healthcare.

2. Definition of AI

Artificial Intelligence (AI) is a phrase that has evolved, encompassing a wide range of technologies and concepts that simulate human cognitive processes. The Oxford Reference describes AI as ‘the theory and development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages’.⁶ This definition captures the essence of AI as a field focused on enabling machines to replicate the kinds of tasks that have traditionally been associated with human intelligence.

However, AI is not a one-size-fits-all concept, and its meaning can vary depending on context. Omri Rachum-Twaig offers an alternative perspective, suggesting that AI refers to the program on which the robot runs and that causes it to act in a manner that is, inherently, either unexplainable or unforeseeable to humans.⁷ According to this author, the behaviour of AI can sometimes seem mysterious, as it may involve decision-making processes that are too complex for human understanding. This insight highlights the distinction between simple automation, where tasks are performed based on predefined rules, and AI, where machines can learn and make decisions independently.

The European Commission, on the other hand, states that AI systems display intelligent behaviour by examining their environment and autonomously taking action to achieve specific goals.⁸ This definition suggests that AI systems can assess their surroundings, make decisions, and take actions without constant human intervention. The degree of autonomy

⁶ Elizabeth Knowles, *Oxford Dictionary of Phrase and Fable—Oxford Reference* (2nd edn, Oxford University Press 2006).

⁷ Omri Rachum-Twaig, ‘Whose Robot Is It Anyway?: Liability for Artificial-Intelligence-Based Robots’, [2020] *University of Illinois Law Review* 1141 <<https://www.illinoislawreview.org/wp-content/uploads/2020/08/Rachum-Twaig.pdf>>.

⁸ The European Commission, ‘High-Level Expert Group on Artificial Intelligence, a Definition of AI: Main Capabilities and Scientific Disciplines’ (Brussels, 18 December 2018).

can vary, with some AI systems being fully autonomous while others may still rely on human oversight or input.

In addition, AI was also defined as *the tangible real-world capability of non-human machines or artificial entities to perform tasks, solve tasks, communicate, interact, and act logically as it occurs with biological humans*.⁹ This definition emphasises the tangible aspects of AI technology as to how it can interact with the world in meaningful ways, from processing natural language to solving complex logistical challenges. In this sense, AI is not just an imaginary idea, but it has practical applications that are already making a significant impact on industries of transportation, healthcare, finance, and entertainment.

As technology advances, the definitions of AI continue to evolve, reflecting its growing complexity in various sectors. With each breakthrough, our understanding of AI becomes more nuanced, encompassing both its capabilities and its limitations. In short, AI is a broad and multifaceted field that involves creating systems capable of simulating human intelligence and behaviour. As the technology progresses, so too will our understanding of its potential and the ethical, societal, and practical implications that come with it.

3. Development of AI

The development of AI can be traced back to several historical incidents. To begin with, Alan Turing in 1950 had explored the question of 'Can Machines Think?' in his paper titled 'Computer Machinery and Intelligence'.¹⁰ The query is now widely known as the Turing Test. Turing introduced the Imitation Game, which involves a human evaluator who interacts with the machine and a human without knowing which is which. The machine is said to have exhibited intelligence if it could convincingly imitate a human to the point where the evaluator is unable to tell them apart. However, Turing's idea was heavily critiqued by many. The focal point of the critiques was structured on the argument of the disability of the machine to perform to originate anything new other than programming.¹¹ Turing countered that, with proper learning and experience, machines could produce original and astonishing results. This could be viewed as the very first step ventured into bringing AI to the realm.

Two years after Turing's effort, Samuel had come up with the Checkers Program, which is a combination of searching algorithms and heuristics to decide moves.¹² Samuel's program had laid out the groundwork for the development of AI, particularly in game-playing AI

⁹ Homero Gil de Zúñiga, Manuel Goyanes and Timilehin Durotoye, 'A Scholarly Definition of Artificial Intelligence (AI): Advancing AI as a Conceptual Framework in Communication Research' (2023) 41 Political Communication 317.

¹⁰ Alan Mathison Turing, 'I.-Computing Machinery and Intelligence' (1950) LIX(236) Mind 433 <<https://doi.org/10.1093/mind/LIX.236.433>>.

¹¹ Oppy Graham and David Dowe, 'The Turing Test' *The Stanford Encyclopedia of Philosophy* (Winter edn, 2021) <<https://plato.stanford.edu/archives/win2021/entries/turing-test/>>; Appa Rao Korukonda, 'Taking Stock of Turing Test: A Review, Analysis, and Appraisal of Issues Surrounding Thinking Machines' (2003) 58 International Journal of Human-Computer Studies 240–257, p 244.

and automated decision-making processes, as it successfully showed to the world that machines could learn in a way that imitated human learning and decision-making by defeating the human checkers champion in a series of games in 1962.

Though these two people had made revolutionary groundwork for the development of AI, the term AI was known worldwide to have been coined by John McCarthy. He came up with the term AI at the Dartmouth Conference in 1956, held in the United States to explore whether machines could be made to perform tasks that would normally require human intelligence.¹³

Following the development of AI, there have been many groundbreaking innovations throughout the world, such as the creation of the first 'Robot citizen' named Sophia in Hong Kong by Hanson Robotics.¹⁴ Sophia garnered global attention for her realistic human exterior with the ability to see, communicate, and replicate emotions. This marked a substantial milestone in the evolution of AI-driven robotics.

In 1997, AI made another dramatic impact when the world's chess juggernaut was defeated by a supercomputer, 'Deep Blue', developed by IBM.¹⁵ This showcased the power of AI in complex strategic thinking and problem-solving.

AI's reach, however, extends far beyond technology and gaming as it has also made its mark in fields such as law. Sally Hobson, a barrister in London, had employed AI in a murder trial that required a rapid study of almost 10,000 documents. The software claimed to have completed the four-week work faster than people could, which made the company save £50,000.¹⁶ In Malaysia, the usage of AI can be seen as slowly integrated in both the healthcare and transportation fields. For example, the medical centres such as Sunway and Subang Jaya reported to have introduced the Da Vinci Surgical Systems, which are robotic assisting surgical systems to enhance surgical precision and visualisation during minimally invasive procedures.¹⁷ Whereas in transportation, Malaysia is said to be progressing to create autonomous vehicles and other AI-related tools for an efficient and sustainable transport ecosystem.¹⁸

¹² 'What Is the History of Artificial Intelligence (AI)?' (*Tableau*) <<https://www.tableau.com/data-insights/ai/history>>.

¹³ John McCarthy, Marvin L Minsky, Nathaniel Rochester and Claude E Shannon, 'A Proposal for The Dartmouth Summer Research Project on Artificial Intelligence' (2006) 27(4) *AI Magazine* 12.

¹⁴ 'Sophia' (*Hanson Robotics*, 1 September 2020) <<https://www.hansonrobotics.com/sophia/>>.

¹⁵ Graham (n 11).

¹⁶ 'AI-Powered Court Preparation' (*Luminance*) <www.luminance.com>.

¹⁷ 'Robotic Surgery and MIS Centre' (*Sunway Medical Centre*) <<https://www.sunwaymedical.com/en/centres-of-excellence/robotic-surgery-mis-centre>>; 'Minimally Invasive Procedures With Da Vinci Xi Robotic Surgery' (*Subang Jaya Medical Centre*) <<https://subangjayamedicalcentre.com/specialties/robotics-surgery/da-vinci-xi-robotic-surgery>>.

¹⁸ 'Nanta: Malaysia Integrates AI into Transport Systems to Enhance Road Safety and Efficiency' *Malay Mail* (Kuala Lumpur, 28 May 2025) <<https://www.malaymail.com/news/malaysia/2025/05/28/nanta-malaysia-integrates-ai-into-transport-systems-to-enhance-road-safety-and-efficiency/178498>>.

These historical records in AI development laid the foundation for machines that can mimic human reasoning, decision-making, and even emotional expression, together with the capabilities that now raise complex legal questions about accountability. As AI systems increasingly perform tasks that were once reserved for humans, determining liability for their actions becomes more pressing, especially when these systems operate autonomously and impact areas like law, health, and transportation.

4. Concept of Negligence

Negligence, in layman's terms, is a failure of a person to exercise a reasonable amount of care resulting in injuries to another. The principle of negligence is rooted in the case of *Donoghue v Stevenson* in which Lord Atkin drew the Neighbourhood Principle.¹⁹ In this case, Mrs Donoghue drank a bottle of ginger beer that was made of dark opaque glass, which she received from her friend who purchased it from Wellmeadow Café in Paisley. After consuming about half of the beer, the remainder was poured into a tumbler. It is at this point that a decomposed snail remains were found in that drink. This resulted in Mrs Donoghue experiencing shock and severe gastroenteritis.

The issue discussed was whether there is a duty of care existed between Mrs. Donoghue and the manufacturer of the ginger beer when there is no contractual relationship existed between them. The House of Lords ruled the manufacturer to be liable as they failed to exercise a reasonable duty of care towards their customers. This case also led to the development of the Neighbourhood principle, which signified that one should not harm his neighbour, and one should take all reasonable precautions to avoid such harm. The term *Neighbour* was also discussed in the very same case, delivering the meaning "persons who are so closely and directly affected by the respective party's actions".

Drawing a parallel between AI and the concept of negligence poses a unique challenge. Such complexity arises because AI, unlike a human, lacks identity or personhood and therefore does not fit under the limb of negligence. AI was designed to perform certain tasks based on programmed instructions. Thus, it becomes a significant issue for the attribution of negligence as it lacks legal personhood. Moreover, it is inherently fraught to expect AI as a mere system to adhere to the neighbour principle. Unlike humans, AI cannot be assumed to possess the same capacity for foresight. Though it can adopt a human-like perspective or mimic human behaviours, there is no assurance that AI will adopt a human-like perspective when it comes to the duty of care.²⁰

For instance, if an autonomous vehicle causes an accident that injures others, pinpointing liability becomes vague. It will be unclear whether the fault lies with the vehicle itself, the manufacturer or the software programmer.²¹ Unlike human drivers, AI cannot use its best judgment to not act negligently. Hence, the principle of neighbourhood cannot be

¹⁹ *Donoghue v Stevenson* [1932] Appeal Cases 562 (HOL).

²⁰ Rachum-Twaig (n 7).

²¹ Rosemadi (n 5).

extended efficiently to AI as it does not possess the human capacity to foresee. For instance, in a news report in 2016, it could be seen that a Tesla that was in autopilot mode tried to plough through an 18-wheeler truck that was about to cross the highway.²² The National Highway Traffic Safety Administration analysed and deduced that the vehicle was unable to distinguish between the white coloured truck and a bright sky, inhibiting the need to brake and further injuries to the passengers. Thus, when an autonomous vehicle fails to prevent an accident, the question of whether there is negligence becomes complicated due to the absence of human decision-making.²³

Similarly, in healthcare, the usage of AI for diagnostics, treatments and surgeries is increasing day by day. It also raises the critical question of what, if anything, goes wrong. If an AI misdiagnosed a patient or made an error during the surgery, who would be responsible for the defective outcome?²⁴ In traditional medical practice, the doctor or healthcare professional would be made liable for medical malpractice for failure to meet the expected standard of care. However, AI's role here complicates this analysis. Expecting AI to adhere to the human standards of care in risky situations when it processes data in an opaque manner to humans challenges the legal system.²⁵ Even though they can mimic human reasoning, they do not think or reason as humans do, and every patient is different for the systematic reasoning to be applied. One illustration of this would be the use of machine learning algorithms, which are used to analyse health records and identify patients who are at risk of delirium. Though this system alone can consider a wide range of data, user acceptability remains a question for many.

Hence, given the absence of legal personhood and the challenges in extending the 'neighbourhood principle' to AI systems, AI itself cannot be directly held liable for errors it causes. As an alternative, liability must fall onto the humans and entities involved in the creation, design, and deployment of AI-integrated vehicles or tools in healthcare departments. This approach aligns more closely with the traditional framework of the law of negligence, holding accountable those who play a role in bringing AI systems to market and ensuring their safe operation.

4.1 Legal Personhood of AI

Legal personhood is traditionally associated with a range of robust protections and rights, as noted by Jonas-Sébastien Beaudry.²⁶ These protections are not merely theoretical but carry practical implications, including the competency to enter contracts, to sue or be sued, and to be held accountable for one's actions. Such rights and duties form the foundation of legal

²² Danny Yadron and Dan Tynan, 'Tesla Driver Dies in First Fatal Crash While Using Autopilot Mode' (*The Guardian*, 1 July 2016) <<https://www.theguardian.com/technology/2016/jun/30/tesla-autopilot-death-self-driving-car-elon-musk>>.

²³ Andrew D Selbst, 'Negligence and AI's Human Users', (2020) 100 Boston University Law Review 1315.

²⁴ Donoghue (n 19).

²⁵ George Benneh Mensah, 'AI and Medical Negligence' (2024) 1 Africa Journal for Regulatory Affairs 46.

²⁶ Visa AJ Kurki, *Legal Personhood* (Cambridge University Press 2023).

personhood, and their extension to non-human entities has been the subject of ongoing scholarly debate. One of the most contentious questions is whether AI models should be granted legal personhood. This debate remains a heated argument, with scholars holding contrasting views on the matter.

Some scholars argue in favour of granting legal personhood to AI. White and Baum, for instance, contend that the denial of legal personhood to non-humans and animals can be justified based on their cognitive limitations and inability to fully participate in human society.²⁷ In their view, this reasoning could be extended to robots and AI models if they exhibit cognitive capabilities comparable to those of humans. Rafal Michalczak further explores this idea, suggesting that intelligent software, including AI, may eventually be granted legal personhood, a development that could benefit humanity in various ways. He posits that this could lead to a legal framework that recognises the subjective qualities of non-human entities like AI.²⁸

Similarly, Chung and Zink propose that IBM's former AI, Watson, might have been eligible for a form of limited legal personhood.²⁹ They argue that Watson's role as an essential member of a patient care team capable of analysing medical conditions and providing treatment recommendations demonstrates the potential for AI to function in a way that could justify legal recognition. In this context, granting AI legal personhood could allow for greater accountability and responsibility in domains like healthcare.

However, there is a substantial counterargument from scholars who believe that legal personhood should not be extended to AI. The Restatement (Second) of Torts, for example, consistently refers to 'actors' when determining liability for tortious actions.³⁰ Omri Rachum-Twaig argues that the concept of personhood is inherently tied to human characteristics, and AI, lacking essential human traits, cannot be classified as a person. He asserts that AI's actions, particularly when they diverge from human-like reasoning or intent, are not comparable to those of a human and thus should not trigger similar legal responsibilities.³¹

In a similar vein, Beatriz A. Ribeiro, Helder Coelho, Ana Elisabete Ferreira, and João Branquinho caution against the notion of granting legal personhood to AI.³² They argue that without accountability, legal personhood would mean nothing more than an empty shell,

²⁷ Trevor N White and Seth D Baum, 'Liability Law for Present and Future Robotics Technology' [2017] Robot Ethics 2.0 Oxford University Press 66.

²⁸ R Michalczak, 'Animals' Race Against the Machines' in V Kurki and T Pietrzykowski (eds), *Legal Personhood: Animals, Artificial Intelligence and the Unborn* (Law and Philosophy Library vol 119, Springer 2017).

²⁹ Jason Chung and Amanda Zink, 'Hey Watson, Can I Sue You for Malpractice? Examining the Liability of Artificial Intelligence in Medicine' (2017) 11(2) Asia-Pacific Journal of Health Law, Policy and Ethics 51 <<https://ssrn.com/abstract=3076576>>.

³⁰ Restatement (Second) of Torts § 310 (1965) (discussing Conscious Misrepresentation Involving Risk of Physical Harm) <<https://masonlec.org/site/files/2011/10/materials.pdf>>.

³¹ Rachum-Twaig (n 7).

³² Beatriz A Ribeiro, Helder Coelho, Ana Elisabete Ferreira and João Branquinho, 'Metacognition, Accountability and Legal Personhood of AI' (2024) 58 Law, Governance and Technology Series.

serving no practical purpose. For AI to have legal personhood, it must also be subject to responsibility for its actions, something that, they argue, AI models currently cannot fulfil.

While these arguments reflect a divide in scholarly opinion, this author wishes to point out that AI should not be granted legal personhood. AI, unlike humans, does not possess the natural characteristics necessary to bear the responsibility or to exercise the full range of legal rights and duties, such as the ability to sue or be sued. Despite its humanlike qualities, AI lacks the capacity for foresight, moral judgment, and accountability that underpin the concept of legal personhood. Therefore, AI should not be granted legal personhood.

4.2 Theory of Black Box

The theory of black box refers to the AI models which operate as an opaque system where the internal working method of the model will not be easily accessible to either the software programmer, manufacturer or the user of the mechanism. In other words, it can be said that AI's decision-making process and rationale behind the predictions are not evident to the user.³³

This lack of transparency is a central feature of the black box theory, which highlights the challenges of explainability in AI systems. It underscores the difficulty faced by users, software developers, and manufacturers in understanding or interpreting the steps that lead to a particular outcome. Consequently, the decision-making process of AI systems often appears mysterious or inscrutable, as there is no clear, accessible way to trace the logic behind the model's conclusions.

The absence of explainability and transparency in AI raises concerns regarding its reliability and trustworthiness. Without the ability to understand how decisions are made, users may be hesitant to trust the outcomes produced by such systems. The 'black box' nature of AI thus creates a significant barrier to the adoption of AI technologies in sectors where accountability, transparency, and justification of decisions are paramount, i.e. transportation and healthcare departments.

For example, according to Associate Professor Samir Rawashdeh, if an autonomous vehicle strikes a person on the road when we expect it to hit the brakes, the black box nature of the system indicates that we can't trace the system's intelligence and perceive the rationale of this choice.³⁴ As for healthcare, a system called Watson was deployed at UB Songdo Hospital in Mongolia, reported to have inappropriately recommended the drug taxane for a patient whose history would contraindicate the use of that drug.³⁵ Due to the black box nature, the reason for the recommendation remains unknown. Professor Samir

³³ Vikas Hassija and others, 'Interpreting Black-Box Models: A Review on Explainable Artificial Intelligence' (2024) 16(3) *Cognitive Computation* 45.

³⁴ Lou Blouin, 'AI's Mysterious "Black Box" Problem, Explained' (*News University of Michigan-Dearborn*, 6 March 2023) <<https://umdearborn.edu/news/ais-mysterious-black-box-problem-explained>>.

³⁵ Hanhui Xu and Kyle Michael James Shuttleworth, 'Medical Artificial Intelligence and the Black Box Problem: A View Based on the Ethical Principle of "Do No Harm"' (2024) 4 *Intelligent Medicine* 52.

states that it would be nearly impossible for one to get the data that helps us to make such decisions. He added that, due to the AI's black box nature, people all over the world are unable to know the reason why they are being treated unfairly, be it in medicine, business or a workplace that uses AI as a major tool in dealing with the patients, customers or applicants.

5. Duty of Care

Duty of care is one of the elements that needs to be proved to establish negligence. Hence, one must decide whether the duty of care is breached in order to prove negligence. Every field has its own accepted level of duty of care that is required to be exercised in performing a particular task. Both drivers and healthcare officers have a duty to ensure safety in their respective fields. A driver must adhere to traffic rules and maintain both their vehicle and driving skills to prevent harm to other road users. Similarly, healthcare officers are responsible for ensuring their skills and the safety of medical devices used on patients. Failure to uphold these duties in either case can result in liability being imposed under the law of negligence.

The principle of duty of care could be traced in the case of *Caparo Industries plc v Dickman*.³⁶ The court here had laid down a three-stage test to prove the duty of care. Firstly, the damages suffered by the plaintiff must be a reasonably foreseeable consequence of the defendant's act. Secondly, there must be a proximity of relationship between the parties. Thirdly, it is to consider whether it is fair, just and reasonable to impose a duty of care on the defendant.

In *The President of Majlis Perbandaran Tawau v Amiruddin bin Rasake and 245 Others and another appeal*, the Residents of a housing project discovered their water supply was contaminated by a dead body in an elevated water tank, leading to complaints about foul-smelling water.³⁷ They sued the local authority and management company, claiming negligence for failing to secure the tank and investigate the issue. The Court of Appeal ruled that there was no duty of care imposed on the defendant to prevent any harm caused by a deliberate act of third party over whom they had no control, and it was not reasonably foreseeable for them to expect someone would fall and die in an elevated water tank.

In *Tenaga Nasional Malaysia v Batu Kemas Industri Sdn Bhd and Another Appeal*, when the plaintiff's factory experienced a power disruption due to a rupture of cable, the Federal Court based on the above test ruled that the defendant was liable for their negligent act by failing to stop the construction work when they were aware of the cables which later affected the power supply to Batu Kemas Industri.³⁸

³⁶ [1990] United Kingdom House of Lords 2 (HOL).

³⁷ [2017] 3 Malayan Law Journal 778 (COA).

³⁸ [2018] 5 Malayan Law Journal 561 (FC).

Drivers, by virtue of the test above, should foresee the consequences of their actions towards other road users. The same goes for healthcare professionals towards their patients. If they were able to foresee that their actions might cause injury to others, then they could be held liable for negligence. Secondly, the proximity of the relationship also needed to be proved between the individuals. Lastly, it should be evaluated whether it is right to impose an obligation on the party involved.

The measures stated could not be easily applied to AI. This is rationalised due to the sceptical fact of whether AI could be able to foresee the consequences of its own actions. AI challenges the foreseeability test by producing outcomes that even the creator can't predict. Since AI evolves in a way that can produce unprecedented outcomes, this makes it difficult to determine whether AI can cause foreseeable harm. Though the proximity of a relationship could be established between AI and the victim in the event of any unfortunate occasion, the third element is still questionable as to whether it is just to impose a duty of care on the AI due to the major uncertainty of its legal existence.

Therefore, the failure of AI to satisfy all three elements necessitates us to look towards the human agents involved, such as manufacturers, developers, and operators who contributed to the creation and design of the AI system in both transportation and healthcare equipment.

6. Breach of Duty of Care

Breach of duty of care is also an important element that needs to be discussed in establishing a claim of negligence. The question that needed to be answered here would be whether the breach of duty of care occurred due to the defendant's act of not reaching the minimum standard of care, which would be assessed via the 'reasonable man test'.

The standard of care required for a driver of a vehicle is, one should be a skilled driver. In *Roberts v Ramsbottom*, the driver who had lost consciousness due to a stroke was still found liable by the court, as the court opined that he should have been aware that he was unfit to drive.³⁹

In *Zainap bte Abdul Majid v Gan Eng Hwa and Others*, Encik Taib was also held liable for his negligent act of driving at an excessive speed and failing to ascertain that the situation was harmless before he overtook the Muar Express bus although it is also wrong for the lorry driver to park his vehicle on the side of the road to obstruct to the road users.⁴⁰ In this case, a standard of care in the field of transportation, which is to drive safely and skilfully on the road, was outlined, and such care was not met when the driver drove at an excessive speed, causing injury to the others.

In *Lim Ming Peng dan satu lagi lwn Gopalkrishnan a/l Iyampillai*, both the plaintiff and defendant were found liable respectively on 80% and 20% for failure of both to exercise the

³⁹ [1980] 1 All England Law Reports 7 (HC).

⁴⁰ [1995] 1 Malayan Law Journal 801 (HC).

reasonable standard of care on the road, resulting in both of them colliding and being injured.⁴¹

As for healthcare professionals, the standard of care required is that of a reasonable professional. This refers to a higher-level standard of care than an ordinary man on the street. In *Zulhasnimar Hasan Basri and Anor v Dr Kuppu Velumani P and Others* which is a case reiterated the principles in *Foo Fio Na v Dr Soo Mun and Anor*,⁴² the Federal Court ruled that the *Bolam* and *Bolitho* test which states that doctors should act by a practice accepted by a responsible body of medical opinion in diagnosing and treating a patient, while according to *Rogers v Whitaker* test, doctors must advise on risks associated with any proposed treatment.⁴³ It shall be deduced from this case that a medical practitioner is expected to exercise a duty to diagnose, treat, and advise the patients in their best judgement, and failure to do so will lead to a breach, making them liable for negligence.

In *Dr Hari Krishnan and Anor v Megat Noor Ishak bin Megat Ibrahim and Anor and another appeal*, Dr Hari was found negligent for his failure to demonstrate that his actions in diagnosing the plaintiff's condition and recommending the second operation were in line with accepted medical practices.⁴⁴ The *Bolam* test was not met here, and the unnecessary surgery caused the plaintiff to lose his eyesight. Dr Namazie was negligent for failing to fully anaesthetise the patient during the second operation. The mistimed anaesthetic dose and poor management contributed to the issue. As a result, the doctors' appeal to the Federal Court was dismissed, and both Dr Hari and Dr Namazie were found negligent in their advice, diagnosis, and treatment of the plaintiff.

In assessing all these cases to establish a breach of duty of care, it becomes evident that the traditional legal tests for determining breaches are not easily applicable to AI, neither in the context of autonomous transportation nor in healthcare. These tests were originally designed to address human errors, and extending them to AI systems presents significant challenges.

The primary difficulty lies in the fact that the traditional legal tests are tailored to human decision-making, which is inherently more flexible and adaptable than AI. Unlike human drivers or medical professionals, AI systems operate strictly within the limits of their programming and algorithms. Moreover, unlike human drivers and medical professionals, AI cannot ascertain different scenarios, such as complex routes and risky patients, without proper control.⁴⁵ This lack of flexibility makes it difficult for AI to meet the same standards of judgment and adaptability expected of humans under traditional tests. Furthermore, the lack of reliable outcomes underscores another fundamental difference between AI and

⁴¹ [2010] 7 Malayan Law Journal 478 (HC).

⁴² [2007] 1 Malayan Law Journal 593 (FC).

⁴³ *Zulhasnimar Bt Hasan Basri and Another v Dr Kuppu Velumani P and Others* [2017] 5 Malayan Law Journal 438 (FC).

⁴⁴ [2018] 3 Malayan Law Journal 281 (FC).

⁴⁵ Smith (n 2).

human decision-making. While human professionals can adapt their judgments based on experience and situational context, AI systems are constrained by their programming and data inputs, which may not always account for unique or unforeseen circumstances.

Hence, the test provided by the mentioned cases could not govern AI in its ordinary sense, as a high threshold is required to assess the breach by AI.

7. Causation

The next element that needs to be proved is causation, which refers to the chain or link between the duty exercised and the breach that resulted in the damages. There are two types of causation available under the law of torts, namely causation in fact and causation in law.

Causation in fact refers to the factual causation which proves a fault at a party causing harm to others. One can use various tests to determine such faults. Firstly, the 'But for Test' which means 'but for the action of A, B would not have suffered the injury'. In *Barnett v Chelsea and Kensington Hospital Management Committee*, although there was a breach found in the failure of nurses and doctors to exercise the duty to treat patients, the court ruled that the defendant is not liable due to the evidence that even though the patient was treated, he would still have died.⁴⁶

Next, we have multiple causes test, which refers to the situation where one's negligence can be coupled with another factor to inflict harm. In *McGhee v National Coal Board*, the defendant was held liable for causing dermatitis for the Claimant as the exposure to the dirt had materially increased his risk of developing dermatitis, thereby granting him compensation.⁴⁷

Causation in law, on the other hand, has 2 tests, namely the direct consequence test and the reasonably foreseeable test. *Wagon Mound No.1* laid down the requirements for the reasonably foreseeable test, which is widely being used now.⁴⁸ Firstly, the damages must be foreseeable as a consequence of the defendant's conduct. Secondly, the type of damage must be foreseeable. In this case, the fire that damaged the plaintiff's jetty was deemed unforeseeable because of the defendant's welding work, failing the second requirement of foreseeability. Therefore, the defendant was not held liable.

The author opines that causation, in fact, is likely to be more suitable for determining liability in cases involving AI systems. The rationale behind this is that causation in law often requires an assessment of foreseeability to establish liability. Given the inherent unpredictability and difficulty of AI systems, making reliable judgments regarding foreseeability is challenging. Therefore, the 'but for' test used in causation, in fact, may offer a more objective and reliable method for attributing responsibility when AI-related incidents occur. In short, the elements of the traditional law of negligence as a whole were proven

⁴⁶ [1969] 1 Queen's Bench 428 (HC).

⁴⁷ [1973] 1 Weekly Law Reports 1 (HOL).

⁴⁸ *Overseas Tankship (UK) Ltd v Morts Dock and Engineering Co Ltd* [1961] Appeal Cases 388 (PC).

with evidence that it is ineffective to address the cases involving AI. Although the element of causation could be extended to AI, the elements of duty of care and breach must be proven collectively in establishing liability. Thus, in the absence of fulfilling these elements, the traditional law of negligence cannot be applied to AI.

8. Concept of Vicarious Liability

The doctrine of vicarious liability is based on the principle that employees, while acting within the scope of their employment, may commit wrongful acts that are incidental to their duties.⁴⁹ In *Launchbury v Morgans*, Lord Denning articulated that vicarious liability arises when one individual assumes the liability for the actions of another.⁵⁰ This legal concept is particularly relevant in sectors such as transportation and healthcare, where the integration of AI systems raises complex questions about accountability. In the event of an adverse outcome, it becomes crucial to determine who should bear responsibility for the fault: the individual, the employer, or another party who took part in the event.

Several elements need to be fulfilled to establish vicarious liability. First and foremost, one has to prove that a wrongful act has been committed by the tortfeasor. In *Trans Resources Corp Sdn Bhd v Inai Kiara Sdn Bhd and Others* tort of negligence action arose from a vessel collision with a bridge pier, which caused damage to the spun piles for a river bridge crossing in Sarawak.⁵¹ The plaintiff, a contractor on a road project, filed a subrogated claim of RM1,173,059.41 after receiving an insurance payout for damage caused by a collision with the defendant's tugboat and barge. The Ds included the tugboat and barge owners and the captain of the tugboat. The incident occurred when the tugboat collided with the plaintiff's barge and later struck a completed bridge's piles. The plaintiff claimed the collision was due to the Ddefendant's negligence, particularly excessive speed and failure to follow safety warnings from the plaintiff's flagman. The High Court (HC) ruled the captain of the tugboat negligent for navigating vessels too close to the piles. In *GMP Kaisar Security (M) Sdn Bhd v Mohamad Amirul Amin Bin Mohamed Amir*, the Federal Court ruled that the worker's shooting was closely associated with his employment, and it would be fair and just to hold the employer vicariously liable, even though his actions may not have been authorised by the employer.⁵²

Secondly, one must prove the element of a special relationship. The relationship between the tortfeasor and the employer or master and servant must be determined to prove liability. Traditionally, courts examine the type of employment contract to decide whether it is a contract of service or a contract for service, as the effects of these contracts differ. If under a contract of service, the person is deemed an employee, and the employer will likely

⁴⁹ Daniela Glavaničová and Matteo Pascucci, 'Vicarious Liability: A Solution to a Problem of AI Responsibility?' (2022) 24(3) *Ethics and Information Technology*.

⁵⁰ [1973] Appeal Cases 127 (HOL).

⁵¹ [2015] 8 *Malayan Law Journal* 157 (HC).

⁵² [2022] 6 *Malayan Law Journal* 369 (FC).

bear responsibility for the tort committed. However, if under a contract for service, the person is considered an independent contractor, and liability is usually borne by the contractor.

The courts will use several tests to determine the type of contract. Currently, the test that is being widely used by the courts is the 'Multiple Test'. In *Ready Mixed Concrete (South East) Ltd v Minister of Pensions and National Insurance*, the court has outlined 3 conditions to fulfil a contract of service namely, the employee agrees that he will use his expertise and the employer will pay him in monetary or other forms of remuneration, secondly to bound by the employer's directions, thirdly the conditions in the agreement are in line with the nature of job undertaken.⁵³

Thirdly, the tort must be committed in the course of employment. In *Bohjaraj a/l Kasinathan v Nagarajan a/l Verappan*, a bus conductor employed by the second defendant, assaulted the plaintiff by punching him, causing injuries and loss of income.⁵⁴ In upholding the plaintiff's appeal, the court found that the first defendant had overstepped his authority to maintain order on the bus by resorting to abusive language and physical force. Despite the improper methods used, his actions were closely linked to the duties he was authorised to perform. As a result, the court held the second defendant vicariously liable for the first defendant's conduct. Although the assault went beyond the scope of the first defendant's authority, it was still committed in the course of his employment.

Carelessness of the worker doing his job is one of the scenarios where a tort can be committed in the course of employment. For example, in *Mohd Yeanikutty v Far East Truck Inc Manufacturing (Pte) Ltd, A*, who was a mechanic at defendant's shop sent together with another worker to fix a machine at a lift factory.⁵⁵ A's hand was crushed due to their negligence. defendant stated that A was to be blamed for his injury due to his disobedience of instructions. However, since the incident also occurred partly due to the negligence of the other worker, defendant was found vicariously liable as an employer to the other worker.

In short, one must prove all the above-mentioned elements in establishing vicarious liability.

8.1 Vicarious Liability and Autonomous Transportation and Healthcare

In applying vicarious liability among autonomous transportation and healthcare, one has to carefully evaluate the traditional elements. The first element of wrongful act may be proved as it could be easily determined by way of injuries and damages inflicted by the vehicle or the equipment in question. The real challenge would begin when it comes to the second and third elements. The second element requires us to prove the special relationship which would be assessed in the existence of the contracts between parties, while in the third

⁵³ [1968] 2 Queen's Bench 497 (CA).

⁵⁴ [2001] 6 Malayan Law Journal 498 (HC).

⁵⁵ [1984] 2 Malayan Law Journal 91 (COA).

element we must show that the tort was committed in the course of employment. However, when it comes to AI, where could one extract the contract from? How could one decide whether AI works under a contract of service or a contract for service to humans? Moreover, further difficulty will be imposed on the courts as it is not an easy approach for the courts to apply the control test, organisation test or multiple tests due to the absence of AI's personhood.

In the field of healthcare, due to its uncertain nature, 'Grey Areas' were identified in determining the special relationship between the master and servants. For example, in *Tan Eng Siew and Anor v Dr Jagjit Singh Sidhu and Anor*, the court assessed whether the medical officers acted in the course of the hospital business or on their own business and drew the conclusion that the first defendant was not an employee rather an independent contractor.⁵⁶ This was based on several facts such as the first defendant had an arrangement to use the second defendant's services such as running his clinic, and using its operating facilities and the clients were exclusively that of the first defendant who had complete control in the form of treatment, management, and care to be administered upon them as well as the fees to be charged. Furthermore, the first defendant was not in control of the affairs of the second defendant and he was just a mere investor.

In the existence of the grey areas, the inclusion of AI further complicates the doctrine of vicarious liability, as one cannot firmly decide whether AI is working as an employee or as an independent contractor, nor was it working on behalf of a particular individual or hospital.⁵⁷

In the field of transportation, similar issues arise in applying the second and third elements. Does a contract of employment form when purchasing an autonomous vehicle? Does the AI function as an employee to its owner? If someone else is driving, does the car serve the same function for them as it does for the original owner? Since AI lacks human qualities like consciousness or agency, it cannot be considered an 'employee' in the traditional sense. The author argues that, due to AI's lack of personhood, granting it the title of employee would create contradictions in the legal concept of vicarious liability. The absence of evidence regarding a contract between AI and its owner raises further scepticism.⁵⁸

Furthermore, in the absence of a contract that lays down answers for the last two elements, courts are more inclined to find the users, i.e. drivers and medical professionals, to be liable for the unfortunate event. This could be evidenced by data collected in California between 2014 and 2018, where the study found human drivers were liable more than the

⁵⁶ [2006] 1 Malayan Law Journal 57 (HC).

⁵⁷ Maria José Schmidt-Kessen and Max Huffman, 'Antitrust Law and Coordination Through AI-Based Pricing Technologies' (2024) 58 Law, Governance and Technology Series 374.

⁵⁸ Paulius Cerka, Jurgita Grigienė, and Gintare Sirbikyte, 'Liability for uDamages Caused by Artificial Intelligence' (2015) 31 Computer Law and Security Review 383.

self-driving cars involving accident cases. The probability of the autonomous vehicles being liable was only one out of thirty-six cases.⁵⁹

In the field of healthcare, in a physician survey conducted in the US between November 27, 2019, and April 12, 2020, it was found that physicians are voted to be liable for an error involving AI in any medical procedure rather than the AI itself.⁶⁰

As such, based on the above arguments presented with evidence, the element of vicarious liability cannot be simply applied to AI.

8.2 Strict Liability

The doctrine of strict liability refers to a liability model where a tortfeasor will be found liable for his/her wrongful act regardless of their fault. As per Gregory Keating, 'fault liability makes wrongful agency the fundamental basis of responsibility for harm accidentally done; strict liability makes agency itself the fundamental basis of responsibility'.⁶¹ Hence, this approach can be used as an alternative mode to make the AI liable, as the traditional law of torts imposes hardship in holding liabilities.⁶²

The question that one might be wondering about would be who, at this point, will be liable. It is widely accepted that, in applying the principle of strict liability, the manufacturer or seller is strictly liable for damages caused by a manufacturing defect, regardless of their negligence. Pursuant to the Council Directive 85/374/EEC (PLD), the producer who is regarded as the manufacturer or importer of goods into the EU for distribution as part of his commercial activity is held liable for defects in his product.⁶³

For instance, a Boeing 737 Max 8 plane crashed in Ethiopia, killing 157 people on board. Investigators believed that the crash was caused by a software malfunction.⁶⁴ The crash of the Boeing 737 Max 8s shed light on the possible dangers of designing a system in which competent humans are limited in their ability to override decisions made by an AI, although such incidents are rare. Later, as per multiple reports, it was stated that Boeing, as a manufacturer of the aeroplane, should be liable under a defective products theory.

⁵⁹ Kia Kokalitcheva 'People cause most California Autonomous Vehicle Accidents' (AXIOS, 29 August 2018) <<https://www.axios.com/2018/08/28/california-people-cause-most-autonomous-vehicle-accidents>>.

⁶⁰ Dhruv Khullar and others, 'Public vs Physician Views of Liability for Artificial Intelligence in Health Care' (2021) 28(7) *Journal of the American Medical Informatics Association* 1574.

⁶¹ Gregory C Keating, 'The Theory of Enterprise Liability and Common Law Strict Liability', (2001) 54(3) *Vanderbilt Law Review* 1285 <<https://scholarship.law.vanderbilt.edu/vlr/vol54/iss3/20>>.

⁶² Keating (n 61).

⁶³ Council Directive (EC) 85/374 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products [1985] OJ L 210/29.

⁶⁴ 'Boeing 737 MAX Lion Air Crash Caused by Series of Failures' (*BBC News*, 25 October 2019) <<https://www.bbc.com/news/business-50177788>>.

In *Taylor v Intuitive Surgical Inc.*, complications followed by death occurred when a physician ignored the robot manufacturer's guidelines.⁶⁵ Upon appeal, the court had to decide whether the manufacturer had an obligation to warn the hospital in addition to the physician. The majority ruled that the manufacturer owed duties to the patient and such duties could only be discharged by notifying the hospital. Therefore, the principle of strict liability may be applied by the court in determining the liability involving AI.

9. Adequacy of Law

Based on the above-mentioned arguments, it is clear at a glance that the traditional law of torts cannot be applied effectively in ruling the liability models involving AI. In the context of Malaysia, we are still yet to have a proper law drafted regarding the application of AI, neither in transportation⁶⁶ nor in healthcare departments.⁶⁷

The existing laws in Malaysia, such as the Road Transport Act 1987, the Private Healthcare Facilities and Services Act 1998, and the Medical Act 1971, are applicable only to humans. They were not drafted in the sense that they could be automatically extended to the inclusion of AI in the mentioned sectors. For example, the term 'driver' in Section 2 of the Road Transport Act 1987 refers to 'a person driving a motor vehicle'.⁶⁸ Next, Section 2 of the Private Healthcare Facilities and Services Act 1998 interprets 'healthcare professional' as a medical practitioner, dental practitioner, pharmacist, clinical psychologist, nurse, midwife, medical assistant, physiotherapist, occupational therapist and other allied healthcare professional and any other person involved in the giving of medical, health, dental, pharmaceutical or any other healthcare services under the jurisdiction of the Ministry of Health.⁶⁹ While Section 2 of the Medical Act 1971 also terms a practitioner as a medical practitioner.⁷⁰

All these terms indicate to us that they are not applicable to the models involving AI. Thus, the Malaysian framework still needs to be amended to include the application of AI so that liability would be easily determined.

As an example of the legal framework, Malaysia could look into Regulation (EU) 2024/1689 of the European Parliament and the Council's AI Regulation, which came into

⁶⁵ (2017) 187 Washington Report, Second Series 743 (SC).

⁶⁶ Hizal Hanis Hashim and Mohd Zaidi Omar, 'Towards Autonomous Vehicle Implementation: Issues and Opportunities' (2017) 1(2) Journal of the Society of Automotive Engineers 111 <<https://doi.org/10.56381/jsaem.v1i2.15>>.

⁶⁷ Noorbaiti Mahusin, Hasimi Sallehudin and Nurhizam Safie Mohd Satar, 'Malaysia Public Sector Challenges of Implementation of Artificial Intelligence (AI)' (2024) 12 Institute of Electrical and Electronics Engineers Access 121035.

⁶⁸ Road Transport Act 2013, s 2.

⁶⁹ Private Healthcare Facilities and Services Act 1998, s 2.

⁷⁰ Medical Act 1971, s 2.

force in August 2024.⁷¹ This Regulation was specifically drafted to overcome potential risks to citizens' health, safety, and fundamental rights, as it provides developers and deployers with clear guidelines and responsibilities regarding definite uses of AI while reducing administrative and financial burdens for businesses. The reason behind the comparison analysis with the European Commission's Regulation on AI could be justified on the basis that such regulation affords principles such as ethical, social, and legal implications of AI, including human rights protection, transparency, and accountability, which is a global concern in sensitive sectors such as healthcare and transportation. Furthermore, unlike the fragile or sector-specific regulations from other countries, the European Commission's regulation affords a broad and structured approach in determining liability in cases involving AI. Thus, this sets a valuable benchmark for other jurisdictions, including Malaysia, when considering the regulation of emerging technologies.

In analysing the regulation, Article 3 sets out the interpretations for the various AI-related terms.⁷² For example, 'AI system' was defined as a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Next, 'deployer' means a natural or legal person, public authority, agency or other body using an AI system under its authority, except where the AI system is used in the course of personal or non-professional activity. One could not find these terms in the existing legal frameworks, as AI has not reached its peak when the old laws were drafted. Therefore, its inclusion did not exist in the existing legal frameworks.

This regulation also clears out the issue of transparency, which was initially discussed as 'black box theory'. For instance, in Article 13, it was provided that 'High-risk AI systems shall be designed and developed in such a way as to ensure that their operation is sufficiently transparent to enable deployers to interpret a system's output and use it appropriately. An appropriate type and degree of transparency shall be ensured with a view to achieving compliance with the relevant obligations of the provider and deployer set out in Section 3'.⁷³

Next, liability was also drafted in a straightforward manner as people such as deployers, providers, operators and distributors are mainly held liable for their failure to adhere to the regulations leading to bad outcomes. Furthermore, penalties together with the manner to assess them were also provided under CHAPTER XII, Article 99.⁷⁴

⁷¹ Regulation (EU) of the European Parliament and the Council's AI Regulation, 2024/1689 of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations [2024] OJ L 2024/1689.

⁷² AI Regulation (n 71) art 3.

⁷³ AI Regulation (n 71) art 13.

⁷⁴ AI Regulation (n 71) art 99.

In short, this European Commission's regulation could be said as a detailed regulation drafted so far to address the issue of liability involving AI in the face of the world. Though this regulation is drafted in general, it could be widely applied to every sector. As such, Malaysia should take this regulation into account in amending the existing laws or in drafting an act, particularly for AI in specialised sectors such as transportation and healthcare.

10. Conclusion

In short, an analysis of the legal literature surrounding AI in the transportation and healthcare sectors has revealed several key issues related to civil liability and regulation. Although the lack of clear legal positions in Malaysia and many parts of the world, this paper has classified and discussed the most pressing challenges in these areas. Given the novelty of liability concerns arising from AI decision-making, legislators should address these matters through comprehensive legislation rather than relying on the slow development of case law over time.

Therefore, it is strongly recommended that Malaysia should amend the existing legal frameworks or introduce clear and specific legislation to tackle the legal issues related to AI as an alternative course due to the fact that the traditional law of negligence is not effectively applicable to AI. As AI technology continues to evolve and increasingly permeate various sectors, it will certainly play a central role in the country's economic and social development. Without a proper legal framework in place, both the judiciary and the nation may face substantial challenges in addressing the complexities and risks that arise from AI integration.

If legislators take proactive steps to introduce such legislation, AI-driven systems could be deployed more effectively across a wide range of industries. This would not only help streamline operations but also bring substantial advancements in reducing human burdens. Finally, a forward-thinking approach to AI regulation will enable Malaysia to control the full potential of these technologies while ensuring accountability, fairness, and safety.

Acknowledgment

The author gratefully acknowledges the support of Multimedia University's Siti Hasmah Digital Library for facilitating access to the relevant databases, and extends sincere thanks to the school of law for its encouragement and support throughout the writing of this paper.

Funding Information

The author received no funding from any party for the research and publication of this article. ♦