

Jurisprudential Implications of Robot Liability and Legal Applications for Smart Machines

التخريجات الفقهية لمسؤولية الروبوتات والآلات الذكية وتطبيقاتها القانونية

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Abstract:

This research addresses the challenge of defining the liability scope arising from physical or financial damages caused by artificial intelligence systems, considering the intricate relationships among various entities. It begins by identifying the party responsible for programming and enhancing these systems with programs and data, extending to the ownership or management entity. It also involves determining direct liability based on the legal personality granted by law. This study reviews Islamic jurisprudence's stance, focusing on established principles, especially in guaranteeing domains, and considers various options discussed by jurists. These principles serve as a jurisprudential framework to determine responsibility and ensure accountability.

The research concludes that there is a common ground between law and Islamic jurisprudence in recognizing human attributes as the basis for legal personality and liability. This analogy strengthens the connection between these systems and inanimate objects, placing them within substantial unity.

Keywords: Artificial Intelligence, jurisprudential Rulings, Guarantee, Legal Personality, Jurisprudential Rules

ملخص:

يتناول هذا البحث التحدي المتمثل في تحديد نطاق المسؤولية الناشئة عن الأضرار المادية أو المالية الناجمة عن أنظمة الذكاء الاصطناعي، مع الأخذ في الاعتبار العلاقات المعقدة بين مختلف الكيانات. ويبدأ بتحديد الجهة المسؤولة عن برمجة وتعزيز هذه الأنظمة بالبرامج والبيانات، وصولاً إلى الجهة المالكة أو الإدارة. كما يتضمن تحديد المسؤولية المباشرة على أساس الشخصية الاعتبارية التي يمنحها القانون. تستعرض هذه الدراسة موقف الفقه الإسلامي، مع التركيز على المبادئ الثابتة، خاصة في مجالات الضمان، وتتناول الخيارات المختلفة التي تناولها الفقهاء. وهذه المبادئ بمثابة إطار فقهي لتحديد المسؤولية وضمان المساءلة.

في الأخير يلخص البحث إلى أن هناك أرضية مشتركة بين القانون والفقه الإسلامي في الاعتراف بصفات الإنسان كأساس للشخصية الاعتبارية والمسؤولية. وهذا التشبيه يقوي العلاقة بين هذه الأنظمة والجمادات، ويضعها في نطاق الوحدة الجوهرية. الكلمات المفتاحية: الذكاء الاصطناعي، التخريجات الفقهية، الضمان، الشخصية الاعتبارية، قواعد الفقه.

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Introduction:

In the 1970s, the dreamy scientific horizon was searching and striving to invent machines and develop them to a level where these machines would be equal in intellect and function to humans. They would think as humans do, analyze the information they gather, and make appropriate and suitable decisions based on this analysis.

Moreover, it is no longer limited to just inventing machines and innovating devices meant to serve humans and provide them with facilities, such as smart devices like GPS systems in airplanes and self-driving cars or robots. Artificial intelligence has advanced to the extent of what is known as virtual simulation, intelligence that rivals human intelligence and even surpasses it. It has reached the point of obviating the human element and replacing it with artificial intelligence programs and systems. This implies a theory of complementing or replacing human capabilities when dealing with artificial intelligence systems. Thus, computers and smart machines have gained the ability to perceive their surroundings, interact with spoken or recorded sounds, read written texts, communicate with others in languages they understand, distinguish between thousands of humans through fingerprints, sound, or facial recognition, perform vital functions and various tasks, conduct examinations, diagnose diseases, prescribe medical drugs, perform surgical operations, drive cars, and control both civilian and fighter aircraft.

Artificial intelligence research has yielded independent systems that make decisions individually without human authority or control, based on the information and data they possess, which are analyzed to make appropriate decisions.

This development raises questions about the responsibility and consequences of these machines, as they may cause physical or financial harm. Should these machines remain as inanimate objects, maintaining the responsibility within the scope of humanity, or should they be treated as individuals with personal characteristics, intelligence, and independence from humans? In addition, the issue of causation and direct involvement in the physical act that results in harm is crucial. This is one of the main reasons for liability established in Islamic jurisprudence, and consequently, it deals with individuals who possess the capacity for obligatory duties without the condition of possessing intellect, similar to non-distinguishing minors or non-competent.

This research, titled "Juridical Implications of the Actions of Robots and Smart Machines and Their Associated Responsibilities: A Study in Juridical Rules and Applications," attempts to address these questions and hypotheses.

Problem Statement:

The research problem revolves around determining liability for damages caused by artificial intelligence systems, whether it should be attributed to the programmer, the owning company, or the AI system itself, and exploring possibilities for liability judgments within the general principles of Islamic jurisprudence.

Significance of the Topic:

This topic is significant for the following reasons:

The significant development of artificial intelligence technology to the point where machines are considered equal to humans in intellect necessitates an in-depth examination of this aspect.

The topic is related to elucidating the jurisprudential principles and methods that can be used to address issues related to artificial intelligence to determine the legal judgment regarding liability.

Research Objectives:

The research aims to achieve several objectives:

1. Emphasize the presence of jurisprudential and analytical expertise in studying emerging issues related to artificial intelligence technology in Islamic jurisprudence.
2. Clarify the need to refer to legal judgments to cover the legislative vacuum in defining the nature of liability for damages caused by artificial intelligence systems.

Research Methodology:

This research adopts an approach of analysis and investigation by collecting information related to the topic from various technical, technological, jurisprudential, and legal aspects, and then analyzing them to arrive at an appropriate legal judgment and establish liability for incidents caused by artificial intelligence systems.

Research Plan:

The first section provides a general overview of artificial intelligence technology, its concept, and its mechanisms. The subsections in this section discuss the general concept of artificial intelligence, its types, and its application areas, as well as the nature of the relationship between humans and artificial intelligence systems. The second section explores the jurisprudential principles in Islamic jurisprudence, focusing on the concept of liability and its impact on incidents related to artificial intelligence. The subsections in this section cover the principles of causation and liability in Islamic jurisprudence and the jurisprudential applications of liability rules in addressing incidents involving artificial intelligence.

1st Title: Overview of Artificial Intelligence Technology - Concept and Mechanism.

Artificial Intelligence (AI) technology primarily relies on computers and modern information technology. The goal is to achieve a level where intelligent machines can mimic human behavior both intellectually and functionally. The evolution of AI thinking has surpassed this boundary, moving towards inventing intelligent machines and developing their programs. Their function extends beyond complementing human shortcomings in task performance to replacing and substituting machines for humans (known as the Replacement Theory).

This research is divided into two parts. The first part elucidates the general concept of AI technology, while the second part delves into the nature of the relationship between humans and AI systems, specifically in terms of defining responsibility arising from errors in utilizing this technology.

.1 The General Concept of Artificial Intelligence Technology

Understanding the true and accurate meaning of intelligence, regardless of specific descriptors such as human, artificial, or electronic, is the initial step in outlining a clear concept of artificial intelligence.

Philosophical perspectives on defining intelligence vary. Some emphasize emotions and sensations as components of the mind, forming the basis for logical reasoning, as Aristotle did. This perspective casts shadows on defining artificial intelligence because it cannot involve emotions and

sensations. In contrast, viewing human intelligence from the perspective of the ability to learn and acquire various skills and knowledge leads us to define artificial intelligence.

There are various definitions for this term, such as:

"Artificial Intelligence is the study of intelligent behavior, especially human behavior, and an attempt to find ways to introduce this intelligent behavior to artificial machines."¹

If artificial machines and computer programs can simulate intelligent human behavior in problem-solving or decision-making, surpassing the capabilities of their designers in various aspects, we can then speak of artificial intelligence². Therefore, it is crucial to abandon the notion that computers are mere machines performing purely logical operations. Numerous programs have been developed to make predictions and excel in games, surpassing their designers in several aspects³.

An important question arises regarding the capability of machines to think or how we can determine artificial intelligence. Experts and scientists, including the scholar Oranj, address this question by proposing a test called "Imitation" or "Simulation." The essence of this test is that machines, programs, and computers should be able to convincingly demonstrate an inability for humans to detect their identity during conversations. When this condition is met, we are facing machines with the ability to think⁴.

1st subtitle: The Importance of Artificial Intelligence and Its Applications

The rapid pace of life characterizing our contemporary world, along with its complexity, reveals the significance of artificial intelligence (AI). The substantial development resulting from this interconnection in functions and task complexity highlights the need for machines capable of unraveling intricacies, addressing complexities, and keeping pace with the rapidly evolving era. Here, the importance of artificial intelligence is evident in creating machines and developing computer programs that perform tasks better and faster than ordinary humans do at present. Additionally, several elements emphasize the importance of artificial intelligence, including:

- Intelligent machines have reached a stage where they go beyond merely preserving accumulated human experiences. They can autonomously form decisions independently, free from any human control or intervention⁵.
- Computers and smart machines can perceive their surroundings, recognize objects, and, to the extent that humans can communicate with them in human language rather than computer programming languages. This makes these machines accessible to all segments of society⁶.
- Smart machines are expected to alleviate many risks and psychological pressures on humans, particularly in strenuous and hazardous fields. Artificial intelligence will also play a crucial role in sensitive areas across various important sectors where it is employed, as will be elucidated in the following section⁷.

2nd subtitle: Fields of Application and Sectors of Artificial Intelligence

Given the vast evolution and extensive use of AI technology, it is challenging to confine its application areas. Artificial intelligence has diversified its domains, encompassing numerous aspects of life. It has been entrusted with tasks and functions previously exclusive to the human element, demonstrating the ability to perform these functions with a high degree of accuracy and proficiency. In the medical field, computers and smart machines can conduct examinations, diagnose diseases, prescribe medications, and perform precise surgical operations.

In the realm of financial and electronic commerce (online), artificial intelligence plays a crucial role in receiving customer requests, offering suitable and appropriate solutions, and facilitating necessary transactions for commercial transactions. Furthermore, intelligent machines

and computer programs are now capable of replacing humans in driving vehicles and piloting aircraft over long distances without interruption, day and night.

The creative aspect has not been excluded from the applications of artificial intelligence, as AI systems have discovered mathematical theories and developed systems for drawing and planning. Even in the humanities, such as writing journalistic articles and creating poetic compositions, AI systems are currently performing tasks and functions. We can say that artificial intelligence is competing with human performance in various fields and domains. It has transcended the concept of simulation and imitation of human intelligence to produce AI systems that match and even surpass human intelligence. However, it is crucial to note that with the diversity of AI applications and their incorporation into various branches, these systems do not possess a uniform level of strength and proficiency in performing tasks and projects. Therefore, we find ourselves facing three types of artificial intelligence, each with different implications based on its type.

Limited or Weak Artificial Intelligence: This type, the most widespread and used, relies on designing intelligent machines that simulate human intelligence in performing a single predefined task. Examples include industrial robots programmed for specific tasks and automated teller machines.

General or Strong Artificial Intelligence: This type makes machines intellectually and functionally equal to humans. Smart machines can perform tasks based on accumulated experiences and data by analyzing information and making independent decisions, distinguishing it from the previous type. Examples include medical diagnostic robots and chatbots in customer service.

Superintelligent Artificial Intelligence: This type, still largely within the realm of science fiction, aims to apply all aspects of artificial intelligence to machines, designing systems that surpass the human brain and biological capabilities⁸.

2. Defining the Nature of the Relationship Between Humans and Artificial Intelligence Systems.

The advancements in artificial intelligence (AI) have led to the development of intelligent systems capable of making independent decisions based on their experiences and machine learning, raising questions about the nature of the relationship between humans and AI systems. The concept of subordination is no longer applicable at this level of progress, especially concerning obligations and determining responsibilities arising from the damages caused by AI systems. Does the description of humanity have an impact on establishing obligations? Can the legal and conceptual personality granted to intelligent machines affect their nature and position in humanity?

1st Title: Human Agency in Establishing Responsibilities

Examining the essence of humanity and determining its position in establishing obligations is based on the understanding that the most crucial and perhaps the only distinction between intelligent machines and humans is this quality. The basis for establishing eligibility in its two forms, the eligibility of obligation and the eligibility of performance, is the quality of humanity. It is enhanced in the eligibility of performance by intellect and discernment, encompassing both deficient and complete eligibility.

Consensus exists that eligibility is not established for humans merely by being addressed in religious decrees, as indicated by the Quranic verse: "Indeed, We offered the Trust..." [Quran 33:72]. Scholars unanimously agree that humans, as recipients of religious decrees, are born with a valid trust, according to Al-Bazdawi's statement: "Humans are born with a valid trust by the consensus of scholars." Legal theorists, discussing the one judged in matters of legal ruling, only consider the natural human being, i.e., the offspring of Adam. Al-Tafsīr al-Tafsīranī highlighted an essential point in responding to those who denied the trust expressed by eligibility for the obligation. He argued that this objection relates to reason because reason is a tool for understanding

legal decrees. Still, the foundation of obligation is built on this description—trust. If, hypothetically, reason were inserted into a non-human entity, such as intelligent machines, the obligation would not be established for it⁹.

Thus, based on Al-Tafsīranī's clarification, it is impossible to find a basis or order for obligations arising from the actions of intelligent machines to replace the description of humanity and human nature as a cause for obligation. Even if these machines are characterized by intelligence capable of understanding distinctions, and acting in the interest and benefit, the obligation is not established without the characteristic of trust, which is the condition for establishing obligation¹⁰.

As humanity is the basis for establishing obligations, it is essential to investigate the foundation that establishes the obligations and responsibilities in the actions of intelligent machines and AI systems that operate independently, away from human control. In this context, the concept of the human deputy emerged in the law, as seen in the European Civil Law on Robots issued in February 2017. This theory is adopted to determine responsibility for damages resulting from the operation, invention, manufacture, assembly, or operation of robots. It maintains a type of connection between humans and these machines and systems, which will be further clarified and explained later.

1st subtitle: The Theory of Personhood and Its Impact on the Adaptation of Intelligent Robots

Discussing human personality as the origin of the concept of civil rights sheds light on defining the nature of intelligent robots and their position within human personality in determining the extent of responsibility for damages caused by them. Since humans, who are the focal point of human personality, are either seekers or those sought, demanding their rights or obliged by commitments and rights, this discussion influences the assessment of intelligent robots' responsibility for damages¹¹.

The legal term "personality" encompasses both natural and legal entities, where natural persons are endowed with legal personality that allows them to enjoy rights and bear duties. This also includes groups of individuals and assets, establishing legal personality that enables them to enjoy rights, bear duties, and incur responsibilities. This is referred to as legal or moral personality. The law considers personality to include both natural and legal entities, and both together constitute legal personality.

In light of this, it can be said that there is no connection between intelligent robots and natural personalities unless there is financial or numerical aggregation of these robots under the scope of a company or institution. The discussion about adapting the nature of intelligent robots, particularly to natural personalities, remains relevant.

However, the distinguishing factor of humanity, which characterizes natural persons and forms the basis for legal personality, presents a significant obstacle in associating robots and intelligent machines with natural persons, establishing legal personality based on this foundation.

For this reason, modern legal jurisprudence has leaned towards denying legal personality to these robots based on their significant human-like capabilities. This denial grants them a legal status in which they are held responsible for their actions¹².

There is a commonality between Islamic jurisprudence and legal jurisprudence in recognizing humanity as a characteristic that establishes legal personality or eligibility in Islamic jurisprudential terms. However, the law adds other entities that do not possess the characteristic of humanity to the circle of legal personality, as seen in the case of moral or legal personality. While Islamic jurisprudence recognizes moral or legal personality, acknowledging legal personality and its eligibility for acquiring rights and bearing duties and responsibilities.

The question arises: What is the basis for establishing legal personality or eligibility for these moral and legal entities? In the legal field, it is established that legal entities with legal personality enter the legal sphere only through the recognition of the legislator, whether this recognition is general or specific. Therefore, there is no issue from this perspective in establishing a legal personality for these robots if the legislator recognizes them and intends to acknowledge them, in line with other non-human entities granted legal personality through legislative recognition. This recognition takes into account the significant capabilities that mimic human abilities possessed by these intelligent machines and the profound social and economic effects they bring about¹³.

Further clarification on the Islamic jurisprudential aspect of these intelligent machines and robots will be provided to elaborate on this issue¹⁴

2nd Title: Foundations of Inclusion in Islamic Jurisprudence Regarding the Implications and Legal Implementations of Artificial Intelligence.

Guarantee stands out as a crucial concept, commanding attention when its stipulations come into play. No matter the varied reasons for the guarantee set forth by legal scholars, a valid commitment must be present to validate it. This implies that discussions around guarantees are only pertinent when there is a thing called "commitment," rooted in human attributes. In this chapter, we will explore the principles of guarantee in Islamic jurisprudence, specifically focusing on the foundations of inclusion concerning the damages wrought by artificial intelligence. The subsequent segment will zero in on illuminating certain legal applications that can guide the determination of damages caused by these intelligent systems.

1. Principles of Guarantee in Islamic Jurisprudence and Their Influence on Addressing Damages from Artificial Intelligence

The significance of legal tenets, particularly those related to guarantees, becomes apparent when dealing with judgments arising from various errors and transgressions. Given the relatively abundant nature of guarantee-related rules in comparison to other legal principles, the discussion will be confined to aspects closely tied to damages caused by artificial intelligence.

1st subtitle: Causes of Guarantee

Al-Qarafi posited that the causes of guarantee broadly boil down to three factors: direct disposal, exemplified by actions like burning a garment; causing destruction, as seen in actions like digging a well in the path; and placing an entrusted hand, akin to the acts of a usurper. Some jurists introduced additional causes, such as contracts, societal obligations, defects, and alterations. While there may be some overlap among these causes, our primary concern revolves around the harmful act¹⁵. The actions perpetrated by artificial intelligence fall into the categories of disposal and destruction, whether impacting lives or assets. The elements constituting harmful actions are inherent in the damages left in the wake of these systems, as harmful actions necessitate sensory involvement, occurring either directly or causatively¹⁶.

Warranty is contingent upon two conditions related to the harmful act: firstly, the connection to the site of damage, and secondly, emanating from someone with a commitment. Even if these intelligent systems are treated akin to animals in some respects¹⁷, the obligation of guarantee remains on the owner because no harmful act is exempt from shortcomings. Shortcomings serve as a sufficient cause for guarantee.

2nd subtitle: Consequences of Guarantee

The genesis of this rule, as articulated by Ibn Najim, stems from a narrative where a man bought a slave, permitting the slave to reside as he pleased. Subsequently, upon discovering a

defect, the matter was brought to Prophet Mouhamad ﷺ. The Prophet responded, "The yield comes with a guarantee." This implies that whatever emerges from something is its yield, and the guarantee applies to what is rightfully due. Should an individual purchase a slave, utilize it for a period, and subsequently uncover a defect, the seller deceives him. Consequently, he is entitled to return the slave, claim the entire price, and gain possession of his property¹⁸.

In a parallel context, there exists the principle of "sheep with the penalty," signifying that the guarantee expressed through penalty is executed through the yield represented by sheep¹⁹. Applying this rule to the damages caused by intelligent systems is contingent upon determining the nature of the entity entitled to profits and benefits. Is the owner represented by the manufacturing company, the owning company, or the operating entity? The party deserving these profits and affected by these benefits is the one obligated to provide a guarantee according to this rule²⁰.

If legislation and laws establish financial and legal liability for these robots and systems, similar to the liability of a slave, the manufacturing or owning entity has the choice to compensate from the additional funds allocated to the robots or cover the compensation from its funds, as prescribed in the liability of the slave. Alternatively, it can compensate for the robot's value after evaluation, sale, and the realization of its price²¹.

2. Principles of Liability in Islamic Jurisprudence Regarding the Harms and Applications of Artificial Intelligence Systems

Imposing liability on the owner or manufacturer of intelligent machines and artificial intelligence systems for the damages they cause to individuals or properties is grounded in legal obligations arising from financial harm caused by causation or contractual obligation²².

The party responsible for an incident is the one who performs actions leading to it²³, without directly engaging in it. This specification of the responsible party, as mentioned by Sheikh Al-Zarka in the introduction, applies to the entities controlling these machines and systems.

The absence of these entities from the scene and location of the incident does not affect this adaptation. The scholars have outlined two situations for the responsible party: either acting independently in the field, where the condition is trespass, or acting jointly with the direct perpetrator, where the liability falls on the direct perpetrator, and the condition is trespass²⁴.

In this legal context, the essence of liability is trespassing, encompassing both overt violation of others in themselves or their property, exceeding the legally allowed limits leading to harm to others. This includes any form of negligence, and trespassing in this case includes neglecting what should have been done²⁵. Therefore, holding the entities responsible for these machines and intelligent systems is based on this foundation, which is negligence through neglect and shortcomings. Negligence is the key to liability for damages resulting from causation or direct action, and it does not require intentional harm on the part of the actor, as the rights of others are guaranteed according to Sharia, regardless of intent or error²⁶. The expression "the actor is not liable except with intent" in the formulation of the legal maxim does not mean intent to harm but rather refers to negligence, whether intentional or unintentional²⁷.

1st subtitle: Part One

In this regard, the scholars have included sending one's animal on the path of Muslims, causing harm to it, without requiring intent or deliberate action²⁸. This is akin to the concept of "al-Irsh" – the loss of a slave who does not have ownership responsibility – in Islamic jurisprudence. The liability imposed on the party controlling these machines and systems means that the damages caused by these systems are based on two foundations: comparing them to animals and their owners, and comparing them to slaves and their masters.

The first foundation is the comparison to animals. We previously mentioned that the collective responsibility of machines and intelligent systems for damages is similar to that of animals. This is because they share a rank in the hierarchy of humanity equivalent to personhood, providing the basis for liability and the ability to establish and enforce rights. Therefore, the default assumption for damages caused by animals is that they are considered losses, as animals lack responsibility and awareness, as mentioned in the hadith: "The animals whose wounds are considered major are exempt." Al-Sarakhsi stated, "Al-Jabar means waste. The proof for this is that the action of an animal is wasteful because it is not valid for it to be obligatory on its owner, and there is no liability for the animal itself."

"Al-Ajamaa" refers to an unrestrained animal without an owner. This is the one that Prophet Muhammad ﷺ exempted from the repercussions of its actions. As for animals that are not unrestrained but sent on a path, traded, ridden, or controlled on the road, their actions are considered valid. The situation in which both animals and intelligent systems contribute to damage is when they are sent or used. The evolution of these intelligent systems, approaching human-like simulation and autonomous behavior without any authority or control by humans, does not exempt them from the sphere of belonging to the owner or being accountable to them. The difference between machines and animals mentioned previously does not affect the liability requirement fundamentally. Rather, it only affects the determination of the party responsible for the damages caused by these systems, whether they result from causation or direct action.

The liability assignment to the owner or entity controlling these machines and intelligent systems is conditioned on the assumption of causation that is not devoid of some form of negligence. Therefore, the obligation of liability is incumbent upon the responsible party, whether through negligence in the invention, design, or programming of these machines.

The second foundation is the comparison to slaves. The principle used to evaluate the damages caused by machines and systems is their comparison to slaves. In Islam, slaves have exceptional legal rulings that apply to them, despite their equality with others in terms of humanity and personhood. However, their financial or proprietary aspect, expressed in Islamic jurisprudence as "Milk," weakens their liability, to the point that it seems as if they have no liability, as stated by Al-Bazdawi in his *Usul*²⁹.

This aspect, highlighted by scholars concerning slaves, is what serves as the basis for associating intelligent systems with slaves. The crime of each of them is considered when determining liability, and there is no liability for one of them. If the default assumption among scholars is that the responsibility for a crime is tied to the neck of the slave, not his liability, then the responsibility for damages caused by these systems is also related to their responsibility. This is because the movement of these intelligent machines is automatic, not subject to the control of the owner or the entity responsible for them.

The method of fulfilling the right of the slave involves either transferring ownership to the victim, having the owner or responsible entity pay compensation for the value of the damage, or selling the slave, similar to these systems and machines causing harm. Scholars have detailed methodologies for choosing the method of compensation, differentiating between the types of offenses against individuals or property³⁰.

Previously, we indicated that including the party responsible for these machines and intelligent systems is based on the concept of causation, which is not devoid of some form of negligence. If we assume causation on the part of the owner, the obligation of liability arises, similar to the liability imposed on the master offending by his slave³¹.

2nd subtitle: Legal Applications in Establishing Liability for Harms Caused by Intelligent Machines and Systems

The third aspect of our discussion delves into juridical applications concerning the provisions of liability for the damages resulting from intelligent machines and systems. It draws parallels from the field of jurisprudence, specifically focusing on the issue of sending animals, known as "Irsal al-Dabah."³² To comprehend the implications of this matter and build a framework for applying these principles to intelligent machines and systems, let's examine some of the rulings established by scholars and then extrapolate from them regarding the inclusion of these intelligent systems and machines:

Non-liability for the Destruction Caused by Animals: Similar to the exemption of liability for the destruction caused by animals, as discussed in the previous chapter regarding animals and slaves, the liability for intelligent machines does not directly fall on the machine itself but rather on the entity or individual owning or responsible for these intelligent systems. This is grounded in the idea that, like animals, these machines are under the control and ownership of a party, and any liability arises from the actions or neglect of that controlling entity³³. **Distinction in Liability Based on Location:** Just as scholars differentiate in the liability for animals based on whether they are sent in urban areas or deserts, the liability for intelligent systems should be contingent on their usage context. If these systems are deployed in populated areas, the entity or owner must bear liability due to the ability to monitor and control them. This draws a parallel to the liability arising from sending animals to populated areas, where the owner is held accountable due to the ability to supervise and control³⁴.

Responsibility for Damages When Accompanied by a Rider: The liability for damages caused by an animal and accompanied by a rider is attributed to the owner because the actions of the animal are attributed to the owner's responsibility. Similarly, when an intelligent machine causes harm while under the ownership or control of an entity, the responsibility for the damages lies with that entity, aligning with the concept of responsibility established in the context of sending animals³⁵.

Application of Custom and Tradition: Just as scholars consider customs and traditions in determining liability for damages caused by animals, the same principle applies to intelligent machines. The liability is contingent on factors such as sending, encroachment, and adherence to customary practices. If an intelligent machine is deployed following customary norms and ends up causing harm, the liability for the damages should be established based on the negligence or deviation from these norms by the controlling entity³⁶. **Varied Juridical Opinions Based on Negligence or Encroachment:** The differences in juridical opinions regarding the inclusion of damages caused by animals stem from the assessment of negligence or encroachment. Similarly, in the case of intelligent machines, the liability is linked to the negligence of the owner or controlling entity. If negligence is established in deploying or using these machines, the liability for damages is absolute³⁷.

In conclusion, if we consider the owner or responsible entity for intelligent machines not to be devoid of negligence, absolute liability for damages caused by these systems can be established. This aligns with the Hanafi school of thought, which holds that if there is any negligence on the part of the controlling entity, the liability is absolute, whether the damage occurs at night or during the day³⁸.

Conclusion:

The rapid advancement of artificial intelligence (AI) technologies has enabled machines to perform increasingly sophisticated tasks, often blurring the lines between human agency and automated decision-making. As these machines become integral parts of various sectors, from healthcare to transportation and beyond, questions of accountability and liability loom.

In conclusion, the research establishes the following key findings:

1. The most significant difference distinguishing intelligent machines from humans, impacting the inclusion of these systems, is the quality of humanity. This attribute is fundamental in substantiating the obligation of responsibility
2. The remarkable decision-making capabilities of intelligent machines have no bearing on their treatment concerning responsibility. Unlike humans, these machines lack the foundational quality of humanity, challenging the necessity of responsibility as humans experience it due to the absence of this fundamental quality.
3. While both legal and Islamic jurisprudential systems consider humanity as the foundation for legal personality or eligibility, the legal system uniquely introduces other entities into the realm of legal personality without possessing the attribute of humanity. This distinction has contributed to the ongoing debate regarding the determination of responsibility for these machines, with legal recognition being a key factor in this judgment.
4. In Islamic jurisprudence, discussions on responsibility are only relevant when the concept of responsibility (Dhimmah) exists. This concept is rooted in the humanity aspect, and without it, discussions about responsibility are not applicable.
5. All elements constituting harmful acts are present in the actions of these intelligent machines and systems, including sensory actions, direct actions, and the causation of harm.
6. Intelligent machines and systems lack any attributes that would establish responsibility. Therefore, there is no basis for claiming their inclusion, even if their resemblance to humans is highly advanced.
7. The maximum association these machines can have is likened to inanimate objects, sharing commonality in terms of physicality that correspond to humanity. Liability for damages and disposal, such as direct actions that entail responsibility and its conditions, can be established based on this analogy.
8. The application of established rules in Islamic jurisprudence, such as the rule of responsibility for damages (Khuraj bial-Dhimmah) and the rule of reasons for responsibility, mandates the inclusion of the entity responsible for these intelligent systems and machines.
9. The imposition of responsibility on the entity controlling these systems and intelligent machines is founded on two principles: analogy with inanimate objects and analogy with slaves and servants, as evidenced by the responsibility falling on the animal for which there is no owner.
10. The application of the concept of sending animals reveals jurisprudential applications that can significantly impact the inclusion of the entity owning these systems and intelligent machines in responsibility for the damages they cause.

Recommendations:

Based on the findings, the study proposes the following recommendations:

1. There is a pressing need for legislative regulation to govern the use of intelligent technologies. This includes defining the responsible entity to safeguard rights, resolve disputes, and establish a clear legal framework that prevents rights loss and conflicting interests.
2. Efforts should focus on harmonizing legal principles across jurisdictions to address the complexities of responsibility for intelligent machines, ensuring consistency and fairness in legal outcomes.
3. Educational initiatives should be undertaken to enhance understanding among stakeholders about the ethical and legal implications of intelligent technologies, fostering informed decision-making and responsible innovation.

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