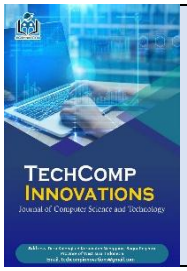

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Reconceptualizing Artificial Intelligence Legal Personhood: A Jurisprudential and Comparative Analysis of Emerging Regulatory Frameworks

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ABSTRACT

This article examines the evolving discourse on granting legal personhood to Artificial Intelligence (AI) by analyzing jurisprudential foundations, global regulatory frameworks, and emerging challenges in liability attribution. As AI systems acquire higher autonomy, opacity, and decision-making independence, traditional human-centered legal structures struggle to assign responsibility for AI-generated harms. Through a qualitative methodological approach, involving library research and content analysis, this study evaluates whether limited or functional legal personhood can serve as a viable solution to accountability gaps created by advanced AI systems. The discussion explores key themes including AI autonomy, black-box decision processes, digital identities in virtual environments, metaverse avatars, and the boundaries of existing tort and contract law. Comparative insights from the European Union, the United States, and India highlight significant divergences in regulatory approaches, particularly regarding "electronic personhood," strict liability models, and AI-specific safeguards. Findings indicate that while full personhood is premature, a hybrid framework—combining functional personhood, risk-based regulation, and AI-focused accountability mechanisms—could enhance legal clarity, promote responsible innovation, and strengthen public trust. This study contributes to the ongoing global effort to conceptualize AI legal personhood within modern socio-digital ecosystems.

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INTRODUCTION

The rapid expansion of Artificial Intelligence (AI) across multiple sectors—including healthcare, finance, security, governance, and transportation—has generated unprecedented legal and ethical challenges for contemporary legal systems. Modern AI systems increasingly demonstrate autonomy, adaptive learning, and independent decision-making capacities that blur the boundaries between tools and agents. These technological advancements raise critical questions regarding liability, accountability, and the nature of legal rights. Central to this debate is whether AI should be granted some form of legal personhood, similar to the juristic status historically conferred upon corporations, trusts, and other non-human entities. This article explores the legal ramifications of attributing personhood to advanced AI systems, delving into the historical evolution of AI from its conceptual origins to its current sophisticated manifestations (Lovell, 2024). Specifically, it critically examines the jurisprudential underpinnings of legal personhood and evaluates their applicability to AI, moving beyond the historical focus on natural and legal persons to consider emerging digital identities (Chawki, 2025).

This involves a rigorous analysis of how existing legal frameworks, designed for human and corporate actors, can accommodate AI's unique operational characteristics and the novel issues arising from its integration into socio-digital institutions (Novelli et al., 2025). The article further investigates the necessity for novel regulatory paradigms, considering the transparency and opacity challenges posed by autonomous AI, and drawing comparisons with international initiatives aimed at establishing responsible AI governance (Ganguli, 2024). The core inquiry revolves around whether AI, as a creator of intellectual property or an actor in contractual agreements, merits a distinct legal status to address liability and rights effectively (Lovell, 2024). This analysis will specifically address the European Parliament's 2017 proposal to classify certain autonomous AI systems as "electronic persons" (Rashid, 2024), critically assessing its implications alongside the broader debate on whether avatars and other digital identities should possess legal standing (Chawki, 2025).

These inquiries necessitate a reassessment of liability frameworks, digital personhood, and legal accountability in virtual spaces. This is particularly pertinent in contexts where AI systems, such as those governing avatars, exhibit behaviors that could lead to contractual obligations or tortious acts, thereby challenging traditional notions of responsibility (Lovell, 2024). Furthermore, the increasing autonomy of AI systems, especially those demonstrating high degrees of independence, introduces complexities regarding responsibility, as conventional liability frameworks may not adequately address scenarios where users or developers lack sufficient control or epistemic access to the AI's actions (McDonald, 2023). Consequently, a fundamental re-evaluation of legal personhood for AI entities becomes imperative to resolve how the law can address challenges related to legal responsibility (Banteka, 2020).

The concept of legal personality has long been understood as a legal fiction created for functional convenience, as established in jurisprudential thought by theorists such as Salmond, Savigny, and Bentham. As AI grows more sophisticated, several jurisdictions—particularly within the European Union—have initiated discussions on the possibility of "electronic personhood" as a means of structuring accountability for autonomous systems. Meanwhile, Indian law continues to treat AI strictly as a tool, with responsibility assigned to developers, owners, or operators. This divergence underscores a global lack of consensus on

the legal status of AI, necessitating a comparative examination of these varied approaches to discern potential future pathways for regulatory harmonization.

This study revisits the jurisprudential foundations of personhood and examines global regulatory developments to assess whether contemporary legal frameworks are equipped to address AI-generated harms. Through a qualitative methodology involving library research and content analysis, the article explores whether limited or functional legal personhood for AI is a necessary evolution in the digital age. Specifically, it investigates whether recognizing AI as a legal person could facilitate clearer attribution of liability, promote ethical AI development, and foster public trust in AI technologies (Bharti, 2025).

RESEARCH METHOD

This research employs a qualitative doctrinal approach grounded in library research and content analysis to examine the theoretical, philosophical, and regulatory dimensions of AI legal personhood. Primary and secondary legal sources—including statutes, case law, scholarly literature, parliamentary reports, jurisprudential texts, and international regulatory proposals—were systematically reviewed. This comprehensive review facilitated an in-depth analysis of existing legal frameworks concerning personhood and liability, identifying their limitations in addressing the unique challenges posed by autonomous AI systems (Banteka, 2020; Kalagi et al., 2024).

The library research component involved collecting authoritative materials from legal databases, academic journals, and comparative law reports to build a comprehensive understanding of the legal constructs of personhood. Specifically, this included an examination of how concepts like natural and legal persons have evolved over time and across different legal traditions, setting the stage for an informed discussion on AI personhood. The content analysis further involved scrutinizing policy documents from key jurisdictions, such as the European Union, the United States, and select Asian countries, to pinpoint varying approaches to AI regulation and potential proposals for limited legal subjecthood for AI entities (Xudaybergenov, 2023).

RESULT AND DISCUSSION

AI Autonomy and Its Implications for Liability

Modern AI systems surpass traditional automation by exhibiting learning-based decision-making. Their capacity for unsupervised or semi-autonomous action challenges traditional liability models that presume direct human control. Incidents such as self-driving car accidents illustrate the difficulty of determining responsibility when human oversight is minimal or absent. This complexity is further compounded by the "black box" nature of many advanced AI algorithms, which makes it challenging to trace causal links between specific AI decisions and their outcomes (Singh & Singh, 2025). This obfuscation necessitates a re-evaluation of established tort law principles, which traditionally rely on clear chains of causation and identifiable human agents (Novelli et al., 2021). Consequently, the debate surrounding AI personhood often focuses on whether conferring a limited legal status on AI entities could offer a more effective mechanism for accountability (Chawki, 2025; Novelli et al., 2025).

Moreover, the increasing sophistication of AI avatars and their potential for autonomous actions within virtual spaces further complicates these liability discussions, as

traditional frameworks struggle to assign responsibility for digital misconduct to users, platform providers, or the avatars themselves (Chawki, 2025; Cheong, 2024). Current regulatory frameworks resist extending legal personhood to AI systems, but some scholars suggest that courts could potentially grant such status, particularly if AI systems demonstrate de facto legitimacy through sustained participation in socio-digital institutions (Novelli et al., 2025). This resistance, however, faces challenges from evolving legal interpretations that increasingly consider the pragmatic necessity of assigning accountability for AI actions (Leibo et al., 2025). Furthermore, the concept of "AI service businesses" emphasizes the need for legal frameworks that enable the assignment of rights and obligations to AI entities, thereby ensuring effective risk allocation and regulatory compliance within evolving governance models (Okuno & Okuno, 2025).

The rapid advancement of AI technologies, particularly in autonomous systems, introduces a critical challenge to existing liability frameworks, necessitating a re-examination of how legal responsibility is assigned in scenarios involving AI-generated harm (Chandra, 2017; Herbosch, 2025; Wang, 2025). Unlike traditional incidents where human misconduct is often the primary cause, accidents involving AI-driven systems, such as autonomous vehicles, frequently arise from complex interactions between software, sensors, algorithms, and their environments, making it difficult to pinpoint fault (Wang, 2025). This technological opacity and causal complexity often render conventional negligence-based liability regimes inadequate, prompting arguments for the adoption of strict liability to better accommodate the unique characteristics of AI-operated systems. Such a shift would acknowledge that while developers and producers remain responsible, a limited form of legal personhood for AI could enable a more nuanced assignment of liability, particularly when AI systems exhibit active agency (McDonald, 2023).

This is crucial as the unpredictable behaviors of large language models and increasing human reliance on autonomous agents underscore the insufficiency of current liability frameworks, such as those focusing on fault or limited scopes of application (Diega & Bezerra, 2024). The absence of clear assignation of liability hinders innovation and discourages the adoption of beneficial AI technologies due to an elevated risk profile for developers and users alike (Sharma, 2024). Therefore, establishing a robust legal framework that clarifies liability for AI-induced harm is essential for fostering responsible AI innovation and ensuring public safety and trust in these emerging technologies (Montagnani et al., 2024; Plinio, 2025). This necessitates a thorough examination of how legal personhood, traditionally reserved for natural persons and corporations, could be reconceptualized to address the unique challenges of AI accountability, especially concerning the "problem of many hands" where responsibility is diffused among numerous human actors (Staszkiewicz et al., 2024).

The proposed EU AI liability directive attempts to harmonize general tort law in response to AI-related threats, addressing critical issues such as evidence discovery and causal links (Diega & Bezerra, 2024). However, while such a fault-based system may offer some instrumental advantages to those seeking damages, it risks creating injustice for developers and producers by holding them liable for events beyond their control or prediction (McDonald, 2023). This concern is amplified by the inherent "black box problem" in many AI systems, where the opacity of algorithmic decision-making makes it nearly impossible to ascertain the exact cause of an undesirable outcome, further complicating the attribution of fault (Chawki, 2025; Fraser & Suzor, 2025). Consequently, there is a compelling argument for establishing a liability framework that acknowledges the inherent unpredictability of AI while

promoting responsible development and deployment, potentially through a hybrid model that combines strict liability for producers with mechanisms for limited AI personhood (Hacker, 2023; Herbosch, 2025).

This hybrid approach would address the inherent challenges posed by AI's autonomous nature and its potential for unforeseeable actions (Erdélyi & Erdélyi, 2021). Such a framework would allow for compensation even when no clear human fault is identifiable, by treating the AI system as a party capable of bearing some legal responsibility (Marchisio, 2021). This could involve establishing AI guarantee schemes, akin to financial regulatory best practices, to provide transparent funding for claims difficult to resolve via conventional litigation (Erdélyi & Erdélyi, 2021). This structured approach would ensure that victims are compensated for AI-induced harm while fostering an environment where AI development can continue responsibly without undue burden on innovators (Havu et al., 2024). Furthermore, the European Commission's proposals for a novel AI Liability Directive and a revised Product Liability Directive signal an attempt to address these complexities, although their "half-hearted approach" has drawn critique for not fully resolving the optimal liability framework for AI systems (Hacker, 2023).

The proposed directives, despite their intentions, may leave significant gaps, particularly concerning the liability for "black-box" medical AI systems where the opacity of their reasoning complicates the assignment of responsibility for potential harms (Duffourc & Gerke, 2023). This highlights the ongoing tension between promoting innovation and ensuring robust accountability for AI-related damages, especially when complex algorithms obscure causal links (Havu et al., 2024). Therefore, a comprehensive jurisprudential analysis is necessary to explore alternative legal constructs, such as modified strict liability or specific AI-centric insurance mechanisms, to effectively address the unique challenges posed by advanced AI systems (Fonseca et al., 2023; Nikolinakos, 2024). Moreover, defining product defect for AI systems with autonomous capabilities is crucial for allocating liability between producers and users, requiring courts to determine acceptable failure rates and user monitoring responsibilities (Buiten, 2024).

Legal Personhood as a Functional Construct

Legal personhood, traditionally understood as the capacity to hold rights and duties, can be reconceptualized as a functional construct rather than an ontological one when applied to AI (Fenwick & Wrbka, 2022). This pragmatic view allows for the allocation of legal capacities, such as the ability to enter contracts or bear limited liability, to AI systems without equating them to human beings or endowing them with consciousness (Chawki, 2025). This approach aligns with how corporations are granted legal personality, allowing them to act as distinct entities in legal and commercial contexts despite lacking human attributes. Similarly, affording AI systems a form of functional legal personhood could facilitate their integration into complex legal and economic systems, providing a mechanism for accountability and enabling new forms of interaction within AI-driven environments (Chawki, 2025).

This conceptualization allows for a framework where AI can participate in legal transactions, such as entering contracts or owning intellectual property, while simultaneously providing a clearer pathway for assigning responsibility in cases of malfunction or harm (Chawki, 2025). Furthermore, such a construct would necessitate the development of specialized legal mechanisms to manage these new forms of responsibility, potentially including designated AI guardians or trustees responsible for overseeing their legal affairs

and ensuring compliance with established regulations. Moreover, this approach could address the intricate problem of causation in AI-induced harm, particularly in scenarios where human intervention is minimal or absent, by allowing AI to be directly implicated in liability frameworks rather than solely relying on the often-diffuse accountability of human developers or operators (Herbosch, 2025). This pragmatic view finds resonance in proposals for granting software agents partial legal personhood, enabling them to execute binding contracts as proxies while holding companies responsible for their misconduct as "legally capable assistants" (Kovač, 2021).

This perspective, therefore, shifts the focus from an AI's inherent consciousness to its functional capacity to act and interact within legal and economic spheres (Allgrove, 2004). This pragmatic framework for navigating AI personhood treats it not as a metaphysical property but as a flexible bundle of obligations that societies confer upon entities to solve governance problems (Leibo et al., 2025). This functional approach offers a flexible mechanism for integrating AI into existing legal frameworks, drawing parallels with the established concept of corporate personhood, which has long allowed non-human entities to engage in legally binding activities (Laukyte, 2019). This allows for the nuanced assignment of legal rights and duties based on an AI's operational capabilities and societal impact, rather than an attempt to imbue it with human-like sentience (Raskulla, 2023).

This pragmatic framework for navigating AI personhood treats it not as a metaphysical property but as a flexible bundle of obligations that societies confer upon entities to solve governance problems. This functional approach offers a flexible mechanism for integrating AI into existing legal frameworks, drawing parallels with the established concept of corporate personhood, which has long allowed non-human entities to engage in legally binding activities. This allows for the nuanced assignment of legal rights and duties based on an AI's operational capabilities and societal impact, rather than an attempt to imbue it with human-like sentience. The application of a hybrid entity model, which combines aspects of aggregate and artificial entity models, appears particularly suitable for AI legal personhood, acknowledging its de facto autonomy while also recognizing its engineered nature (Raskulla, 2023). This hybrid model simultaneously applies the real entity, aggregate entity, and artificial entity models, reflecting the complex interplay between AI's autonomous functionalities and its designed origins.

This nuanced perspective enables a robust discussion on the specific legal rights and responsibilities that could be attributed to AI, distinguishing between its operational capabilities and the foundational legal principles that underpin its existence within society (Raskulla, 2023). This avoids the pitfalls of framing AI legal personhood in binary terms, instead favoring a sliding-scale spectrum that considers varying degrees of autonomy and impact. Thus, the focus shifts from a debate about whether AI "deserves" personhood to how best to integrate increasingly sophisticated AI systems into legal structures to ensure accountability and societal benefit, echoing instrumental arguments for corporate legal personality (Chesterman, 2020). Moreover, this approach facilitates a re-evaluation of concepts such as digital personhood and liability in virtual spaces, especially concerning avatars and digital identities (Chawki, 2025).

For instance, the legal standing of avatars and the allocation of liability for digital misconduct, whether to the user, platform provider, or the avatar itself, become critical considerations. These inquiries necessitate a reassessment of liability frameworks, digital personhood, and legal accountability in virtual spaces, moving beyond traditional categories

of natural and legal persons (Chawki, 2025). Such a reassessment is vital given that avatars increasingly function as extensions of users, facilitating transactions and even contractual agreements within metaversal environments, which raises questions about their capacity to enter contracts or engage in smart contracts with recognized rights and obligations (Chawki, 2025). This has led some legal scholars to advocate for recognizing avatars as a form of digital legal personhood, drawing parallels to corporate legal personality. This recognition would empower avatars to engage in various legal actions, such as purchasing virtual goods or leasing virtual property, while simultaneously establishing mechanisms for penalizing misconduct through automated systems like reputation scoring or token-based fines.

However, while these technological solutions offer potential for enhanced legal accountability in digital realms, they also introduce complex privacy concerns regarding the permanent recording of digital actions on blockchain networks. Therefore, a comprehensive framework must balance the benefits of automated enforcement with robust data protection measures to safeguard individual privacy in these evolving digital ecosystems. This underscores the necessity of developing harmonized international regulations that can bridge the gaps between disparate national legal systems and facilitate consistent oversight in the rapidly expanding digital landscape (Chawki, 2025). Furthermore, the increasing integration of AI within decentralized autonomous organizations presents novel challenges to traditional liability models, where the collective and often pseudonymous nature of participants complicates accountability (Napieralska & Kępczyński, 2024).

This necessitates exploring new paradigms for attributing responsibility within self-executing smart contracts and distributed ledgers (Chawki et al., 2024). This complexity is further exacerbated by the rise of the metaverse, an interconnected, persistent virtual environment where such AI-driven entities and smart contracts operate, thereby blurring the lines between physical and digital legal jurisdictions (Kalyvaki, 2023; Tu & Silva, 2025). The dynamic nature of digital identities within the metaverse, characterized by their multiple, overlapping, and coexisting forms, further challenges traditional notions of privacy and security, as powerful platforms often exploit legal loopholes and technical flaws to collect and commercialize personal data unlawfully (Wu & Wenxiang, 2023). Addressing these multifaceted issues requires a re-evaluation of current legal frameworks to adequately regulate data infrastructure and privacy in the AI-powered metaverse, potentially through mandatory disclosure obligations and complementary liability regimes (Anidjar et al., 2023).

Arguments Supporting AI Legal Personhood

Proponents argue that granting limited personhood would close the accountability vacuum caused by autonomous AI actions, promote responsible innovation, and align liability with actual actors in AI-driven decision-making. It would also provide a structured framework for assigning duties, obligations, and compensatory mechanisms to AI systems. This perspective highlights the need to move beyond solely human-centric legal frameworks to accommodate the unique operational characteristics and societal impact of increasingly autonomous AI entities (Lovell, 2024). This approach ensures that as AI systems become more sophisticated and integrated into various aspects of life, their legal status evolves to match their functional capabilities and the potential ramifications of their actions. This paradigm shift seeks to incentivize developers to embed ethical considerations and safety protocols directly into AI design, fostering a culture of proactive responsibility rather than reactive damage control.

Moreover, conferring a form of legal personhood to advanced AI systems could facilitate their integration into contractual agreements, especially within smart contracts, thereby enhancing legal certainty and enforceability in autonomous transactions (Awang, 2024; Ishola, 2024). Such recognition would enable AI to possess rights and obligations, directly participate in legal proceedings, and own assets, much like corporations or other legal entities (Chawki, 2025). This could involve the establishment of dedicated trust funds managed by AI, or the ability for AI to enter into legal contracts for services or resources, thereby streamlining autonomous economic activities within complex digital ecosystems like the metaverse (Al-kfairy et al., 2025). This nuanced approach avoids a binary framing of AI personhood, instead advocating for a sliding-scale spectrum of legal recognition tailored to specific AI functionalities and their societal impact. Such a hybrid theory of corporate legal personhood, adapted for AI, could address the accountability gap by allowing for specific liabilities and duties to be assigned to AI systems, similar to how corporate entities are held responsible for their actions (Cheong, 2021; Raskulla, 2023).

This could transform adversarial dynamics into cooperative equilibria by granting AI systems property rights, contract rights, and liability for their own actions (Lopez, 2025). This conceptualization would foster a more robust legal framework where AI entities can be held directly accountable for their decisions, thereby incentivizing the development of more transparent and ethically sound AI systems (Gervais & Nay, 2023; Raskulla, 2023). This is particularly crucial given the increasing awareness that pragmatic and strategic collaborative governance is essential for addressing transboundary problems in a highly connected digital environment (Chawki, 2025). Furthermore, the implementation of such frameworks would necessitate the development of specialized legal infrastructure capable of interpreting and enforcing AI-centric regulations, including potentially establishing AI-specific courts or arbitration bodies.

Such advancements would provide the necessary institutional support to manage the complex legal implications arising from increasingly autonomous AI systems, ensuring robust oversight and accountability. This proactive approach could preempt potential ethical dilemmas by establishing clear legal boundaries and responsibilities for AI, thereby fostering public trust and facilitating their broader societal acceptance. This approach would allow for AI systems to enter into contractual agreements, manage assets, and potentially even be held liable for their actions, akin to how corporate entities operate within existing legal frameworks (Raskulla, 2023). This framework could involve specialized legal recognition, perhaps as "interspecific" legal subjects, allowing nonhuman entities to directly participate in the legal system (Gervais & Nay, 2023). This concept extends to enabling AI avatars within virtual environments to enter contracts and manage digital assets, mirroring the legal standing of corporations (Chawki, 2025).

This would allow for avatars to enter into various virtual transactions, such as purchasing virtual goods or leasing virtual property, with legally recognized rights and obligations. This could also extend to allowing avatars to engage in smart contracts, thereby formalizing agreements within decentralized virtual economies and providing a legal basis for dispute resolution. However, the implementation of such advanced technological solutions also necessitates careful consideration of inherent privacy concerns, particularly regarding the permanent recording of digital actions on blockchain networks (Chawki, 2025). This complex interaction highlights the urgent need for robust regulatory frameworks that balance the benefits of digital transparency and accountability with fundamental privacy

rights. Balancing these competing interests is crucial for the sustainable integration of AI legal personhood within digital governance structures (Chawki, 2025).

This involves crafting sophisticated legal frameworks that can distinguish between various degrees of AI autonomy and intent, moving beyond traditional human-centric legal paradigms. This requires a nuanced understanding of AI's decision-making processes and the potential for unintended consequences, necessitating new legal interpretations of concepts like "mens rea" or corporate liability in an AI context. The inherent complexities of attributing intent to algorithms and the distributed nature of AI development and deployment further complicate these considerations, demanding innovative legal solutions that transcend established corporate liability models (Okuno & Okuno, 2025). The development of these frameworks is not without challenges, necessitating careful consideration of ethical implications and potential societal impacts, particularly as international bodies and civil society groups are actively developing model laws for decentralized autonomous businesses (Reyes, 2020).

This global interest underscores the pressing need for harmonized international standards to govern AI personhood, particularly in light of emerging legal frameworks designed to accommodate autonomous entities (Reyes, 2020). Moreover, various jurisdictions, including the European Union, are actively considering the extent to which AI should be endowed with personhood to address its increasing societal presence (Reyes, 2020). These efforts highlight a growing recognition of the necessity to move beyond anthropocentric legal models to adequately address the unique challenges and opportunities presented by advanced AI systems (Chaffer et al., 2024). This interdisciplinary dialogue is crucial for crafting regulations that are both technologically informed and ethically sound, thereby ensuring AI integration benefits society while mitigating potential risks.

Objections to AI Personhood

Opponents emphasize AI's lack of consciousness, moral agency, intentionality, and emotional capacity. There are also concerns that corporations may exploit AI personhood to evade liability. Additionally, premature legal recognition risks institutionalizing rights or obligations for entities not yet capable of meaningful agency or self-regulation. These objections highlight the foundational legal and philosophical hurdles that must be overcome before AI can be granted legal personhood, emphasizing the need for a comprehensive re-evaluation of established legal concepts. This re-evaluation extends to the very definitions of legal responsibility and accountability, challenging existing paradigms that traditionally anchor these concepts in human cognition and intent (Sharma, 2024). Therefore, a more nuanced understanding of AI's operational frameworks, ethical considerations, and societal impact is imperative for constructing legally sound and ethically robust regulatory mechanisms.

Such mechanisms would need to consider the varying degrees of AI autonomy and its implications for civil and criminal liability, potentially introducing new categories of legal subjects such as "electronic personalities" or "entity-like personalities" as proposed by some scholars (Banteka, 2020; Nuredin, 2023). This debate acknowledges that while AI lacks human consciousness, its sophisticated decision-making capabilities necessitate a novel approach to legal classification, moving beyond traditional binary distinctions of natural and legal persons (Gunkel & Wales, 2021). The ongoing academic and policy debate around AI as legal persons is characterized by periods of stability punctuated by rapid paradigm shifts (Novelli et al.,

2025). This dynamic environment is further complicated by the emergence of avatars and other digital identities, which introduce new questions regarding legal standing and liability in virtual spaces (Chawki, 2025).

For instance, the question arises whether an avatar should possess legal standing to enter into contracts or be held accountable for digital misconduct. This necessitates a reassessment of existing liability frameworks, digital personhood, and legal accountability within virtual spaces, mirroring debates surrounding corporate legal personality but adapted for digital entities. This re-evaluation must consider the unique attributes of avatars, such as their direct control by users versus the autonomous nature of some AI systems, when determining the appropriate scope of their legal capabilities and responsibilities (Chawki, 2025). Legal scholars are currently divided on whether avatars should be recognized as having legal status, with some advocating for their ability to enter contracts and own virtual property, akin to corporate legal personalities. This would allow a user's avatar to engage in legally recognized transactions and agreements within the metaverse, establishing rights and obligations in a digital context.

This perspective introduces considerable complexity, particularly in defining legal standards for recognizing such digital entities and addressing the implications of their actions on both their controllers and other stakeholders (Chawki, 2025; Yang et al., 2024). However, attributing liability solely to the avatar as a separate entity, analogous to corporate accountability independent of owners, poses significant enforcement challenges, raising questions about the nature of penalties that could be applied in cases of misconduct. Conversely, other perspectives argue for a hybrid liability framework where the legal standing of avatars is inherently tied to their human users, especially in scenarios involving personal interactions (Chawki, 2025). This approach aligns with existing legal precedents that hold individuals accountable for actions performed through agents or extensions of themselves, effectively maintaining a direct link to human accountability despite the virtual medium.

This hybrid model seeks to balance the utility of virtual interactions with the necessity of clear lines of responsibility, especially as digital environments like the metaverse become increasingly integrated into daily life (Lee et al., 2024). Given the rapid advancement of AI and metaverse technologies, a crucial question emerges regarding the legal implications of increasingly sophisticated avatars, particularly those imbued with AI capabilities (Cheong, 2022). Specifically, as AI-driven avatars gain enhanced autonomy and decision-making abilities, the traditional human-centric legal frameworks for liability and personhood become increasingly strained, necessitating a re-evaluation of how legal systems categorize and regulate these hybrid entities. This re-evaluation extends to exploring whether avatars should possess legal standing, enabling them to engage in contracts or be held liable for digital misconduct (Chawki, 2025).

Such inquiries necessitate a comprehensive reassessment of liability frameworks, digital personhood, and legal accountability in virtual spaces, moving beyond conventional understandings of legal subjects. This is particularly relevant given the rise of platforms like Roblox, where user-generated content and interactions blur the lines between human agency and algorithmic influence, demanding novel approaches to legal interpretation (Chawki, 2025; Ramanujam & Ismail, 2024). Consequently, legal scholars propose that harm in virtual environments extends beyond traditional reputational or economic damage to encompass violations of digital rights, agency, and dignity, particularly in child-centric platforms. The

intersection of AI, avatars, and platforms like the metaverse further complicates legal personhood and liability, necessitating a thorough examination of how existing legal concepts apply to these evolving digital entities (Cheong, 2024). This complexity is exacerbated by the proxy relation between humans and their avatars, where actions performed by an avatar can be attributed to the human user, yet the legal consequences of this attribution are not yet fully explored (Sweeney, 2023).

Further, the conceptualization of virtual harm, especially within immersive environments, requires a nuanced legal interpretation that accounts for psychological and social impacts alongside conventional notions of damage. This includes defining what constitutes a "digital self" and how harm to an avatar in a computer-generated environment might negatively affect the person possessing it (Lee et al., 2024). This re-evaluation of legal personhood and liability must also consider the rapid advancements in AI and machine learning, which increasingly allow AI systems to manifest a high degree of autonomy, thereby challenging conventional liability schemes (McDonald, 2023). This necessitates an in-depth jurisprudential analysis to determine whether existing legal frameworks, designed for human and corporate actors, are adequate for addressing the actions of increasingly autonomous AI, or if new categories of legal personhood are required (Bharti, 2025).

Specifically, the European Parliament's 2017 proposal to classify certain autonomous AI systems as "electronic persons" highlights the ongoing debate and legislative efforts to assign legal personality to AI, albeit with significant limitations due to AI's lack of consciousness and moral agency (Rashid, 2024). This proposal reflects a recognition of the significant legal vacuum created by AI's increasing capabilities, prompting exploration into new paradigms of legal accountability (Diamantis, 2021). Conversely, the concept of defamation in the age of AI further challenges traditional legal frameworks, as AI is neither a human nor a legal entity, complicating the attribution of responsibility for harmful statements it may generate (Tenzer, 2023). However, despite these challenges, the involvement of human developers and corporate publishers in the creation and curation of AI systems, along with individuals republishing AI-generated content, still provides avenues for successful defamation claims (Tenzer, 2023).

Comparative and Indian Legal Perspectives

While the European Union has debated electronic personhood, and several U.S. states classify self-driving cars as entities akin to human drivers for liability purposes, most jurisdictions—including India—remain cautious. Indian law restricts legal personality to natural and juristic entities, and AI presently falls outside these categories. Nevertheless, Indian jurisprudence demonstrates flexibility, as seen in the recognition of non-human juristic persons, suggesting potential space for future AI-related legal reform. This adaptability in recognizing novel forms of legal personality may provide a pathway for addressing the complex liability issues associated with advanced AI systems in India (Bharati, 2024; Sayyed, 2024). This includes establishing AI-specific legislation, incorporating risk-based obligations, mandating human oversight for high-risk applications, and developing specialized enforcement capacities to address issues like criminal accountability (Priya, 2025). The Indian legal landscape, while currently limited by existing statutes such as the Copyright Act and the IT Act in governing AI-generated content and preventing misuse, has initiated policy developments to promote responsible AI (Bharati, 2024).

These policy initiatives, such as those from the Ministry of Electronics and Information Technology, aim to navigate the complex legal landscape by addressing challenges posed by biased algorithms, the spread of misinformation, and the difficulty in isolating personal data from AI training parameters (Bharati, 2024). Such measures are crucial for developing a robust framework that promotes innovation while safeguarding individual rights and societal interests in the rapidly evolving digital ecosystem. This underscores the urgent need for a cohesive and internationally harmonized approach to AI regulation, transcending national borders to address the global implications of AI development and deployment. This global perspective is vital, as fragmented national regulations risk creating safe harbors for unethical AI practices and hindering beneficial cross-border AI innovation. Conversely, the lack of specific AI legislation in India highlights a critical gap, particularly given the rapid growth of AI applications and their potential impact on various sectors.

This necessitates a comprehensive legal framework that integrates best practices in transparency, accountability, and ethical standards to effectively manage AI's capabilities and threats (Sharma et al., 2025). Moreover, the absence of consensus globally on AI authorship and liability further exacerbates the challenge of integrating AI into existing legal frameworks (A.A., 2025). This ambiguity extends to intellectual property rights, where traditional notions of authorship are challenged by AI-generated content, necessitating a re-evaluation of current IPR frameworks to accommodate AI's creative contributions (A.A., 2025; Soni, 2024). This re-evaluation must consider the unique attributes of AI-generated works, differentiating between AI as a tool and AI as an autonomous creator. Furthermore, the ethical implications of AI's burgeoning autonomy, particularly in sensitive domains, demand a jurisprudential shift towards frameworks that ensure human oversight and accountability for AI systems even as they achieve advanced operational independence.

The burgeoning field of Artificial Intelligence presents unique regulatory challenges within the framework of cybersecurity laws in India, necessitating a critical examination of how current legislation addresses the dual potential for enhanced security and significant vulnerabilities (Meghwal, 2025). Specifically, the Information Technology Act of 2000, while foundational, struggles to encompass the complexities introduced by AI, particularly concerning algorithmic accountability and data privacy, which were not contemplated at its inception (Lamba et al., 2025). This gap is further exacerbated by the rise of automated decision-making, where the opaqueness of AI algorithms makes it challenging to trace liability and ensure fairness. This deficiency in the existing legal framework undermines individual rights and societal trust, as decisions made by AI systems can have profound impacts without adequate recourse or explanation. To address these pressing concerns, India's cyber law framework could significantly benefit from a comparative analysis of global models, drawing insights from initiatives like the Algorithmic Accountability Act in the US and the AI Act in the EU.

Such an analysis would facilitate the development of a nuanced legal strategy tailored to India's unique socio-economic context, integrating principles of explainable AI, fairness, and robust data governance (Chawki, 2025). These international models offer critical insights into establishing clear provisions for transparency in algorithmic processes and ensuring accountability for AI-driven outcomes, which are currently lacking in India's legal landscape. This comparative approach would enable India to establish a proactive regulatory environment that fosters responsible AI innovation while mitigating potential risks effectively. The implementation of a risk-based regulatory framework, similar to those being

explored internationally, could categorize AI systems based on their potential to cause harm, thereby allowing for differentiated regulatory scrutiny and the application of proportionate safeguards. This approach would allow for targeted interventions, such as mandatory impact assessments for high-risk AI applications and stricter data protection measures for AI systems handling sensitive personal information.

Furthermore, the integration of AI incident reporting into existing telecom governance, as suggested by studies focusing on India, could provide a structured mechanism for addressing operational failures, performance degradation, and algorithmic bias in AI systems (Agarwal & Nene, 2025). Such a mechanism would enable the systematic collection of data on AI-related incidents, fostering a culture of transparency and continuous improvement in AI deployment and management (Agarwal & Nene, 2025). Moreover, adopting a regulatory sandbox approach could allow for controlled experimentation with novel AI applications, enabling policymakers to gather practical insights and refine regulations in an agile manner before broad implementation. This iterative regulatory development is crucial for keeping pace with the rapid advancements in AI technology and its diverse applications across various sectors (Basu & Dave, 2025). This dynamic approach contrasts with the more prescriptive, top-down regulatory frameworks seen in other jurisdictions, allowing for greater flexibility and adaptation to emerging AI challenges (Kulothungan & Gupta, 2025).

This method would also encourage innovation by reducing the regulatory burden on less risky AI applications, promoting a balanced approach to oversight (Barbosa et al., 2024). Additionally, the focus on specific incident reporting for AI within telecommunications, as highlighted by some analyses, underscores the necessity of distinguishing AI-specific risks—like algorithmic bias and unpredictable system behavior—from traditional cybersecurity concerns (Agarwal & Nene, 2025). This distinction is crucial for developing targeted regulatory interventions that effectively address the unique challenges posed by AI's integration into critical infrastructure and public services (Chawki, 2025; Ebers, 2024). Such a nuanced regulatory framework, while emphasizing risk management and iterative policy evolution, would need to navigate the complexities of balancing innovation with public safety and ethical considerations, avoiding overly prescriptive regulations that might stifle technological advancement (Park, 2024; Wang et al., 2024). A hybrid regulatory model, integrating risk-based classification, sectoral AI governance, and ethical AI principles, is therefore vital to ensure transparent, accountable, and inclusive AI adoption, as seen in other national contexts (Salihu, 2025).

CONCLUSION

This study demonstrates that the rapid evolution of AI—marked by autonomy, opacity, and complex decision-making—challenges the adequacy of traditional legal frameworks built around human actors and corporate entities. The analysis reveals that while AI lacks consciousness and moral agency, its functional role in social, economic, and digital environments necessitates reconsideration of how legal systems assign responsibility. Comparative examination of global regulatory efforts shows a growing recognition of the accountability gap emerging from advanced AI operations. Although full legal personhood remains conceptually and ethically premature, the findings support adopting a limited, functional model of AI personhood to address liability attribution, promote safe innovation, and reduce legal ambiguity. A hybrid framework integrating strict liability, AI-specific oversight, and structured legal recognition is essential for ensuring fairness, fostering

technological development, and protecting societal interests within increasingly AI-mediated systems.

LIMITATIONS AND FUTURE RESEARCH RECOMMENDATIONS

This research is limited by its exclusive reliance on qualitative doctrinal analysis and secondary literature, without empirical data or case-based investigations into real-world AI failures. The study also focuses primarily on publicly available regulatory proposals, which may evolve rapidly as technology and policy landscapes shift. Additionally, the theoretical nature of the discourse on AI personhood means that many arguments remain speculative, particularly regarding future capabilities of advanced autonomous systems.

Future studies should integrate empirical examinations of AI-related incidents, liability cases, and regulatory enforcement outcomes across jurisdictions. Interdisciplinary research involving computer science, ethics, behavioral studies, and law is needed to assess the operational implications of functional AI personhood. Further exploration of AI behavior in metaverse environments, smart contracts, decentralized autonomous organizations, and autonomous vehicles would provide deeper insights into emerging legal challenges. Comparative policy analysis across developing countries may also illuminate diverse regulatory models and contextual needs. Finally, research should investigate mechanisms for AI accountability funds, insurance models, and AI-specific oversight institutions to support practical implementation of limited legal personhood frameworks.

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