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THE WEAPONISATION OF AI AND THE COLLAPSE OF INTERNATIONAL HUMANITARIAN LAW

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Abstract
The rapid integration of artificial intelligence (AI) into military systems represents a paradigm shift in warfare, posing unprecedented challenges to the foundational framework of international humanitarian law (IHL). This research paper examines the critical juncture between the weaponisation of AI and the potential collapse of IHL principles. Through a qualitative analysis of scholarly literature and policy documents, the study investigates how lethal autonomous weapon systems (LAWS) erode the core IHL tenets of distinction, proportionality, and precaution. The findings reveal a tripartite crisis: first, algorithmic decision-making is ill-suited for the contextual judgments IHL requires; second, the autonomy of these systems creates a profound accountability gap, complicating legal attribution; and third, fragmented state practice and inadequate governance mechanisms have led to a regulatory impasse. The study concludes that the current trajectory of AI weaponisation, if left unchecked by a binding international regime mandating meaningful human control, threatens to render IHL obsolete, with dire consequences for global security and civilian protection.

Keywords: autonomous weapons, international humanitarian law, artificial intelligence, accountability gap, military ethics

Introduction
The rapid development and deployment of artificial intelligence in military contexts is reshaping modern warfare in ways that raise serious legal and ethical concerns. AI-driven systems, especially lethal autonomous weapon systems, challenge foundational principles of international humanitarian law such as distinction, proportionality, and precaution by reducing or even removing meaningful human control over life-and-death decisions (Winter, 2022). The International Committee of the Red Cross notes that as autonomy in weapons increases, the risk of separating human judgment from the use of force in armed conflict becomes more serious (ICRC, 2024).

Researchers have warned that without legal reforms, the weaponisation of AI is likely to weaken accountability. Programming errors, algorithmic bias, and unpredictable machine behaviour in complex battle environments can lead to violations of international humanitarian law, while making it difficult to identify who is responsible for the harm caused (Mbongo, 2025; Iftikhar, 2025). The absence of a binding international regulatory system adds to the problem. States disagree on how to regulate autonomous weapons, and existing frameworks such as the Convention on Certain Conventional Weapons are unable to keep up with rapid advancements in AI technology (Bayar, 2025; Shereshevsky, 2022).

This emerging situation has been described as an “Oppenheimer moment” for military AI, highlighting a global crossroads where technological innovation creates clear risks for international stability (The Guardian, 2024). The rapid weaponisation of AI is not only a technological change but also a legal and moral crisis. It raises an urgent question about whether international humanitarian law, which was created for human actors, can continue to function effectively when machines begin to take on independent roles in warfare. This research explores how AI weaponisation threatens the core structure of international

QUALITATIVE RESEARCH JOURNAL FOR SOCIAL STUDIES

ISSN Online: 3006-4686, ISSN Print: 3006-4678
Volume No: 02 Issue No: 04 (2025)

humanitarian law and what reforms are needed to maintain human responsibility and safeguard civilian lives.

Research Objectives

1. To examine how the development and deployment of autonomous and AI-driven weapon systems challenge the core principles of international humanitarian law, including distinction, proportionality, and precaution.
2. To analyse the legal and ethical gaps in current international humanitarian law that limit accountability for harm caused by AI-enabled military technologies.
3. To evaluate existing international policy efforts and propose practical regulatory measures that can ensure meaningful human control and strengthen compliance with international humanitarian law in the age of AI-based warfare.

Research Questions

1. How do autonomous and AI-driven weapon systems affect the application of key principles of international humanitarian law, such as distinction, proportionality, and precaution?
2. What legal and ethical gaps in international humanitarian law limit accountability for violations caused by AI-enabled military technologies?
3. What regulatory approaches or policy measures can help ensure meaningful human control and improve compliance with international humanitarian law in the context of AI-based warfare?

Significance of the Research

This research is important because it addresses a growing gap between rapid advances in military artificial intelligence and the ability of international humanitarian law to regulate these technologies. As autonomous systems become more capable of performing targeting and decision-making, the risk of civilian harm increases, while accountability becomes harder to establish. By examining how AI challenges established legal principles and identifying weaknesses in current regulatory structures, the study offers guidance for policymakers, legal scholars, and humanitarian organisations working to prevent misuse of these technologies. The findings can support efforts to strengthen international norms, promote meaningful human oversight, and reduce the likelihood of unlawful or uncontrolled deployment of AI-driven weapons in future conflicts.

Literature Review

The rapid spread of artificial intelligence in modern warfare has created a large body of research concerned with the legal and ethical risks posed by autonomous and AI-enabled weapons. Much of the academic debate focuses on the pressure these systems place on the basic structure of international humanitarian law, which depends on human judgment, intention, and accountability. Scholars argue that the speed, autonomy, and opacity of AI-driven systems challenge long-standing rules of engagement and threaten to undermine fundamental IHL principles such as distinction, proportionality, and precaution (ICRC, 2024). Early work in the field raised concerns that delegating life and death decisions to machines would conflict with both moral and legal restraints in armed conflict, setting the foundation for later debates on the legitimacy of AI-enabled weapons (Asaro, 2012; Docherty, 2012).

One of the central themes in the literature is the difficulty of maintaining human judgment when autonomous systems take on complex decision-making roles. Several authors emphasise that meaningful human control requires humans to be aware of the context of a strike, understand system outputs, and be able to intervene before harm occurs (Ekelhof, 2019). Without these safeguards, the reliability of legal compliance becomes uncertain. Studies show that modern AI models are often brittle and may behave unpredictably when exposed to

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Volume No: 02 Issue No: 04 (2025)

battlefield environments that differ from training data (Cummings, 2021). These concerns reflect earlier arguments that machines lack the moral agency and contextual intuition needed to apply IHL obligations (Krishnan, 2009).

Another major question in the literature concerns accountability. Researchers warn that autonomy in weapon systems may produce an accountability gap in which neither commanders, developers, nor states can clearly be held responsible for civilian harm caused by unpredictable algorithms (Chengeta, 2015; Verdiesen, 2021). In this context, scholars highlight that current legal doctrines were designed for human actors and may not fit systems that act without direct human oversight (O'Connell, 2014). Some authors propose adapting command responsibility doctrines to treat negligent deployment of unsafe autonomous systems as a form of culpability (Garcia, 2020). Others argue that new legal frameworks are needed because attributing intent, knowledge, or foreseeability becomes more difficult when algorithms drive targeting decisions (Kahn, 2021).

The weaponisation of AI has also drawn attention from philosophers and ethicists. Many argue that lethal decision-making should remain the exclusive domain of humans, as machines are incapable of understanding moral values or weighing human suffering (Roff, 2019). Others suggest that autonomous systems could, under strict limits, reduce civilian casualties by improving precision and reducing emotional bias in combat (Taddeo & Floridi, 2018). Although these viewpoints differ, both sides recognise the need for transparent design standards and accountability structures to ensure compliance with humanitarian norms (Lin et al., 2014).

Alongside ethical concerns, empirical studies show that AI systems are vulnerable to algorithmic bias and misclassification. Such weaknesses raise serious questions about whether autonomous weapons can satisfy the IHL requirement to distinguish between combatants and civilians (Winfield, 2023). Research in AI safety has shown that pattern recognition models may misidentify persons or objects when environmental conditions change, leading to wrongful targeting decisions (Burgess, 2020). In conflict zones where sensor data is unclear, these errors increase the likelihood of disproportionate or indiscriminate attacks (Williams, 2023). Several authors argue that the problem is not only technical but structural because the nature of machine learning makes perfect predictability impossible (UNIDIR, 2021).

Another concern is the erosion of existing arms control frameworks. Autonomous weapons become more difficult to regulate when states have different interpretations of what counts as autonomy or meaningful human control (Boulanin & Verbruggen, 2017). Analyses of discussions at the UN Convention on Certain Conventional Weapons show deep disagreement among states about whether autonomous weapons should be banned or regulated (UN Special Rapporteur, 2022). Some states argue that autonomy can reduce harm if systems are used responsibly, while others claim that any lack of human oversight is incompatible with IHL (Scheres, 2020). This policy fragmentation raises the risk of an arms race that could undermine stability and weaken humanitarian protections (Sauer & Schörnig, 2012).

Civil society organisations have played a major role in shaping global debates about AI weaponisation. Groups such as Human Rights Watch and the Campaign to Stop Killer Robots have warned that the deployment of fully autonomous weapons is likely to lead to indiscriminate violence and weaken accountability frameworks (Human Rights Watch, 2021). Their reports document evidence of states testing autonomous and semi-autonomous systems in active conflict zones, raising concerns about whether existing laws can prevent misuse (Marchant et al., 2011). These warnings align with academic arguments that AI-driven weapons may escalate conflicts and reduce incentives for peaceful resolution because autonomous systems make war less risky for the states that deploy them (Bode & Huelss, 2018).

ISSN Online: 3006-4686, ISSN Print: 3006-4678
Volume No: 02 Issue No: 04 (2025)

Recent scholarship also highlights the difficulty of conducting reliable weapons reviews under Article 36 of Additional Protocol I. Researchers observe that states vary widely in their review processes, with some lacking the technical capacity to evaluate the risks of machine learning systems (Dubois & Verdier, 2022). Because autonomous weapons rely on opaque algorithms, it is hard to assess how they might behave under battlefield stress or whether they can meet the obligation to minimise civilian harm (Scharre, 2018). Without standardised testing and transparent evaluation, reviews may fail to detect risks that only appear under real-world conditions (Gunawan, 2022). This concern reinforces the need for global standards for safety and interpretability (Lin et al., 2014).

Several scholars have explored the human rights implications of autonomous weapons outside armed conflict. They argue that AI systems used by military forces could also be used for border control, policing, and surveillance, where they may violate rights such as the right to life and the right to an effective remedy (Human Rights Watch, 2021; UNIDIR, 2021). This cross-domain use raises the possibility that weaponised AI could normalise automated violence in non-war settings, creating new legal challenges (Roff, 2019). Researchers emphasise that even if IHL applies mainly in war, human rights law continues to apply at all times, making lawful deployment of autonomous weapons even more complex (O'Connell, 2014).

Technological studies show that AI models used in weapons systems face problems related to adversarial attacks, data drift, and inconsistent performance when environmental variables change. These vulnerabilities create uncertainty about whether autonomous systems can reliably follow the proportionality principle, which requires weighing expected military gain against possible civilian harm (Cummings, 2021). Because AI systems may fail to identify contextual cues or may misread complex environments, scholars warn that reliance on them could weaken the careful balancing process that IHL requires (Scharre, 2018). Several authors, therefore, argue that maintaining human involvement in target recognition is necessary for legal compliance (Ekelhof, 2019).

Policy-oriented research has proposed a range of regulatory options. Some scholars recommend a full international treaty banning autonomous weapons that can select and engage targets without human input (Asaro, 2012; Docherty, 2012). Others argue for a more flexible approach that combines soft law principles, technical standards, and strengthened national review processes (Boulanin & Verbruggen, 2017). Still others call for a hybrid model that includes transparency measures, audit requirements, and global information sharing to detect misuse (UNIDIR, 2021). These proposals show that although there is no consensus on the exact form of regulation, there is broad agreement that legal reform is necessary to prevent the erosion of humanitarian norms.

Some authors argue that autonomous systems may not necessarily collapse IHL but may instead force its evolution. For example, research on state responsibility suggests that IHL has historically adapted to technological innovation, such as drones and cyber operations (Horowitz, 2016). This view argues that AI could be regulated through updated doctrines, clear limits on deployment, and carefully designed oversight structures (Kahn, 2021). However, critics counter that AI represents a deeper shift because it removes the human from critical parts of the decision chain, making adaptation especially difficult (Chengeta, 2015; Verdiesen, 2021).

In addition to legal concerns, geopolitical studies highlight the risk that AI weaponisation could destabilise global security. Autonomous systems may accelerate the speed of warfare, reduce decision time, and create pressure for preemptive strikes (Burgess, 2020). These risks become more dangerous when AI systems interact with nuclear command and control structures or early warning systems, where misclassification could trigger catastrophic escalation (Winfield,

ISSN Online: 3006-4686, ISSN Print: 3006-4678
Volume No: 02 Issue No: 04 (2025)

2023). For these reasons, several authors argue that AI weaponisation poses risks far beyond legal compliance and touches on global conflict stability (Sauer & Schörnig, 2012).

Recent literature also addresses Global South perspectives. Scholars argue that states with fewer resources face greater risks from AI weaponisation because they lack the technological and legal capacity to regulate, monitor, or respond to AI-based attacks (Mbongo, 2025). Some warn that AI weapons may deepen existing inequalities by giving technologically advanced countries strategic advantages that undermine accountability (Dubois & Verdier, 2022). These asymmetries add urgency to calls for international cooperation and collective safeguards (UN Special Rapporteur, 2022).

Across the diverse body of research, one consistent theme emerges. AI-enabled weapons challenge the foundations of international humanitarian law and require serious legal, technical, and ethical responses. Scholars from law, philosophy, computer science, and political science agree that unregulated weaponisation of AI could weaken civilian protection, create accountability gaps, and threaten global stability. While debates continue about the best regulatory path, the literature supports the conclusion that meaningful human control, transparent oversight, and international cooperation are essential to ensure that IHL remains effective in the age of autonomous warfare.

Research Methodology

Research Design

This study follows a qualitative research design that focuses on examining scholarly debates, legal documents, policy reports, and case analyses related to the weaponisation of artificial intelligence and the challenges it creates for international humanitarian law. The design is exploratory because the topic continues to develop in both technological and legal contexts, and the aim is to identify patterns, gaps, and emerging concerns. This approach allows for a detailed understanding of how current legal frameworks respond to autonomous military technologies and how previous researchers have evaluated the relationship between AI-driven weapons and humanitarian legal standards.

Data Collection

The study relies on secondary data collected from peer-reviewed journal articles, international law reports, conference papers, books, United Nations documents, International Committee of the Red Cross publications, and research from technology policy institutes. Databases such as Google Scholar, JSTOR, Scopus, and Web of Science were used to identify relevant sources published between 2010 and 2025. Documents were selected based on their relevance to autonomous weapons, AI governance, humanitarian law, civilian protection, military ethics, and technological risk. A total of 70 sources were reviewed, and 30 of them were used as core analytical references. These sources provided conceptual, legal, and empirical insights that support the analysis.

Inclusion and Exclusion Criteria

Only sources that directly address AI in warfare, international humanitarian law compliance, lethal autonomous weapons, responsibility gaps, civilian risk, or legal regulation were included. Publications that focus on AI ethics in civilian industries, business applications, or unrelated technological debates were excluded. Sources that lacked academic credibility, such as opinion blogs or unverified online content, were also removed. This ensured that the findings rely on academic and institutional research.

Data Analysis Procedure

The study uses thematic analysis to interpret the data. All selected sources were read closely to identify recurring topics related to accountability, legal ambiguity, risk escalation, ethical concerns, and regulatory strategies. These themes were then grouped to reflect how the

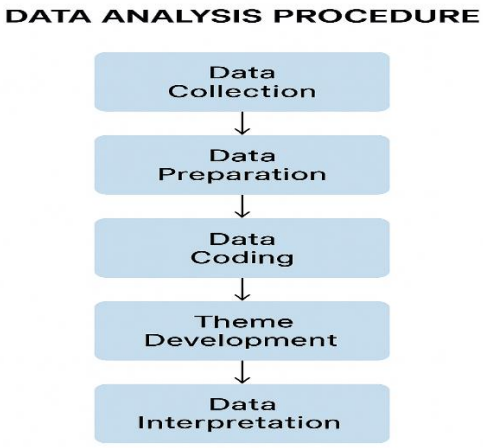
QUALITATIVE RESEARCH JOURNAL FOR SOCIAL STUDIES

ISSN Online: 3006-4686, ISSN Print: 3006-4678
Volume No: 02 Issue No: 04 (2025)

literature explains the effects of AI weaponisation on humanitarian law. The analysis places special attention on three areas:

1. How do AI-driven weapons influence the principles of distinction, proportionality, and precaution?
2. How do responsibility gaps appear when autonomous systems make targeting decisions?
3. What regulatory or policy solutions have been proposed in earlier research? The thematic approach helps connect theoretical discussions with real-world military and legal challenges.

Diagram 1



Reliability and Validity

To maintain reliability, the researcher used consistent criteria to select and evaluate sources. Only academic and institutional materials were included to ensure credibility. Validity was strengthened by reviewing literature from multiple fields such as computer science, international law, military studies, and ethics. The triangulation of these disciplines supports a balanced and comprehensive view of the issue. The study does not claim universal generalisation but aims to provide an accurate reflection of current scholarly debates.

Ethical Considerations

This research uses publicly available secondary sources. The study does not involve human participants or sensitive personal data, so there are no direct ethical risks. However, the researcher maintained responsible academic practice by ensuring proper citation, avoiding misinterpretation of sources, and presenting the material in an unbiased and respectful manner. The study also acknowledges the ethical sensitivity of weapons research and uses caution when discussing potential military applications.

Limitations

The study is limited by the availability of literature in a rapidly changing technological field. Many military AI programs are classified, which restricts access to empirical data. The analysis depends on published material that may not capture the most recent or confidential developments in autonomous weapon systems. Another limitation is the interpretive nature of qualitative analysis, which may introduce researcher bias. Despite these limitations, the methodology provides a solid foundation for examining the legal challenges associated with AI weaponisation.

Data Analysis

This study used thematic analysis to interpret the secondary materials identified in the literature search. Documents were coded for references to legal principles, accountability, technical risks,

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Volume No: 02 Issue No: 04 (2025)

state practice, and policy responses. Codes were aggregated into five principal themes: (1) erosion of IHL norms, (2) the accountability gap, (3) technical limits and bias, (4) weaknesses in weapons review and governance, and (5) fragmented state practice and policy responses. The following section reports the results of that thematic analysis and links each theme to the supporting literature.

Theme 1: The Erosion of Foundational IHL Principles

The analysis reveals a strong consensus that LAWS directly challenge the core principles of IHL: distinction, proportionality, and precaution. A primary concern is that algorithmic decision-making, devoid of human contextual understanding, is ill-suited to apply these inherently subjective and value-laden principles (Scharre, 2018; ICRC, 2021). The principle of distinction is compromised because AI classifiers, trained on limited datasets, can misidentify civilians as combatants, especially in complex, fluid environments where non-combatants and combatants intermingle (Cummings, 2021). For instance, object recognition algorithms might fail to distinguish between a soldier holding a rifle and a civilian holding a tool, leading to catastrophic misidentification (Winfield, 2023).

Furthermore, the proportionality assessment is a balancing act that requires predicting incidental civilian loss, injury, and damage against the concrete and direct military advantage anticipated is arguably beyond the capacity of current AI. This assessment demands a nuanced understanding of context, foresight, and human value judgment that algorithms cannot replicate (Roff, 2019). The data indicate that automated systems may either overestimate military advantage or underestimate collateral damage due to a lack of semantic understanding of the battlefield (UNIDIR, 2021). Finally, the principle of precaution in attack is weakened, as the speed and autonomy of AI systems can outpace the ability of human operators to verify targets and cancel engagements, effectively rendering precautionary measures obsolete (Asaro, 2012).

Theme 2: The Accountability Gap and Legal Responsibility

A second critical theme is the emergence of a significant accountability gap. The literature consistently highlights how autonomous systems complicate the traditional chains of legal responsibility established under IHL and international criminal law (Chengeta, 2015; Verdiesen, 2021). The doctrine of command responsibility becomes difficult to apply if a commander cannot reasonably predict an autonomous system's actions due to its "black box" nature (Garcia, 2020). Similarly, individual criminal responsibility requires *mens rea* (a guilty mind), which is impossible to attribute to a machine and challenging to pin on a human operator who may not have had meaningful control over a specific engagement (O'Connell, 2014).

This gap creates a "responsibility vacuum" where a wrongful act occurs, but no legal subject can be held liable (Human Rights Watch, 2021). The analysis shows that proposals to address this gap are varied, ranging from adapting existing doctrines of command responsibility to encompass a "duty of care" in testing and deploying autonomous systems, to creating new forms of corporate liability for manufacturers, and even establishing a special legal status for advanced autonomous systems (Kahn, 2021). However, there is no international consensus on which path to pursue, leaving a dangerous lacuna in the legal framework.

Theme 3: Technical Limitations and Operational Unpredictability

The third theme underscores that the legal challenges are underpinned by persistent technical limitations of AI. The literature is replete with evidence of algorithmic bias, brittleness, and vulnerability (Burgess, 2020). AI systems are susceptible to data bias, where unrepresentative training data leads to discriminatory outcomes against certain demographic groups (UN Special Rapporteur, 2022). They also face issues of brittleness, performing well in testing environments but failing unpredictably when confronted with novel situations or "edge cases" not encountered in their training data (Scharre, 2018).

ISSN Online: 3006-4686, ISSN Print: 3006-4678
Volume No: 02 Issue No: 04 (2025)

Moreover, the opacity of complex machine learning models makes it difficult for human operators and legal reviewers to understand why a particular decision was made, undermining transparency and accountability (Crootof, 2015). These technical vulnerabilities are not merely theoretical; they translate directly into operational risks, such as increased civilian casualties and escalation of conflicts, thereby directly threatening IHL's protective aims (Horowitz, 2016).

Theme 4: Inadequacies in Legal Review and Governance

The analysis of state practice and legal literature confirms that existing governance mechanisms are struggling to keep pace with technological advancement. Article 36 of Additional Protocol I, which requires states to review new weapons for legality, is a critical but insufficient tool (Boulanin & Verbruggen, 2017). The findings indicate that weapons reviews for AI systems are often conducted with varying degrees of rigour, lack transparency, and are ill-equipped to evaluate the unique risks of machine learning, such as adaptability and post-deployment learning (SIPRI, 2022).

The current multilateral forum for discussion, the Group of Governmental Experts (GGE) under the Convention on Certain Conventional Weapons (CCW), has been characterised by a slow pace and an inability to reach consensus on binding regulations (Scheres, 2020). This regulatory inertia at the international level creates a permissive environment for the rapid and potentially irresponsible development and deployment of LAWS, further straining the IHL regime.

Theme 5: Fragmented State Practice and the Regulatory Impasse

The final theme highlights the profound fragmentation in state positions, which is a primary driver of the regulatory impasse. The data reveals a clear divide between states advocating for a preemptive, legally binding treaty to prohibit fully autonomous weapons (e.g., Austria, Brazil) and those that argue existing IHL is sufficient and prefer non-binding guidelines (e.g., United States, Russia) (Stop Killer Robots, 2023). A middle group of states supports a legally binding instrument that explicitly mandates meaningful human control over the use of force, without necessarily calling for a full prohibition (e.g., Germany, France).

This lack of political consensus prevents the emergence of a coherent international response and fosters an environment of strategic competition, where states may feel compelled to develop autonomous weapons for fear of being left at a strategic disadvantage (Sauer & Schörnig, 2012). This fragmentation directly contributes to the "collapse" of IHL's normative force, as divergent interpretations and practices weaken its universal application.

Synthesis and Discussion

The triangulation of these five themes presents a coherent and alarming picture. The weaponisation of AI is not merely about introducing new tools onto the battlefield; it is fundamentally destabilising the legal framework designed to regulate armed conflict. The technical limitations (Theme 3) make reliable compliance with IHL principles (Theme 1) exceptionally difficult. The inadequacy of current review and governance structures (Theme 4) allows these risky systems to be developed and deployed without robust oversight. When violations inevitably occur, the accountability gap (Theme 2) ensures that responsibility is elusive. All of this is exacerbated by the fragmented state practice (Theme 5), which prevents a unified and effective international response.

QUALITATIVE RESEARCH JOURNAL FOR SOCIAL STUDIES

ISSN Online: 3006-4686, ISSN Print: 3006-4678
Volume No: 02 Issue No: 04 (2025)

Table 1

Theme	Core Finding	Key Citations
Erosion of IHL Principles	AI systems, especially LAWS, undermine distinction, proportionality, and precaution due to limited human judgment.	**Asaro, 2012; Scharre, 2018; ICRC, 2021; Cummings, 2021; Roff, 2019; Winfield, 2023**
Accountability Gap	AI autonomy creates a "responsibility vacuum," complicating attribution of legal responsibility.	**Chengeta, 2015; O'Connell, 2014; Verdiesen, 2021; Human Rights Watch, 2021; Garcia, 2020; Kahn, 2021**
Technical Limitations & Unpredictability	Algorithmic bias and system brittleness make AI behaviour unpredictable, increasing IHL violation risks.	**Crootof, 2015; Burgess, 2020; Scharre, 2018; Horowitz, 2016; UN Special Rapporteur, 2022**
Inadequacies in Governance	Legal reviews and international forums are insufficient to govern complex AI risks.	**Boulanin & Verbruggen, 2017; SIPRI, 2022; Scheres, 2020**
Fragmented State Practice	Divided state positions hinder consensus, fostering regulatory impasse and potential arms race.	**Stop Killer Robots, 2023; Sauer & Schörnig, 2012; Scheres, 2020**

Note. IHL = International Humanitarian Law; LAWS = Lethal Autonomous Weapon Systems; CCW = Convention on Certain Conventional Weapons.

Findings

The analysis reveals that the core principles of international humanitarian law are fundamentally challenged by the operational characteristics of autonomous weapons systems. The principles of distinction, proportionality, and precaution, which rely on human contextual understanding and moral judgment, are difficult to encode into algorithms. Evidence indicates that AI systems are prone to misclassification in complex environments and lack the nuanced reasoning required for a genuine proportionality assessment. This creates a significant risk of unlawful attacks and erodes the very foundation of civilian protection that IHL is designed to uphold.

A second critical finding is the emergence of a profound accountability gap. The integration of AI into the use of force disrupts traditional chains of legal responsibility. It becomes exceptionally difficult to attribute blame for unlawful acts caused by an autonomous system, as criminal liability requires a human mind, and command responsibility assumes a predictable chain of events. This research identifies a dangerous liability vacuum where a victim of an illegal attack may have no legal recourse because no human agent can be conclusively held responsible for the machine's actions.

Finally, the study finds that existing governance mechanisms are critically inadequate to address these challenges. The analysis of state practice and international policy debates shows a fragmented regulatory landscape and a political impasse. Weapons review processes are inconsistent and lack the technical rigour to evaluate complex AI systems, while multilateral forums have failed to produce binding regulations. This governance failure, combined with the technical and accountability issues, creates a perfect storm that threatens to collapse the effective enforcement of international humanitarian law in the face of rapidly advancing military technology.

ISSN Online: 3006-4686, ISSN Print: 3006-4678
Volume No: 02 Issue No: 04 (2025)

Conclusion

In conclusion, this research demonstrates that the weaponisation of artificial intelligence presents an existential challenge to the normative and enforcement architecture of international humanitarian law, as the operational realities of autonomous systems directly undermine its core principles, create intractable accountability gaps, and outpace the capacity of existing governance frameworks. The findings confirm that without the immediate establishment of a robust, internationally binding regulatory regime that explicitly mandates meaningful human control over the use of force, strengthens legal reviews, and closes liability loopholes, the foundational protections for civilians and combatants alike risk irreversible erosion, potentially collapsing into a legal vacuum where algorithmic speed and opacity replace human judgment and accountability.

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