Law of Armed conflict in the Age of Artificial Intelligence

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ABSTRACT

The increasing evolution of artificial intelligence is turning science fiction into a dark reality. States compete to achieve semi- and fully autonomous weapon systems, and the third war transformation is about to happen. Although the deployment of these autonomous weapons will facilitate military operations, various legal and ethical debates have criticized their legitimacy. The fact that autonomous weapons (e.g., drones and killer robots) can operate without human interference has raised concerns among academics about legal principles, such as accountability for specific war actions, including war crimes. Moreover, given the unbalance of force and the anonymity of the aggressor, it also seems to threaten the ethical concept of human dignity. The current legal framework, i.e., Law of armed conflict and International Humanitarian Law, cannot respond to this new style of warfare. Therefore, this study aims to study the ethical and legal challenges of autonomous weapons and highlight the need to establish a new unified legal framework, encompassing an appropriate

set of ethical guidelines and legal norms to promote peaceful relations and responsible use of armed forces.

KEYWORDS

Autonomous Weapons, Artificial Intelligence, Human dignity, accountability, Legal Framework

Introduction

Technology is evolving at an incredible pace that has contributed to Artificial Intelligence (AI) development over the last 15 years (ICRC, 2018). AI has a strong potential to develop in various aspects of life; from healthcare and architecture to warfare and military operations, AI plays a particular role (Sethu, 2019).

Advances in AI are leading countries towards Fully and Semi-Autonomous Lethal Weapons achievement, which keeps human beings out of the loop and control over the deployment of these weapons. Almost all countries are trying to become more potent in deploying technological military innovations to achieve the most satisfying results (Liivoja, 2015). Although Artificial Intelligence is used in healthcare and many other fields, various debates and concerns have appeared in military deployment. Many scholars believe that deploying AI without human control and decision making will lead to misuse and unintended malfunctions that will be resulted in irreparable civilian injuries (Javorsky et al., 2019)

The development of AI in military operations will lead to specific legal and ethical challenges that may concern programmers, producers, governments, and customers. The long-term consequences of deploying autonomous weapons on world security are ambiguous (Russell et al., 2015). These debates can be divided as follows: (Horowitz &

Scharre, 2015) Can Autonomous Weapons operate more effectively and better than humans?

Who would be accountable or responsible for the malfunction of Autonomous Weapons Systems? Does decision-making on human life and death through Automated Systems undermine human dignity?

To reach a consensus on the current debates, we first need to know the exact definition of Autonomous Weapon Systems. There is no universal consensus on the concept of Autonomous Weapons. However, it can generally be defined as "Robotic weapons that once activated, can select, detect, and engage targets with little to no human intervention" (Chengeta, 2018a). Although there is no consensus on its definition, almost all scholars agreed that such weapons would revolutionize warfare. It will be the third warfare transformation that the world will experience after the invention of gunpowder and nuclear weapons (Garcia, 2016).

It cannot be denied that the use of AI as weapons in military operations will make the war easier also, it has various advantages (Asaro, 2020). For instance, Russia and China have realized that if they want to have a place in future military marketing, and also if they're going to reduce the military gap between them and the US as one of the most influential military countries, they should invest in AI and Autonomous Weapons Systems (Del Monte, 2018). States can minimize amounts of money in distinct fields by using Autonomous Weapons Systems. Moreover, AI will allow the armies to understand better and predict the condition of war (Herrmann et al., 1999). Therefore, questioning the adequacy of existing international regulations on Autonomous Weapons Systems cannot be interpreted as the stigmatization of their applicability (Burri, 2017). Automation, Personhood, Control, and Standardization are the elements that can completely transform the current international

legal framework and regulations (Burri, 2017). One of the most critical legal concerns arising from the automation of the weapons is the concept of "Accountability" or "Responsibility." According to current international law and legal legislation, accountability has to be kept individuals responsible for their actions. Simultaneously, this type of responsibility cannot be extended to robots since they are not moral agents (Koppelman, 2019). This lack of unified regulation on the "accountability of autonomous weapons" gives rise to the concerns that states and military commanders may use these weapons indefinitely and in any case as they do not feel ethically accountable for their actions these weapons (Gubrud, 2014).

In addition to AI's legal challenges in the war, ethical challenges should not be underestimated. Therefore, the current subject should be studied from different aspects of ethics and morality. Human dignity, decision-making, and meaningful human control are crucial ethical dimensions that must be protected by law against AI and autonomous Weapons (Amoroso & Tamburrini, 2017; ICRC, 2018).

On the one hand, Soldiers must make a range of instant decisions in a complicated and unpredicted scenario of war (Herrmann et al., 1999). On the other hand, these weapons are only intelligent machines that suffer from a lack of decision-making and cognitive capability (Duch et al., 2015). Therefore, their pre-programmed human decisions cannot be trusted enough to distinguish between civilian and non-civilian targets (Chengeta, 2019; ICRC, 2018). The efficient and meaningful human supervisory control of weapons must be ensured within the deployment of lethal autonomous weapons (Duch et al., 2015). These weapons cannot respect the value of life, nor can they decide to kill people without any human intervention or control (Suchman & Sharkley, 2011). Moreover, it must be ensured that humans remain at the top of the decision-making process (Horowitz & Scharre, 2015).

Given that AI will be more available in the coming years, its challenges are beyond the scope of current international law (Chengeta, 2018a). On the one hand, Legal difficulties such as the accountability gap highlight the need for a new legal framework, particularly on Autonomous Weapons (Matthias, 2004). On the other hand, regarding the commercial and other advantages of these weapons, governments are reluctant to ban their use based on ethical reasons (Vallor, 2013). Therefore, the present manuscript seeks to balance legal and ethical challenges based on moral principles to shed light on the future of life with the presence of semi-and fully autonomous weapons. To better understand the issue, the paper begins with a study of the background of autonomous weapons. Secondly, the progression and advancement of these weapons are being investigated; in the next section, the issue is being analyzed from an ethical point of view; and finally, current legislation on autonomous weapons systems is being discussed to understand regulating them. The concerns arising from autonomous weapons systems go beyond the legal boundaries; therefore, to strike a balance between law and ethics in implementing autonomous weapons systems, we need to draw on a vast body of knowledge. Thus, interdisciplinary methods will be the essential methods of this study. Also, to apply a close lens on the context and history of the AI and weapons' regulations, the doctrine methods will be used.

Research Objectives

The present manuscript seeks to achieve the following objectives: 1-To contribute to establishing a uniform legal framework on autonomous weapons to have a safe and trusted implementation.

2-To strike a balance between human dignity and autonomous technology in military contexts.

3-To bridge the existing gap between legal and moral frameworks on the role of human dignity over these semi-and fully autonomous weapons.

Research Questions

How can a legal framework control the deployment of autonomous weapons?
How can a legal framework strike a balance between human dignity and autonomous weapons?

Genealogy

Existing literature on the legal challenges of robotics is still in its infancy. Only a few scholars have investigated the legal issues of artificial intelligence (Ferrarese et al., 2016; Leenes et al., 2017; Leenes & Lucivero, 2014). The indefinite future of the world with semi and, in particular, fully-autonomous weapons has led the international community to raise awareness among civil societies. Throughout history, various types of weapons have been either banned or limited; nuclear weapons, biological weapons, explosive weapons are only a few examples of restricted or prohibited weapons(Anthony, 2018). Typically, these types of weapons are banned or limited once they have been deployed and their irrecoverable losses have been revealed (Mickevičiūtė, 2017). There are conflicting views on AI in a battle between legal scholars, Artificial Intelligence engineers, and authorities (Qc et al., 2012).

Artificial Intelligence scientists argue that we cannot forbid all the Autonomous Weapon Systems from military activities, however destructive autonomous weapons out of

human decision-making must be prohibited long before they are deployed in any war (Mickevičiūtė, 2017). Additionally, some legal scholars have made efforts to restrict the deployment of such lethal weapons (Umbrello et al., 2020); they emphasized that autonomous weapons will contribute to the modern war revolution (Liu, 2019). they believe that the current regulations are suffering from a "Lacuna" in the deployment of Autonomous Weapon Systems (Lewis, 2015). Lacuna can be defined as "a situation where the absence of a law or legal norm prevents an inherently illegal situation from being addressed, or where the applicable law is incomplete" (Chengeta, 2019). In contrast, authorities seek to obtain these weapons without taking the subsequent consequences into account (Akimoto, 2019). As a result of low cost, military effectiveness, expandability, and a role that autonomous weapon systems will play in the world's future economy and security, governments are reluctant to ban these weapons (Lewis, 2015; Umbrello et al., 2020).

Over the past years, thousands of people raised voices against lethal Autonomous Weapons, and their actions led to the establishment of some non-governmental organizations (Lim, 2019). In 2012, the Stop Killer Robot movement was set up as an NGO to prohibit the deployment of fully autonomous weapons in the law of armed conflict (Nucci et al., 2018). This movement gave birth to international discussions on artificial intelligence as autonomous weapons and has led the United Nations to think about this emerging technology (Lin et al., 2008). However, the UN has never had a unified approach to autonomous weapons systems, nor has it been able to have a clear definition of autonomous weapons (McLean, 2014); the only meaning which exists belongs to the Department of Defense of the US. The main aim of this movement is to protect meaningful human control over these weapons (Lewis, 2015). This campaign attempted to inform the potential danger of killer robots on the principles of International Law and Human Rights (Schmitt, 2012). Moreover, since the approach of the UN is not clear towards these weapons, we do not

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know if the UN is taking action against the threat of human extinction or against breaking international humanitarian law (Marauhn, 2014).

The second step towards this issue was taken in 2013 when scholars who were against autonomous weapons in warfare believed that the recent technology of autonomous weapons could undermine the principles of human dignity, which depends on undermining human rights (Lin et al., 2008). Therefore, an NGO titled "article 36" was established this year to prohibit the spread of these weapons (Markoff, 2014). The International Committee of the Red Cross (ICRC) was the following organization that focused on autonomous weapons systems; it held a conference in 2014 with different experts on this subject to shed light on the dark side of autonomous weapons deployment (ICRC, 2018). In 2015, hundreds of AI engineers and researchers were convinced that these types of weapons must be banned; therefore, they signed and published a letter from the Future of Life Institute and asked for banning the autonomous weapons systems (Lim, 2019). The most recent action was taken at the two meetings of governmental experts in 2018 when some non-governmental actors made statements on banning the Lethal Autonomous Weapon Systems based on principles of humanity (Lim, 2019). Apart from all these recent activities, the medical community has started to make attempts towards banning and restriction Autonomous Weapon Systems (Kalmanovitz, 2016), firstly because AI has a long history in healthcare than in the military, and the medical community has now encountered several automatic decision-making situations (Nucci et al., 2018). Secondly, this group is well aware of all the detail in humanitarian law, the effects of wars and weapons also their efforts were successful in restrictions imposed on nuclear weapons (Javorsky et al., 2019).

The main concern about implementing autonomous weapons systems is how to keep a human being in the loop while deploying these weapons (Sullins, 2010). This is not only an essential dimension in the military context, and keeping the humans in the loop is a vital

feature in the use of AI in the healthcare field (Sparrow, 2016). some engineers claim that humans are never out of the loop since these automated systems are programmed and designed by humans(McLean, 2014). However, this cannot be recognized since we are not yet sure if humans will be in the loop over the machines with learning capability from the environment (Marauhn, 2014). The enhancement of the autonomy of the decision-making process will eliminate all human control over the use of lethal force (Gubrud, 2014; Russell et al., 2015). Moreover, the preservation of human dignity is at the center of all the actions of the various movements and NGOs, and what matters is when the algorithm makes life and death decisions, whether the victims are humiliated by the lack of human intentions or not (Lim, 2019).

Progression and History

Although the deployment of Artificial Intelligence in combat seems to be a new phenomenon, it has a long history in war (Rosert & Sauer, 2019). The United States deployed the first AI in the 1991 desert storm operation, which bridged the future and science fiction (Holland, 1999). In early 1991, Saddam invaded Kuwait and did not respond to the request of the United Nations to withdraw its forces from that region within a specific time. Therefore the United States and its allies attacked Saddam to support Saudi Arabia and prevent oil prices from increasing (Record, 1993). This operation is well known as a result of intelligent weapons that have been deployed. In this conflict, the US demonstrated its sophisticated military capability (Katzman & Elsea, 2004). To overcome Iraq, the US launched missiles that could quickly think and navigate the targets. Artificial Intelligence designed the missiles, and when they were closed to targets, a camera on the nose of the

missile began to function. It compared the target image with the pre-given data and photos; if they matched, the missile would destroy the target (Holland, 1999). As a result of the intelligent weapons deployed in this war, it is also known as the "Video Game War" (McLean, 2014). With the support of Artificial intelligence in this operation, not even the US could defeat Iraq, reducing the number of soldiers dying in the American army (Record, 1993). Within the hundred hours, the American military only suffered 147 casualties (Herrmann et al., 1999). Artificial Intelligence has begun to develop in the war from this point onwards, facing several ups and downs (Katzman & Elsea, 2004).

Adding artificial intelligence to the weapons gave birth to "Autonomous Weapons." Therefore, AI can be considered the heart of semi and fully autonomous weapons, and it is worth considering its past (Russell et al., 2015). The first Artificial Intelligence conference was held in 1956 by Allen Newell, a computer scientist, and cognitive psychologist; Herbert Simon, a political scientist, economist, sociologist, psychologist, and computer scientist; Marvin Minsky, a junior fellow at Harvard and John McCarthy, assistant professor at Dartmouth College (Asaro, 2020). They could attract the world's attention by their meeting, and later these people became well known as the founding fathers of the AI (Jotterand & Bosco, 2020). They designed an intelligent program that could solve algebraic word problems, provide logical theorems, and even speak English (Wallace, 2018). Artificial Intelligence researchers have been experiencing different cycles of feast and famine funding (Shulman et al., 2009).

Soon this new technology found its place and significance in the US Department of Defense; therefore, they granted $2.2 million to the Massachusetts Institute of Technology to research the AI in Defense projects (Santoni de Sio, 2017). Artificial Intelligence improved two main turning points between 1956 and 1974, called "Golden Years" (Singer, 2012).

During this time, AI projects obtained millions of funding, and researchers took severe steps towards creating artificial intelligence at the level of human intelligence (Asaro, 2020). The second revolution began from 1974 to 1980, named "AI winter," where AI received minor support due to some failures, Irrational expectations, and designers' predictions in the first phase (Mickevičiūtė, 2017). However, in the early 1980s, the advancement of human-level decision-making programs gave a new opportunity to AI. The researchers became hopeful of designing a system equivalent to human intelligence capable of executing human tasks (Garcia, 2018). Unfortunately, the rise in oil prices between 1987 and 1993, the decline of the AI hardware industry, and increasing consumer economic pessimism led to the second "AI winter," which reduced the government's financial support (Sparrow, 2016). Despite all these ups and downs, the studies and advances of AI have never been stopped(Asaro, 2020); in 2014, the US Army predicted a decrease of one-fourth of American combat troops due to the introduction of robot soldiers at the end of 2030. Today US Army is deploying some robots in various operations; also, they are co-operating with humans in different activities (McLaughlin & Nasu, 2014).

The US Army divided Autonomous Weapon Systems into two groups;
1-Offensive Autonomous Weapons, also known as Lethal Autonomous Weapon Systems (LAWS), are technologies that use sensors and algorithms to identify and kill targets without manual human control (Ma, 2020). These types of weapons are not on the market yet; as expected, they will soon appear in states' militaries and will replace conventional methods of military operations. Therefore, they need to be regulated before deployment (Umbrello et al., 2020).
2-Defensive Autonomous Weapons, which are now implemented as semi-and fully autonomous devices in various military parts, are entirely safe and comply with combat

regulations. The humans are in the loop when these weapons want to make decisions and act, such as surveillance (Ma, 2020).

The desire to develop Artificial Intelligence is non-stop; experts expected that between 2040 and 2050, it will probably be possible to build AI devices with equal human intelligence, and by 2070 these intelligent devices and robots will be able to perform the same things as humans in all aspects of life (Burri, 2017). These robots are no longer part of artificial intelligence; they are super-intelligence systems and can understand or act like people (Russell et al., 2015). However, they cannot be regarded as systems that do not require self-preservation; once they feel a threat towards their existence, they will seek a way to protect themselves (Suchman & Sharkley, 2011). Moreover, since they can learn from their past experiences and the environment, they can redesign their programs. Their behavior will be unpredictable and out of the control of their primary designers (Arkin, 2009).

Ethical Considerations

According to international peace and security rules, no country can use any kind of force in international relations (Lin et al., 2008). This fact is based on Human Rights Law and ethical considerations, which justify such Human Rights Law; therefore, the countries can't deploy Autonomous Weapons to settle international conflicts (Garcia, 2018). One of the concerns regarding the implementation of the Autonomous Weapons against ethical principles is their ability to be completely automated and out of control (de Sio & van den Hoven, 2018), which lead them to unpredictable actions during the battle and also their inability to distinguish between civilians and non-civilians or between injured or surrounded soldiers and others (Arkin, 2009; Suchman & Sharkley, 2011). Autonomous Weapons or

robot soldiers can replace human soldiers, and military orders will be carried out without any human doubt (Smith, 2019). Thus, once the Commander of the military operation orders an action, some certain human death or harm would have occurred as these robots will only follow the orders by algorithms and their data without any hesitations or uncertainty (Shulman et al., 2009), while with human soldiers, there would be this chance that the consequences of the order be considered before carrying it out (Sullins, 2010).

In contrast, some believe that Artificial Intelligence is designed to make wars easier and more ethical for military communities and civilians (Sullins, 2010). Artificial Intelligence and Autonomous Systems are not only limited to the aerial drones in today's world, but there are also Autonomous Systems that can co-operate in ground and sea military operations (Korać, 2018). For instance, by investigating the deep oceans in military operations, autonomous systems save the soldiers from several fatalities and causalities (Vallor, 2013). Storrs Hall argues that both humans and Robots can make unethical decisions; however, it is possible to lead war towards more ethics via robots by designing algorithms under ethical principles (Sullins, 2010). He emphasizes on this point that human beings can be emotional during the war, they can be under pressure, and they need to have self-preservation to defend themselves; therefore, sometimes they are more conservative about themselves, and they make emotional decisions while there is no need for robots to be conservative or to protect themselves (Umbrello et al., 2020), fear cannot put them under pressure hence they can make more rational decisions by following a logical and ethical program (Asaro, 2020). Professor Akrin, an engineer and researcher on artificial intelligence, points out that we can design a subsystem named "Ethical Adopter," which helps robots learn and adapt to the environment. If anything unethical occurs, the robots can review it and prevent it from happening again (Sullins, 2010).

"Meaningful human control" is another concern of ethical consideration (Chengeta, 2018). This term was first used in one of Article 36 NGOs' reports in 2013, which later became the Convention on Certain Conventional Weapons' key theme in 2014 (Smith, 2019). While this term has been used several times by various individuals and organizations, it has never been adequately defined or explained (Sensen, 2011). Some argue that meaningful human control can be seen as a revolutionary concept in armed conflict rules. In contrast, others believe that it has already been an implicit principle (Ulgen, 2017).

The level of human control required for a weapon varies from one to another; therefore, the definition of this term should be flexible enough to include all weapons (Jotterand & Bosco, 2020). International Committee on Robotics Arms Control has provided the best definition for this term

So far, "for meaningful human control to be exercised, a commander must have "full contextual and situational awareness of the target area and be able to perceive and react to any change or unanticipated situations that may have arisen since planning the attack" (Chengeta, 2018b).

Humans must be in charge of a military operation to accomplish ethical and moral concepts (Del Monte, 2018). This lack of proper definition and the theory of meaningful human control has left the situation ambiguous for both weapon designers and policymakers since they do not know if human beings or Robots with their algorithmic programs should control the military operations (Korać, 2018). As there is no clear theory or legislation on autonomous weapon systems and meaningful human control, weapon designers and policymakers are overwhelmed (ICRC, 2018). Society and ethical constraints should be formed as a step forward in advancing technology that prohibits a wide range of academic and political debates from taking place (de Sio & van den Hoven, 2018).

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Regulating Autonomous Weapons Systems

At the 2008 Global Catastrophe Risk Conference, some researchers claimed that there is now a 19 percent risk of human extinction by the end of this century, and 5 percent of this risk is related to the improvement of Artificial Intelligence (Shulman et al., 2009). On the other hand, regarding the 2016 survey on the deployment of Autonomous Weapons in combat, approximately 55% of respondents agreed to replace them with young human soldiers (Pagallo, 2011). Therefore, it is clear that these weapons will have their popularity among societies and governments; additionally, the deployment of Autonomous Weapons seems necessary regarding the complexity of the battlefield in the 21st century (Korać, 2018). Nowadays, the debate is not if the Autonomous Weapons must be built anymore; the discussion is how much independence we must give to these weapons; therefore, it is too late to prohibit them, but we can still regulate Autonomous Weapon Systems to monitor and restrict them (Del Monte, 2018).

To regulate the deployment of autonomous weapons systems, it must be under existing laws on weapons and human rights such as International Humanitarian Law and Convention on Certain Conventional Weapons (CCW) (Marauhn, 2014). International Humanitarian Law was established quite early in the history of laws of war; the main goal was to reduce the horrors of war and losses beyond the military's necessary consequences (Mickevičiūtė, 2017).

Besides the International Humanitarian Law, CCW was organized in the 1980s under the United Nations, offering plenty of flexibility to restrict or prohibit weapons with excessively injurious effects beyond the military advantages and against the international humanitarian law (Sethu et al., 2015). This convention successfully banned and limited particular

weapons, and adopting this convention can help the military community enjoy the dual effects of AI (Lim, 2019).

Indeed, the challenges raised by Autonomous Weapons led ICRC as guardian of International Humanitarian Law highlights that the current regulation is not adequate. Further efforts need to be made by the international community to deploy these weapons under International Humanitarian Law (Shulman et al., 2009). This organization states that approaches towards these challenges can be solved by ignoring, having creative interoperation of the current law, or creating new legal framework and treaties (Chengeta, 2018a). One of the main domains of international humanitarian law is the prohibition of force in international relations that would guarantee the peace and stability of the world (Shulman et al., 2009). According to international humanitarian law, autonomous weapons will disrupt the existing regulations of war under the rules of the United Nations (Garcia, 2018). Therefore, if the implementation of the autonomous weapons systems is needed to be regulated under the International Humanitarian Law and Charters of United Nations, a range of principles should be considered;

First is the Principle of distinction (Rosert & Sauer, 2019), which can be found in numerous international humanitarian law instruments and is considered a customary rule (Sparrow, 2016). Moreover, it binds all the parties in armed conflicts and is applicable in international and domestic armed conflicts (Mickevičiūtė, 2017). Indiscriminate attacks are prohibited under International Humanitarian Law; therefore, parties of the war should distinguish between targets (Singer, 2012). Autonomous weapons must have specific sensors to differentiate between combat and civilians since civilians must be protected within the war under international humanitarian law (Mickevičiūtė, 2017). Regarding The 1949 Geneva Convention, distinguishing between targets is only possible through "Common Sense," and it does not provide any specific definitions of civilians and non-civilians (Garcia,

2018), while the protocol of 1977 mainly defines civilians as someone who is not combatant (Kahn, 2013). Even though robots will distinguish between civilian and a uniformed military person, there are some risks that they cannot determine a combatant without a military uniform (Suchman & Sharkley, 2011).

Second, the new regulations must comply with the principle of proportionality, which means that if attacks result in excessive loss of civilian life and injury to civilians in contrast to the expected direct military advantage, the attack must be prohibited (Kalmanovitz, 2016). The difficulty in proportionality calculates the balance between the loss of civilians and military benefits (Nucci et al., 2018). Some artificial intelligence engineers believe that Robots can be programmed to calculate proportionality better than humans resulting in a better function of the military operations (Suchman & Sharkley, 2011

Finally, the principle of accountability is a complex concept for deploying autonomous weapons (Del Monte, 2018). Responsibility must be identifiable, which means that we must know who is accountable (Year et al., 2017). Both the ICRC and CCW emphasize that the concept of accountability is not transferrable to machines (Koppelman, 2019). Indeed, without identifiable responsibility, the implementation of autonomous weapons systems is not morally defensible (Smith, 2019). Consequently, these three principles play a particular role in implementing autonomous weapons systems (ICRC, 2018). Even If no laws are restricting or prohibiting some weapons, as long as they are incompatible with the three principles, deployment of them can still be unlawful (Mickevičiūtė, 2017). Therefore, establishing a new legal framework for the autonomous weapons systems must be based on these three principles (Düwell et al., 2015).

The US Department of Defense Directive 3000.09 can be considered an appropriate starting point for creating a legal framework for deploying autonomous weapons systems (Vallor, 2013). According to this directive, human remains on the loop.

This means that while the weapon may act autonomously, a human operator can alter its operation. This would satisfy some conditions of International Humanitarian Law; however, since the weapons are developing rapidly, this directive can only be considered a starting point that needs to be flexible enough to cover all the upcoming challenges and improvements (Garcia, 2018).

Research Description

Legal researchers are going through a transformative phase; while the center of legal research is doctrinal methods, academic lawyers and legal scholars use non-doctrinal methods; however, these methods are usually infused with the doctrinal approaches (Salehijam, 2018). Even if legal scholars do not explicitly use the non-doctrinal methods, they enjoy results and effects (Nkansah & Chimbwanda, 2016). Doctrinal plans are often subject to numerous legal criticisms since they are not transparent to non-legal academics. Their findings are usually limited to a specific topic. However, they will remain the basis for legal studies within the transitional time. The quality of the studies depends on the legislative interpretation and evidence that a legal study conducts (Salehijam, 2018).

It is considered that the position of legal studies has always been on a debate (Langbroek et al., 2017). Usually, legal researchers experience difficulties among other scholars while explaining legal subjects (H. Taekema & Klink, 2011). On the other hand, the position of the legal methods varies from other sciences. Some believe that the doctrine discipline method for legal studies is sufficient. In contrast, others seek methods beyond the law boundaries (S. Taekema & van Klink, 2018). Researchers emphasize "substantive law

rules, doctrines, concepts, and judicial pronouncements" on the doctrine of legal studies. This method is not suitable for forming or reforming rules (Vibhute et al., 2009). Thus, it cannot illustrate the research problem and society (Nkansah & Chimbwanda, 2016).

Although the qualitative research method might bring challenges for the researchers in the first stages, it is possible to apply a close lens on studying a particular subject in detail and from different aspects (Aspers & Corte, 2019). It must be considered that today legal issues and questions depend on a vast body of knowledge. Therefore, there has been growing popularity in the Qualitative Interdisciplinary (socio-legal) method during the last decades (Langbroek et al., 2017; S. Taekema & van der Burg, 2015). Recently, academic lawyers are getting apart from the traditional role of analyzing case laws and shifting to interdisciplinary research approaches by exchanging knowledge with other science disciplines. Since it is needed to focus not only on the law but also on different fields to find solutions for the current issue, the Qualitative Interdisciplinary method will be applied to some parts of the study. There is an implicit inseparable relationship between doctrine and interdisciplinary approach. Therefore, other parts of the research will be based on the interdisciplinary doctrine method (S. Taekema & van der Burg, 2015).

Relying on the interpretivism approach and aiming to understand how legal frameworks strike a balance between human dignity and autonomous technology in military contexts, this research proposal seeks to develop a conceptual model thorough investigation of all the primary legal and non-legal sources on semi and-fully autonomous weapons; this can include some international documents such as International Humanitarian Law (IHL) and Convention on Conventional Weapons (CCW). Additionally, there is always this possibility to utilize the mixed

methodology of Doctrine and Qualitative Interdisciplinary to shed light on gloomy and unknown Angles of the subject. In fact, by applying the interdisciplinary method, it is possible to form a legal framework focusing on a variety of knowledge and cover the ethical and legal challenges (Siems, 2009; H. Taekema & Klink, 2011).

This research proposal is expected to have the following results;

The main contribution of this study will be on both International Humanitarian Law and International Law. It will provide a path towards a uniform legal framework by promoting ethical Issues while using autonomous weapons. This legal framework will be based on supporting both Morality and human dignity. Also, it will shed light on the debate on whether to ban or spread such Weapons under a specific regulation. It is also a step for the advancement of interdisciplinary Approaches in legal studies. The results of this research study not only help to a better understanding of our research goals but also can be extended to future legal researchers

Expected Contribution

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