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AI IN MILITARY AFFAIRS: ITS ROLE IN THE DECISION-MAKING PROCESS TOWARDS A COUNTER-TERRORISM OPERATION

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INTRODUCTION

Artificial Intelligence (AI) is reshaping and revolutionising several sectors of civil society by improving efficiency and reducing costs, with the military and defence fields also joining in this AI revolution (Richemond-Barak, 2022). AI can be defined as a system that solves complex tasks through adopting human approaches, including learning, creating, cognitive thinking, adapting and communicating (Nadikattu, 2020).

Much of the discussion about AI is focused on its negative aspects, ignoring the positive implications that it can have for military affairs and decision-making processes, especially in order to protect civilians and reduce casualties, as well as in organizing counter-terrorism operations (Richemond-Barak, 2022).

THE ROLE OF AI IN MILITARY AFFAIRS: BENEFITS AND CHALLENGES

AI is changing different sectors of civil society, although its use in the military is not new. Many developed and developing economies already use AI-based technology to strengthen their military operations. Ultimately, the use of AI technology results in an increase in weapons system efficiency, with a consequent increase in military and geopolitical power (Raska & Bitzinger, 2019).

The use of AI in the military encompasses several activities, most notably the gathering and analysis of intelligence and data; command, control and cyber operations (Nadikattu, 2020), as well as in air defence systems and processing of real-time information in an effective and fast manner (Richemond-Barak, 2022). According to David Edwards (2022), there are 7 specific roles of Artificial Intelligence in the defence sector:

- Training of soldiers. AI is used to create simulations to train soldiers in different fighting scenarios, also in combination with augmented and virtual reality to create real-life situations.
- Cybersecurity. The military holds critical and classified information, and this is a target for cyberattacks. AI adds a layer of security to this information to prevent unauthorized intrusion.
- Surveillance. AI is very effective at tracking suspicious activities and individuals, and also alert the respective authorities to tackle the situation.
- Arms and ammunition. New weapons are embedded with AI, for instance sophisticated missiles that can accurately attack a target.
- Logistics. AI helps to ensure the safety, security and efficiency of logistical systems inside the military sector.
- Defusing explosives. Sending someone to defuse explosives can be dangerous. Therefore, AI combined with robotics can create a Remotely Operated Vehicle used for this action, making the process safer.
- Network traffic analysis. Monitoring the internet traffic, especially the voice traffic, in order to intercept messages with sensitive words such as "kill" or "bomb". This way, attacks can be prevented by targeting potential individual attackers and threats. In addition, it serves for the analysis of data from different sensors and satellites (Edwards, 2022).

The use of AI in the military sector also offers many benefits when it comes to decision-making, especially in strategic and information capacities. For instance, AI optimises chain-of-command communications, can predict adversary manoeuvres and understand enemy behaviour by analysing language on social media platforms; it can enhance the decision-making capabilities of the military for more precision firepower; it assists automation of weapons and surveillance systems; it can reduce the risk of information overload and disorganization of data thanks to its fast information processing; it allows the military to save costs and achieve efficiency, and it can enhance the capabilities of individual soldiers (Raska & Bitzinger, 2019; Richemond-Barak, 2022). In summary, it boosts performance to achieve the best possible outcome in military operations (Raska & Bitzinger, 2019; Richemond-Barak, 2022).

However, Artificial Intelligence also presents several challenges that need to be considered. One downside is that it is hard to predict the impact of recent developed technologies on military effectiveness as they are still very new (Rakna & Bitzinger, 2019). In addition, other problems regarding the limits of accurate prediction, the impact that surveillance can have on the population –as people may feel constantly monitored– or the abuse of AI can reduce the positive impact that this technology can have on military interventions (McKendrick, 2019; IMCTC, 2020). Both developers and the military may lack expertise in applying AI in different activities in the defence sector. This appears as a substantial challenge in the integration of AI into the Armed Forces, together with the considerable financial investments AI development and implementation requires (Edwards, 2022). Other issues include the inability to discern between friendly and hostile combatants during operations and thereby risking civilian casualties (Nadikattu, 2020). There are also liability problems, as systems can make their own decisions without any human input, leading to miscalculations and false alarms. The risk of relying almost exclusively on AI equipment can lead military officials to disregard the need for human input and logic when making decisions, forgetting that machines can be erroneous (Nadikattu, 2020).

Although these shortcomings are important as they may hinder the correct application and use of AI in the military sector, the positive impact of AI outweighs them, as the decision-making processes in the military can benefit from its use whilst improving its performance.

AI AND DECISION-MAKING IN THE MILITARY

Military decisions need to be made based on updated, relevant, and timely information (van den Bosch & Bronkhorst, 2018). There are different decision-making processes, including Joint Targeting, operations planning and most notably the 'Observe, Orient, Decide and Act' (OODA) loop (Kerbusch, Keijser, & Smit, 2018). The aim of the overall intelligence gathering process is to increase information acquisition by processing and analysing large quantities of data to inform the decision-making chain of command in order to act swiftly, forcing enemies to react rather than act (Schubert, Brynielsson, Nilsson & Svenmarck, 2018).

The planning of a military operation requires an intensive effort of highly trained professionals as well as a high level of coordination. Numerous areas can be improved by the introduction of computer and technological aids. As human decision-making is time and labour consuming, some of the tasks could be assigned to a computer aid that facilitates the process of planning operations. In doing so, AI technologies can enhance the decision-making capabilities of the military, especially during battles, to provide a more accurate picture of the reality on the field, whilst at the same time fighting information overload (Richemond-Barak, 2022).

Therefore, AI systems offer opportunities to better exploit information and improve human understanding and decision-making (Babos, 2021). AI can identify and recognize unusual patterns in databases. Their support in decision-making could enable command and control (C2) structures to potentially use different hierarchical structures that require fewer personnel, achieving higher competency whilst reducing costs (Babos, 2021). With the help of AI, military leaders would therefore be able to make pertinent decisions whilst also allowing military strategy to focus on other tasks as the decision-making process is made more efficient, achieving operational superiority over potential adversaries.

THE APPLICATION OF AI TO DECISION-MAKING IN COUNTER-TERRORISM OPERATIONS

Applying AI to decision-making processes in counter-terrorism operations requires planning in a swift manner for many different types of operations. Recent studies suggest that supporters of the Islamic State (IS) are trying to make use of new technologies, particularly Non-Fungible Tokens (NFTs) to finance their activities (The Soufan Centre, 2022). This implies that new technologies are not exclusively used by counter-terrorism actors but also by extremist groups and non-state actors. Therefore, with the adoption of new technologies by organised crime, it is important that counter-terrorism efforts complement technological developments with traditional and human abilities (The Soufan Centre, 2022), in order to achieve the most efficient decision-making in operations.

AI has been used in counterterrorism operations by several governments, especially for data collection (Nadikattu, 2020). It can help identify terrorists and undermine their plans before they can execute them. AI technologies can calculate the probability of enemy behaviour, vulnerabilities, weather conditions and further analyse mitigation measures, facilitating the work of the military commanders and staff (Nadikattu, 2020). These systems can be very effective since they learn and adapt to recognize suspicious and deviant behaviour.

In the fight against terrorism, AI and robotics gather intelligence to monitor threats and increase situational awareness. Unmanned aerial vehicles (drones) are used to identify and track potential attacks and carry out necessary measures such as targeted strikes (Nadikattu, 2020). Moreover, the developments in AI have fostered the ability to conduct surveillance without being constrained by resources. Facial recognition technology could facilitate the complete automation of surveillance in public places through its ability to carry out rapid data analysis, reducing processing and reaction time and mitigating human bias in the decision-making processes (McKendrick, 2019). In doing so, AI facial recognition systems have helped in the capture of terrorists in previous operations. In this sense, AI instruments provide more substantial and precise information as well as a simplification of the data for the military to prepare a counter-terrorist operation. With this acceleration in the processing of information, military decision-making is benefited as commanders have simplified and updated knowledge of the situation in the field and the enemy's positions.

Furthermore, social media companies assist military efforts in counterterrorism by using AI to help identify and remove terrorist content and statements that violate their platform's terms and conditions, helping in the military network traffic analysis process in order to identify suspects more effectively (Committee of Homeland Security, 2019).

However, the use of AI in counter-terrorism operations also poses two main challenges (IMCTC, 2020; McKendrick, 2019). The first issue concerns potential infringements on human rights. There is a lack of well-established norms for the use of AI, as there is no agreed international position on the limits of its use. Indeed, the disproportionate amount of data collection, compounded by the privacy violations on the general population that such technology entails, must be considered. Issues relating to human rights violations are also raised by the lack of transparency, especially when analysing the use of facial recognition systems and social media tracking used to control and target potential terrorists (IMCTC, 2020). Secondly, there are practical concerns, that relate to the inability of AI to sometimes achieve adequate prediction to be used in counter-terrorism due to the difficulty in preparing an accurate and exhaustive list of indicators to measure individual's involvement in terrorism, and to the excessive reliance on AI technological equipment with the consequent lack of human intervention and logic in certain operations.

Nevertheless, AI can provide benefits when fighting terrorism in terms of efficiency. It is an excellent tool for gathering and process information allowing decision-makers to make more informed decisions and build up more accurate operations with less resources (McKendrick, 2019).

CONCLUSION

AI is here to stay. Its applications in military capacity are numerous, and although they are still developing, the future is promising. AI can speed up and facilitate the decision-making process by providing the military with updated and specific information about a particular target, reducing human efforts and accelerating the observation, analysis and decision time whilst at the same time helping with surveillance and logistics. AI technology is particularly important for counter-terrorism operations, which constantly require updated, precise and relevant information in order to make accurate decisions. The combination of AI rapid information and data analysis and AI surveillance systems with human logic and support can help to identify potential terrorists, intercept hidden suspects, understand their movements and deal with attacks while avoiding inefficiency of the decision-making process, unsafe actions and massive civilian casualties.

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