

The Future of Warfare: Challenges Show TNI Needs Adaptive Leaders

As we celebrate today the 68th anniversary of the Indonesian Armed Forces (TNI), it is important to realize that security threats continue to evolve. Surely, war in our generation will be waged differently than during the 20th century, as total war is a thing of the past. It is highly unlikely that we will again see the sustained military assaults on multiple theaters that characterized the World Wars. Even the specter of mutually assured destruction (the MAD doctrine) from nuclear brinkmanship has essentially receded.

Granted that irrational and belligerent state (and some non-state) actors still pose a threat if they acquire nuclear weapons, this risk would be rooted in strategic miscalculation or an ideology fueled by hatred. This implies the rise of sporadic asymmetric conflict rather than an ongoing competition for supremacy among nuclear-tipped nations.

The shorthand for describing this shift is that we are living in an era of warm peace, instead of Cold War. In our generation, war will not cause mutual annihilation, mainly because the world today is becoming increasingly interwoven. Too many stakeholders are invested in avoiding such a scenario. But because of this interconnectedness, the future of warfare has become multidimensional and arguably more disruptive.

First of all, as the global economy pivots to Asia, conflict arising from this diverse, dynamic and divided region will evolve to encompass more than traditional security issues. Internal and external imbalances among the region's principal states in terms of natural resource endowments, migration and settlement patterns, ethnic and religious composition, and the distribution of income and opportunities amount to a powder keg for conflict.

Posturing in the South China Sea is an example of conflict due to unsettled boundaries and perceived resource scarcity, while persecution of a minority in the hinterland of Myanmar stems from ethnic, religious and identity issues. What matters for peace are not only considerations of military force but also dimensions centering on recognition of large variances in history, culture, development and even notions of order and justice.

Traditionally, militaries have acted on timely information supplied by intelligence services. But the future of warfare will necessitate more extensive partnership involving a broad set of stakeholders such as the foreign service, academic institutions and civil society, to name a few.

Technology matters

The intersection of business and national security is informative to understand the shifts in how these threats are being defined. Economic espionage has been steadily rising since the 1990s as recognized by the passage of the Economic Espionage Act in the United States. Annual losses of \$50 billion have been suffered by the largest 1,000 US firms due to economic espionage.

Theft of trade secrets is an underappreciated trend that has many implications besides financial losses. It is generally regarded as a corporate issue, cast as a failure of information technology systems to secure proprietary information. However, the reality is that much of this activity is state-sponsored and aimed at undermining the competitiveness of nations.

Correctly perceiving issues and their implications is the overarching challenge in the future of warfare. Addressing this matter will naturally take time and investment, especially for militaries in the developing world, because historically national security concerns have been clearly parsed and separate from broader economic ones.

Making this task all the more difficult is the role of technology, which produces white noise distracting from the interlocking nature of the problems we confront and exposes overseen vulnerabilities to be exploited by our adversaries.



The use of gunpowder gave a military advantage to the West that endured for centuries. Today, technology is taking the form of robotics, precision-guided missiles and unmanned aerial vehicles — better known outside military parlance as drones.

The future of warfare may appear as esoteric as a high-tech video game but understanding the technology behind it and its various applications and limits gives a robust advantage for modern militaries that progressively reconstitute themselves to deal with emergent threats while balancing the efficiencies gained against temptation to be trigger-happy as a result of superior offensive capabilities.

Most interestingly, technology will give rise to asymmetrical conflict, of a kind more complex than the stylized nuclear attack by a non-state actor. It will allow our adversaries to operate increasingly in stealth, using unassuming appliances such as household computers and under the guise of civilians. Warfare will be consumerized. This will both raise its cost and the chances of an unintended strike causing collateral damage.

On one hand, the future of warfare will give rise to a new kind of proxy war, in which states not only sponsor attacks conducted by militias and terrorist organizations but also provide air time to spin masters who happily peddle propaganda. The future of warfare is hybrid in the

sense that it is as much about negating the adversary's ideological content as it is about dismantling its organization.

On the other hand, the future of warfare is hybrid in the sense that technology equalizes the returns from overt and covert operations.

Previously it would have been safer to dispatch a drone for a surgical strike than risk compromising a field agent. But sophistication of technology today is such that software can bypass firewalls while covering its tracks, crawl internal networks, transmit intelligence and then self-destruct without spotted.

Threat of disruption

The significance of how disruptive technologies are changing the nature of warfare has put powerful states on edge. That the US is assuming a "doctrine of equivalence," which claims that military actions are justified against states that perpetrate a zero-casualty technology-delivered intrusion, reflects the great alarm over harm produced by the growing incidence of next-generation cyber warfare.

It is on this conceptual terrain that militaries in the developing world — including our own TNI — must be mindful when conducting threat assessments. The increasing use of technology complicates the ability to perceive emergent threats and even execute familiar missions efficiently.

For instance, given that militaries are increasingly being called on to help mitigate humanitarian crises, technology can be used to frustrate emergency preparedness by causing false alarms and choking off supply chains. An opportunistically timed technological attack can disable a vital systems node that could disastrously delay response times.

Encircled by the Pacific Ring of Fire where about 90 percent of the world's earthquakes occur, the TNI has been doubling efforts to strengthen its natural disaster management function so its prompt response can potentially save the lives of hundreds of millions. Had a technological attack been directed against the power grid after any one of the major earthquakes flattened Indonesian cities and towns over the past eight years, many more casualties would have been recorded because providing makeshift medical assistance would be impossible.

Nonetheless, in such times of complexity and uncertainty, the role of judgment, resolve and decision-making takes on heightened importance and more often than not points to a way out. This suggests that some aspects of effective militaries heading to the future of warfare will not change. Technology is not a crutch for military leadership. Nor will it substitute the need for boots on the ground. At their core, militaries remain human organizations.

The future of warfare therefore will be dominated by forward-looking and adaptive leaders who see that as the external environment becomes more enmeshed and complex, the traits above must be honed in order to grapple with widening asymmetries placing peace at risk. Effective militaries in the future will succeed in identifying the nature of emergent threats, their diffuse effects and the whole set of those complicit.

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