Data: The New Frontier of National Power

- *Ainun Nishat Chowdhury[1]*

Introduction

Power dynamics among states have changed dramatically in the contemporary period. While conventional factors such as military power, economic prowess, and diplomatic prominence continue to impact international relations, a new force has emerged as the defining factor in the twenty-first century: data. Rapid technological developments and an explosion of digital information have cleared the path for data to become the new frontier of national power. Data labeled the "oil" or "gold" of the digital era has an unparalleled ability to affect the fate of

---

[1] **Ainun Nishat Chowdhury** is working as a Research Assistant at the Bangladesh Institute of Peace and Security Studies (BIPSS). She completed her BSS & MSS in International Relations from the Bangladesh University of Professionals (BUP). Her research interests are centered on the interdisciplinary field of human rights, security, terrorism, and contemporary issues.

nations.[2] It has evolved into the lifeblood of economies, the cornerstone of technical developments, and a source of critical decision-making insights. In this age of interconnection, governments that can efficiently collect, analyze, and use data have a considerable edge in various fields. Countries that identify data as the new frontier of national power will be better positioned to negotiate the challenges of the digital era and ensure their future in a more connected world. Data has emerged as the unquestioned frontier of national power in the age of digital change, affecting the destiny of nations and reshaping the terrain of global influence. As governments realize the value of data, strategic data management and usage become critical for gaining a competitive advantage and navigating the difficulties of the modern world.
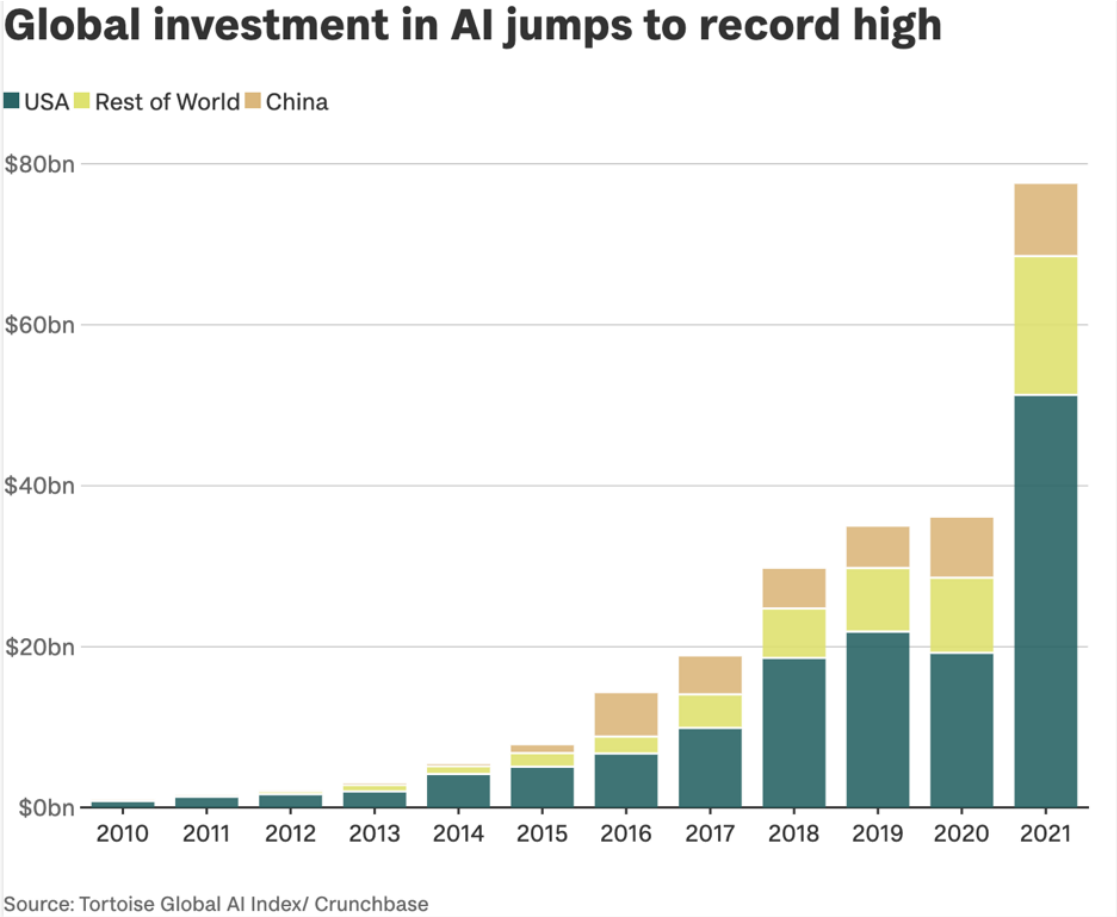
Data as a New Source of Power

Data has become an integral component of national power, changing how nations compete and conduct operations in the modern world. Huge amounts of data are produced every second because of the technology's quick developments and the proliferation of linked gadgets. Governments worldwide have come to understand the enormous value contained in this data gold mine. Nations can obtain a competitive edge in various fields by properly capturing and exploiting data. More Chinese tech companies, especially those suspected of supporting alleged Chinese hacking into U.S. organizations, will probably emerge as "data warfare" between China and the US intensifies, stealing intellectual property and intelligence from American businesses and government institutions. Governments can create effective policies, make educated decisions, and allocate resources more efficiently with the help of data-driven insights. Identifying potential threats and keeping an eye on crucial infrastructure gives intelligence agencies the ability to improve national security. Additionally, data-driven innovation stimulates economic growth by enabling nations with sophisticated data capabilities to foster vibrant digital economies that draw in investments and generate employment. Data is now an indispensable asset that drives a country's development, adaptability, and influence abroad in the digital age.

---

[2] Lawrence. "How Data Became the New Frontier in Modern Warfare." *Army Technology*, January 26, 2023. https://www.army-technology.com/sponsored/how-data-became-the-new-frontier-in-modern-warfare/.

The Potential of AI

Artificial intelligence (AI) has become a powerful force that offers previously unthinkable opportunities and capacities for capturing and using massive volumes of data for societal improvement. It holds tremendous potential for the nation as a power source, ushering in a new era of technological development and superiority in terms of strategy. Its ability to change spans a range of fields, from economic expansion to military superiority.

Global investment in AI jumps to record high

■ USA ■ Rest of World ■ China

Source: Tortoise Global AI Index/ Crunchbase

AI enables countries to increase productivity, optimize resource allocation, and stimulate economic innovation. It helps industries by automating procedures, producing insightful data, and giving customers individualized experiences. AI fosters innovation in the defence and security sector by providing cutting-edge surveillance systems, self-driving weapons, and strong cyber defences.

Over the past few decades, the public and private sectors have adopted AI exponentially. AI is being used by major nations like the United States and China to strengthen their national security systems and maintain their competitive advantages. It is acknowledged by the U.S. National Security Commission on Artificial Intelligence (NSCAI) as a key power source for nations and businesses. It is becoming more prevalent, leading to information, economic, and military developments.

China AI Market Spending Forecast, 2021–2026

Source: IDC, 2022

Private investments in AI have increased dramatically, doubling the previous year's expenditure to $93.5 billion in 2021.[3] By 2024, revenues are anticipated to exceed $300 billion. According to McKinsey, by 2030, AI has the potential to generate an additional $13 trillion in global economic activity.[4] Over 50 countries have released their National AI policies to use AI's advantages while tackling the dangers and issues that come with it.[5]

The emergence of hybrid warfare, cyber threats like ransomware, and the expansion of technologies like the Internet of Things (IoT) have all contributed to disrupting the security

---

[3] Sharma, Sanur. "AI and National Security: Major Power Perspectives and Challenges | Manohar Parrikar Institute for Defence Studies and Analyses," n.d. https://www.idsa.in/issuebrief/ai-and-national-security-ssharma-120922.
[4] Sharma, "AI and National Security: Major Power Perspectives and Challenges | Manohar Parrikar Institute for Defence Studies and Analyses."
[5] ibid

landscape. Compared to the prior year, ransomware assaults in India increased by 51% in the first half of 2022.[6] By 2025, cyberattacks are anticipated to result in an annual loss of about $10.5 trillion.[7]

India's Ministry of Defence has implemented 75 AI-enabled systems in the Def (Symp), specifically for the defence industry, in the context of national defence. 140 AI-enabled sensor systems have also been installed along China's and Pakistan's borders. On the other side, China published a strategy in 2017 declaring its goal of dominating AI by that year. It seeks to establish a $1 trillion RMB AI sector and establish itself as the leading hub for AI innovation.[8]

The panorama of global power dynamics is changing significantly as countries continue to invest in AI technologies and strategies. Countries are trying to lead in innovation, economic growth, and security as the race to utilize AI fully accelerates. As AI changes the trajectory of our increasingly linked world and shapes the future of nations, the coming years will be a testament to the revolutionary power of AI.

Navigating the Grey Zone

The development of the "grey zone," an area where states and non-state actors compete strategically without engaging in open hostilities, has highlighted the significance of data in contemporary warfare. How conflicts are tracked and studied has substantially changed because of commercial satellite images, social media, and citizen reporting. Here the example of the collaboration between the U.S. Air Force and Leidos, a commercial technology provider and data analytics solutions, can be pointed out. Leidos helps track aerospace missions, spot anomalies, and maintain national security with remote sensing and cutting-edge data processing.[9] These partnerships make it possible to quickly deploy connected and usable data, giving military forces a competitive advantage.

[6] Sharma, Sanur. "AI and National Security: Major Power Perspectives and Challenges | Manohar Parrikar Institute for Defence Studies and Analyses," n.d. https://www.idsa.in/issuebrief/ai-and-national-security-ssharma-120922.
[7] Sharma, "AI and National Security: Major Power Perspectives and Challenges | Manohar Parrikar Institute for Defence Studies and Analyses."
[8] ibid
[9] Lawrence. "How Data Became the New Frontier in Modern Warfare." *Army Technology*, January 26, 2023. https://www.army-technology.com/sponsored/how-data-became-the-new-frontier-in-modern-warfare/

Data is a weapon in information warfare in the grey zone. To mould narratives, influence public opinion, and weaken enemies, nations use sophisticated propaganda campaigns, social media manipulation, and targeted misinformation. Countries can achieve their goals without direct-armed conflict by controlling and manipulating data flows to generate discord, erode confidence, and create ambiguity.

The Emergence of Data War

Data warfare, or the strategic use of information and technology to achieve a competitive advantage or disrupt rivals, has become an important aspect of modern conflict. In this new century, nations know that controlling, manipulating, and preserving data can be as potent as traditional military capabilities. Cyber-attacks, espionage, disinformation operations, and data manipulation are all examples of data warfare activities. Nations use these measures to destroy their adversaries' infrastructure, weaken public trust, gain information advantage, and influence elections and public opinion. China is regarded as one of the most potentially dangerous nations in cyberspace, and its cyber espionage operations are among the top cyber-related investigations conducted by the U.S. government. Chinese hackers targeted key infrastructure on American military bases in Guam with "stealthy" software.[10]

On the other hand, the Chinese government has identified 51 foreign hacker gangs targeting China in recent years, carrying out thousands of cyber-attacks.[11] China suspects it is the target of U.S. state-sponsored cyber-attacks.[12] As the conflict spreads into the digital sphere, governments desiring to safeguard their national interests and maintain strategic advantage must comprehend, predict, and respond to data-related threats. The stakes are huge, and data warfare's effects can transform political landscapes, economies, and the very fabric of civilizations.

---

[10] Ritchie, By Hannah. "Microsoft: Chinese Hackers Hit Key US Bases on Guam." *BBC News*, May 25, 2023. https://www.bbc.com/news/world-asia-65705198.

[11] Glover, Claudia. "China Claims It Is Being Targeted by State-Sponsored Cyberattacks from the US." *Tech Monitor*, April 28, 2023. https://techmonitor.ai/technology/cybersecurity/china-cyberattack-us-eu.

[12] Glover, "China Claims It Is Being Targeted by State-Sponsored Cyberattacks from the US."

Data in the Modern Warfare

Data is critical in modern warfare for designing plans, improving decision-making, and gaining a competitive advantage. Massive amounts of data are generated due to advanced technology and interconnected systems, ranging from intelligence reports and satellite photos to social media feeds and sensor data. This information is a valuable resource for military forces, allowing them to assess the combat environment, track enemy movements, discover patterns, and predict possible dangers. Military commanders can gain significant insights from data analytics and machine learning algorithms, such as identifying high-value targets, optimizing resource allocation, and devising effective countermeasures. Furthermore, data-driven simulations and virtual environments enable soldiers to train and test diverse scenarios, improving their abilities and readiness. The conflict in Ukraine has sparked new debates about the use of data analysis on battlefields. Ordinary residents may contribute location-tagged photographs directly from their smartphones using an app established at the war's outset. Ukrainian intelligence receives tens of thousands of daily reports on Russian soldiers' whereabouts.[13] Using massive amounts of data from commercial satellites and top-secret information, Ukraine's army could predict enemy sorties before the combat began.

However, reliance on data introduces new issues, such as the necessity for comprehensive cyber security measures to preserve sensitive information and ethical concerns about using artificial intelligence and autonomous weaponry. Data has become vital in modern combat, changing previous techniques and enabling the military to adapt and respond.

Role of Data in Election

The manipulation of data to influence national elections is a sensitive and complicated subject that requires considerable thought. While data can be an effective tool for analyzing and focusing on voter behaviour, its abuse or manipulation can have major negative effects on the fairness of elections. A prime example of how personal information may alter the course of history is the Cambridge Analytica controversy. Without their permission, Cambridge Analytica mined the data of millions of Facebook users to build psychological profiles that it then used to target

---

[13] Lawrence. "How Data Became the New Frontier in Modern Warfare." *Army Technology*, January 26, 2023. https://www.army-technology.com/sponsored/how-data-became-the-new-frontier-in-modern-warfare/

political advertising at specific demographics. The business claimed to have altered voting patterns in the 2016 U.S. Presidential election and the Brexit campaign, which had far-reaching ramifications.[14] These incidents highlight the critical necessity for national governments to prioritize data privacy and top security as integral components of an all-encompassing defence strategy. Establishing protections, transparency measures, and ethical standards is vital for regulatory authorities and politicians to guarantee that data is utilized responsibly and that the election process stays impartial and fair. In the current digital era, it is extremely difficult to balance using data to assist decision-making and defending the democratic values that support national elections.

The Prospect of Bangladesh

Bangladesh, located in South Asia's fertile plains, is developing as a formidable player in the global arena, capitalizing on data's revolutionary potential. Bangladesh, with its fast-increasing digital infrastructure and a population of more than 160 million people, is opening up new horizons of national power through data-driven projects. Bangladesh is also preparing to capitalize on the potential market generated by AI An "AI-based Innovation Challenge-2023" was recently announced as part of it to promote AI-based activities across the country.[15] Visionary policies and strategic investments by the government have set the path for significant achievements in various sectors, including agriculture, healthcare, and education. Bangladesh has increased agricultural output by leveraging data analytics and artificial intelligence, assuring food security for its population while increasing export capabilities.

Furthermore, data-driven healthcare systems have improved public health outcomes by allowing more accurate diagnoses, more effective resource allocation, and faster interventions. Bangladesh has embraced innovative education methods, such as e-learning platforms and individualized learning systems, to provide quality education options to its children. Bangladesh is prepared to define its future with data as its compass, converting itself into a dynamic,

---

[14] Ahmed, Jamal. "A Data Arms Race Has Begun — It's Not a Game, It's a National Security Imperative - CityAM." CityAM, July 30, 2020. https://www.cityam.com/a-data-arms-race-has-begun-its-not-a-game-its-a-national-security-imperative/

[15] Ahmed, Shamim. "Can AI Be a Game Changer in Bangladesh's Businesses?" *The Business Post*, March 30, 2023. https://businesspostbd.com/back/2023-03-31/can-ai-be-a-game-changer-in-bangladeshs-businesses-2023-03-31.

knowledge-based economy and rethinking the concept of national power in the twenty-first century.

Conclusion

"Data is the new oil. It's valuable, but if unrefined, it cannot really be used."

- Clive Humby, Data Scientist

The digital revolution has brought a new frontier of national power centered on data. Data has evolved into a strategic asset capable of driving innovation, improving decision-making processes, and enabling cutting-edge technology development. Nations that efficiently use data can gain a considerable advantage in various fields, including trade, healthcare, defence, and governance. The surroundings are further complicated by privacy issues and ethical questions surrounding data gathering and exploitation. In this quickly changing context, states must see data as a new form of national power. Nations may plan a course toward sustainable economic growth, societal progress, and global influence in the twenty-first century by understanding and leveraging the power of data.