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Geopolitics of Generative AI: Implications for Cambodia

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Generative Artificial Intelligence (AI) has garnered significant global attention in recent years. One of the notable occurrences was the introduction of ChatGPT, a renowned large language model (LLM) generation system that underwent training with data and could provide text analysis and various forms of written output. The capabilities of generative AI, specifically in generating texts, images, and sound, have garnered significant acclaim and adoption by human users. However, the phenomenon can elicit both positive and negative outcomes.

This article focuses on the potential geopolitical consequences of generative AI by examining infrastructure, information, and intention/ideology (the 3Is), which play crucial roles in developing and deploying generative AI for political gains. The article concludes with a discussion of the possible effects of generative AI on Cambodia.

What is Generative AI?

Generative AI is similar to a computer programme that learns from existing data and then uses that knowledge in two important ways. First, it can create new content, such as texts, videos, images, or audio that looks realistic. Second, it can use what it has learned to make educated guesses about what might come next in a given situation. The AI can undergo training using publicly available data, particularly from online platforms. This training enables the AI to discern patterns and analyse historical records. These capabilities can be advantageous across various domains, such as politics, economy, and society, which can significantly expedite the processes of innovation and discovery. Researchers have also conducted experiments and collaborated on academic papers utilising this particular form of generative AI, demonstrating its capacity to generate scientific research and contribute to scientific advancements.

The system relies on data supplied by developers to generate user-specific information and results. This information is neither infinite nor eternal, as improper maintenance, regulations, and ethics can cause harm. As a result, social disorder may be caused by malicious individuals exploiting vulnerabilities for personal gain, such as academic dishonesty or spreading misinformation via AI-generated content or deepfake technology. It is essential to emphasise that generative AI can spread deceptive information as political propaganda and intentionally commit malicious acts. In May 2023, for instance, a generative AI created a video depicting

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smoke near the Pentagon, causing concern when it was rapidly spread online without verification.

Generative AI and the 3Is

Despite scepticism, governments are regulating AI, including generative AI. The United States, China, and the European Union have formed task forces to develop and enforce AI regulations. However, each has a distinct approach. AI, particularly generative AI, has become a political battleground as governments vie for influence and advantage in this field.

The utilisation of AI by states is crucial for progress but could disrupt the global world order. Health, education, labour, research, and innovation can all be enhanced by generative AI. This technology has the potential to significantly improve the well-being of individuals and society by making these domains more efficient and effective, thereby enhancing the power of states. This technology can also modernise military operations and enhance political strategies by analysing well-processed data or introducing innovations that improve defence and targeting accuracy. This rising power has prompted dominant states to vie for the position of leading global authority in this new field.

As the competition continued, this article considers the three essential components of generative AI that drive the competition: information, infrastructure, and intention/ideology (referred to as the 3Is). Information should be considered a backbone for generative AI because its performance must be trained with a large and diverse dataset. By analysing a wide range of information, the system can thoroughly understand the subject matter it is trained on. Extensive training enables the system to produce accurate outputs. However, online information availability concerns personal privacy, government confidentiality, and surveillance. Therefore, Western governments may utilise human rights, internet freedom, or information freedom to advance their ideological or covert agendas. However, a counterargument emphasises the importance of the internet or information sovereignty, driven by concerns over national security or the potential for disorder caused by misinformation, which is closely linked to AI.

In addition, training or amassing voluminous data necessitates the presence of efficient infrastructures, sophisticated processors, or high-performance computers to facilitate the subsequent analysis. Since the system generates information or analyses based on human instructions and data, it is unknown what ideology, intention, or objective a system's creator is pursuing. In contrast, the state displays sensitivity, scepticism, and concern towards competitors who possess or seek to obtain a strategic advantage or military superiority.

The significant embedding factors of the 3Is are responsible for the increasing rivalries between the United States and its allies on one side and China on the other regarding restrictions of technology exports and the imposition of export bans on semiconductors - a crucial component for the advancement of artificial intelligence.

Generative AI and Cambodia

The Cambodian government of the 7th Legislature of the National Assembly established the Pentagonal Strategy (phase one) in 2023 that prioritises people, roads, water, electricity, and technology. The significance of technology and the digital domain have received further emphasis by the approval of the **Cambodia Digital Economy and Society Policy Framework**

2021–2035, the Digital Technology (DigitalTech) Roadmap, and Cambodia's Science, Technology & Innovation Roadmap 2030.

The three documents underscore the importance of embracing and harnessing advanced digital technology and cyberspace to facilitate Cambodia's pursuit of high-middle-income status by 2030 and high-income status by 2050. Despite their stated objectives of providing a roadmap for digital transformation and development, none deal explicitly with AI or provide a comprehensive strategic framework for Cambodia to move forward with AI technology. Although the geopolitical issue of space was not the primary focus of the materials, they did highlight the potential effects of the digital transition on personal data privacy, disinformation and fake news, cybercrime, and cyberbullying.

The Ministry of Industry, Science, Technology, and Innovation released the first official material in May 2023 titled: AI Landscape in Cambodia: Current Status and Future Trends. This book presents in-depth the recommendations for actions essential for Cambodia to nurture and use AI for its society. Some of the difficulties in teaching AI are discussed in the book, including the need for high-quality data and objective/bias training sets. However, the book does not emphasise the geopolitical competition and the systemic consequences of the rivalry on governments like Cambodia.

Since the aforementioned official documents disclose a gap in the literature, raising awareness and initiating additional research regarding generative AI is crucial. As the geopolitical landscape continues to evolve, Cambodia must be well-prepared for the digital infrastructure, ideology, and information on the online domain, especially for generative AI. Besides identifying the most prospective development opportunities, it is crucial to strengthen AI-related laws, regulations, and frameworks and enhance Cambodia's digital defence capabilities.

In conclusion, this article offered a glimpse into the future potential and consequences associated with the emergence of AI and generative AI. As prominent nations prepare to advance and endorse AI for their respective agendas, it is imperative for Cambodia to exercise prudence regarding the political, security, and military rivalries that may arise between them. Studying the patterns, the article suggested that the contemporary paradigm of geopolitical competitions revolve around utilising political, economic, and military instruments to achieve information-centric objectives, particularly generative AI. Therefore, it is crucial for Cambodia to get a comprehensive understanding and heightened awareness of the prevailing global pattern of competitions. The country needs to enhance its digital defence capabilities and capacities to better prepare for the future.

References are available upon request.

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