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Technology Diffusion, Geopolitics, and Innovation Narratives in the Era of Intelligent Media: A Review of the High Table Dialogue at MHM 2025

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Abstract

Technological innovation in the intelligent media era is shaped by the intersecting dynamics of diffusion trajectories, geopolitical rivalry, and communicative narratives. Building on discussions from the High Table Dialogue at the MHM 2025 Symposium, this review charts China's shift from an import-led "leap frog" strategy to a model of self-reliant research and development—an evolution hastened by U.S. export controls and other external chokepoints. Sustaining industrial competitiveness now requires synchronising domestic growth cycles with volatile global conditions, a task for which high-performance computing platforms are becoming indispensable strategic assets. Although artificial intelligence (AI) has accelerated R&D processes, transformative breakthroughs continue to rely on tacit, experience-based knowledge and iterative experimentation. Corporate patents that cite academic literature already outnumber their U.S. counterparts, yet the low average citation count per patent highlights enduring deficits in fundamental research depth and university–industry collaboration. Heightened public caution toward high uncertainty technologies—such as gene editing and AI—further exposes the limitations of one way, didactic communication; instead, inclusive two way engagement with NGOs, civil society, and other stakeholders is crucial if "technology for good" is to become a credible, shared commitment that links prog-

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ress with societal trust and geopolitical resilience.

Keywords

Technology diffusion, Geopolitics, Intelligent media, Innovation narratives, Science communication, Research self-reliance

On the afternoon of July 7, 2025, the High Table Dialogue titled "Technology diffusion, geopolitics, and innovation narratives in the era of intelligent media: A review of the High Table Dialogue at MHM 2025" was convened at the School of Journalism and Communication, Peking University, as part of the "MHM 2025: Medicine, Humanity, and Media" International Health Communication Symposium and Doctoral Forum. The session was moderated by Yangjuan Hu, Assistant Professor at the HSBC Business School, Peking University, and brought together an interdisciplinary panel of scholars. The speakers included Xudong Gao, Professor at the School of Economics and Management, Tsinghua University; Yanbo Wang, Associate Professor at the Business School, University of Hong Kong; Tianfu Wang, Research Fellow at the School of Journalism and Communication, Peking University; Jiang Yu, Professor at the University of the Chinese Academy of Sciences; and Luye Bao, Assistant Professor at the HSBC Business School, Peking University.

Gao reviewed China's "leapfrogging catch-up" process in technology adoption since the reform and opening-up. He explained that, during this period, China absorbed a substantial amount of mature foreign technologies, which spurred rapid industrial development in the short term but also created a degree of dependence on overseas innovations. Beginning in 2018, the U.S. government's restrictions on Chinese companies such as ZTE and Huawei brought the issue of "technological chokepoints" into sharp focus, marking a critical turning point. In response, an increasing number of Chinese enterprises shifted their emphasis from external acquisition to independent research and development (R&D). Gao noted that many companies had already recognized the necessity of technological self-reliance before this shift, and their foresight paved the way for today's breakthroughs. He highlighted that major achievements in areas such as new energy vehicles, high-speed rail, modular construction, large-scale medical equipment, and personalized cancer vaccines stem from this sustained commitment to innovation. Concluding his remarks, he stressed that the global industrial chain is undergoing accelerated restructuring, and China must seize the initiative in technological innovation to remain competitive in the new international landscape.

Yu emphasized that, under increasingly complex external circumstances, what ultimately determines industrial competitiveness is an industry's ability to maintain the right "strategic rhythm" between external environmental changes and the internal dynamics of industrial development. He further observed that supercomputing platforms are gradually becoming a new

strategic resource in global competition. According to Yu, the integrity and security of future industrial systems will depend on whether coordinated progress can be achieved across the trajectories of intelligentization, greening, and integration. Although the new generation of artificial intelligence has significantly improved R&D efficiency and even reshaped certain research paradigms, Yu's fieldwork with industry stakeholders revealed that some fundamental innovations still rely heavily on on-site operational experience and iterative trial-and-error data accumulation. At present, there is no comprehensive digital platform, and many practical "pitfalls and landmines" remain unavoidable. Yu concluded that building a truly world-class technological system requires long-term accumulation and that managing the pace of innovation in emerging technologies is essential.

Y. Wang highlighted significant shifts in corporate research investment. Data he presented showed that by 2022, the total number of patents filed by Chinese firms citing academic papers had already surpassed that of the United States. However, the average number of papers cited per patent and the average number of papers produced per company remained relatively low, suggesting that the depth of basic research still requires strengthening. Y. Wang further observed that companies placed on the U.S. "Entity List" have, in recent years, significantly increased collaboration with universities, resulting in a marked rise in academic paper output—an indication that external pressures have, to some extent, spurred firms to enhance their R&D capabilities. He concluded that, going forward, Chinese enterprises must not only expand the scale of their research output but also achieve substantive advances in research quality, knowledge depth, and collaborative mechanisms with universities.

T. Wang pointed out that technological development depends not only on intrinsic breakthroughs but is also deeply influenced by communication mechanisms and industrial dynamics. He noted that the current application of artificial intelligence technology reflects established patterns of technology adoption and innovation diffusion, with its economic foundations and driving forces rooted in digital media traffic and advertising monetization. This interwoven relationship between technology and communication has shaped the broader ecology of AI. T. Wang further emphasized that understanding the network effects and narrative frameworks of technology is crucial for grasping the structural differences in global technological competition.

Bao noted that public attitudes toward emerging technologies are becoming increasingly cautious. She observed that technologies such as gene editing and artificial intelligence often provoke controversy because of their high levels of uncertainty and the complexity of stakeholder interests. Against this backdrop, traditional one-way, didactic approaches to science communication are no longer adequate for building public trust and should be replaced by more participatory, two-way modes of engagement. Drawing on survey data from the United States and Europe, Bao highlighted that scientists are generally more optimistic about the benefits of new technologies, whereas the public tends to focus more on their associated risks. She argued that it is essential to involve the public, NGOs, and other stakeholders early in the stages of technological development—such as during problem definition and prototype testing—so that "technology for good" becomes a shared commitment of both researchers and enterprises.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Note

This review synthesizes the presentations and discussions from the High Table Dialogue titled "Technology diffusion, geopolitics, and innovation narratives in the era of intelligent media," held on 7 July 2025 as part of the "MHM 2025: Medicine, Humanity and Media" International Health Communication Symposium. Summaries of individual speakers' contributions draw on the data, analyses, and interpretations they shared during the session, whereas the integrative commentary reflects the author's critical reflections and thematic synthesis.