

毛克疾：AI 时代，印度依然是“配角”而非“主角”

Mao Keji: In the AI Era, India is Still a ‘Supporting Role’ Rather than a ‘Protagonist’

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Article Title in Chinese: 毛克疾：AI 时代，印度依然是“配角”而非“主角”

(Máokèjí: AI shídài, yìndù yīrán shì “pèijiǎo” ér fēi “zhǔjiǎo”)

Article Source in Chinese:

https://m.guancha.cn/MaoKeJi/2025_09_21_790817.shtml

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Focus on India's Development in the
Chinese Media Series – I

Editor's Note:

Many in China look at India with contempt and believe India is no match for China. Some Chinese even believe India's current development level is somewhat similar to that of China in the 1990s. While some experts in China have pointed out that even if all export data for agriculture, services, etc. are included, India's export volume is probably only at the level of China's Jiangsu Province. This attitude of looking down upon India has also been called "strategic contempt" in China. The so-called strategic contempt for India is essentially confidence in China's own hard-earned "prosperity". It is in this backdrop, one observes a deliberate, consistent, and relentless media focus in China on India in general and "Made in India" in particular in recent months. This is the first publication in the new ICS Translations series of articles in the Chinese media on India.

Summary: India's significant advantages in the software era will not automatically carry over to the artificial intelligence (AI) era. Only by strengthening its industrial foundation and innovation capabilities can India better seize the opportunities presented by this technological revolution

while avoiding the trap of industrial decline.

The Rise and Hidden Concerns of the "World's Office"

Since the 1990s, India has earned a reputation as the "world's office" thanks to its robust services exports. Economic liberalisation, the rise of global outsourcing, and, particularly, the widespread adoption of the internet, have enabled India to transform its vast English-speaking population and skilled workforce into an export engine. IT service giants such as Tata Consultancy Services, Infosys, and Wipro have become renowned global brands in the business services sector. For decades, low-cost programming, call centres, and business process outsourcing have provided India with sustained growth momentum, foreign exchange earnings, and even a source of national pride. Consequently, the service sector has gradually come to dominate the Indian economy, while manufacturing has lagged behind.

However, history has never progressed linearly, and AI is disrupting this paradigm. Structured, repetitive tasks are where AI excels, but these precisely correspond to the core business of India's IT industry. From debugging code to handling customer inquiries, tasks once

performed by Indian engineers and operators are being systematically replaced by AI. This means that, unlike previous waves of technology, this wave of change threatens the very core pillars of India's IT industry.



An embodied intelligent robot developed by Shenzhen ZhongQing Robotics Technology Co., Ltd. In recent years, China has rapidly developed in the field of artificial intelligence, leading the world in everything from large-scale model development to intelligent manufacturing applications.

Image: Courtesy of Shenzhen ZhongQing Robotics Technology Co., Ltd.

The Triple Dilemma under the Impact of AI

While India worries about the hollowing out of its core industries, the United States and China anticipate efficiency gains and incremental growth. The United States, with its concentration of top universities, deep capital markets, and tech giants, possesses both talent and financial advantages. AI is not only an economic asset but also a strategic tool — capable of

revitalising manufacturing, boosting productivity, and consolidating America's technological supremacy. China, similarly, is integrating industrial policy with market dynamics, investing heavily in semiconductor, supercomputing, and AI R&D. Projects like smart cities and autonomous driving align with broader development goals. China has released an open-source large-scale model, “Deep Exploration”, demonstrating its ability to compete in cutting-edge fields.

For China, AI presents both a solution to labour shortages and an opportunity to advance its industrial chain.

In contrast, India faces more costs than benefits from this shift. This asymmetry lies at the heart of India's AI dilemma, with three major factors exacerbating its vulnerability.

First, there's the issue of economic structure. Unlike China, which has a strong manufacturing base, India relies heavily on service exports to maintain growth and foreign exchange stability. A sharp drop in demand for low-end IT services could trigger a chain reaction: unemployment leading to lower consumption, which in turn suppresses

domestic demand and ultimately further impacts employment.

Second, there's the demographic dividend. India's large, young population has long been considered a key advantage. However, AI is undermining the value of its vast, low-skilled workforce. Countries with higher skills and greater technological capital could surpass India. With the traditional path of labour-intensive industrialisation further narrowed, India may once again miss an opportunity to capitalise on its demographic advantage.

Third, India's innovation shortcomings. Despite decades at the heart of the global IT industry, the country has produced few original technology products of global renown. While its companies excel in outsourcing services, they rarely build original platforms or infrastructure. R&D investment is insufficient, accounting for only 0.65% of GDP, far lower than China's 2.6% and the United States' 3.5%. The lack of a risk-taking culture, a venture capital ecosystem, and strong industrial policies makes it difficult for India to escape its role as a "tech follower".

Recognising the severity of the situation, India has begun taking action. The Modi government announced a \$1.25 billion investment in the National Artificial

Intelligence Initiative, pledging to develop large-scale, domestic models adapted for a multilingual society. Domestic giants such as Reliance Industries and Tata have also been mobilised, jointly providing computing power and GPU subsidies. However, practical obstacles remain prominent. The higher education system struggles to cultivate sufficient top research talent, a cumbersome bureaucracy slows innovation, and start-ups' ability to raise capital lags far behind their Chinese and American counterparts. Furthermore, India's heavy reliance on imported hardware, particularly advanced semiconductors, makes it vulnerable to supply chain fluctuations and geopolitical risks. Without addressing these structural issues, it will be difficult to translate policy slogans into lasting results.

AI is not only an economic issue, but also a geopolitical one. For the United States, India can serve as a counterweight to China. However, if American companies rely on AI to re-shore outsourced services, bilateral economic ties between the United States and India will inevitably weaken. The Trump administration is currently pushing for tariffs on outsourcing, which will inevitably put severe pressure on India, which relies on service exports. Ironically, the key technologies that help the United States consolidate its advantage

over China may actually cause the most serious harm to India. For the broader “Global South”, India’s experience is likely to serve as a wake-up call. Many emerging economies have hoped to replicate India’s service industry development model, but AI may preemptively block this path, forcing countries to rethink their development strategies. The very concept of the “demographic dividend” may need to be redefined in an era of direct competition between labour and machines.



On September 15, 2020, a hospital in Noida, India used robots to allow COVID-19 patients to communicate with their families.

Future Path and Strategic Choices

Several scenarios are possible for India's future. In the most optimistic scenario, India successfully leverages AI to improve governance, public services, and education. Leveraging its large population and widespread AI adoption, India can boost productivity and improve the

provision of public resources. While not necessarily a leader in technological innovation, India can still achieve inclusive growth through application scenarios.

In the most pessimistic scenario, India will be caught in a tight squeeze: declining demand for traditional services and insufficient innovation in emerging sectors. IT and call centre layoffs will trigger cascading unemployment and fuel social discontent, but the government's limited fiscal space will make it difficult to provide an effective buffer. India risks repeating the mistakes of its manufacturing era and once again missing out on the opportunity for an industrial revolution.

Of course, there are intermediate paths. India has achieved partial breakthroughs in areas such as fintech, health tech, and e-government, but its overall transformation has been weak. India’s outsourcing industry remains strong in certain niche sectors, and AI is also improving the efficiency of its domestic service sector. In this scenario, growth continues, but the potential is limited, and India remains a supporting role rather than a leading player in the AI era.

From a broader perspective, India must confront a development paradox: a service sector powerhouse lacking a manufacturing foundation. The rise of AI will only exacerbate this contradiction. Without a stronger industrial foundation, India will be permanently exposed to external shocks and technological disruption.

The rise of artificial intelligence is redrawing the global economic landscape. For the United States, it presents a new advantage; for China, it presents an opportunity to scale new heights; and for many developing countries, it presents a formidable challenge. India finds itself in an awkward middle ground: past successes in the software era are no guarantee of continuity in the AI era. In fact, those successes may even lead policymakers to underestimate the impending disruptive impact.

Therefore, India must transcend its narrative of being a “world powerhouse” and ask more pointed questions: Can it become a producer of technology, rather than a consumer? Can it transform its demographic dividend into an innovation dividend? Can it formulate policies that are truly future-oriented, rather than dwelling on past glories? The answers will determine not only India's own trajectory

but also the global landscape of technological and economic power in the 21st century. The AI era will not wait for laggards. India has no choice: catch up or be left behind.

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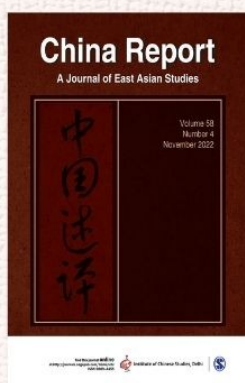


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China Report is brought out by Sage Publications Ltd, New Delhi.

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