

PERSPECTIVE AND INSIGHT

Omissions in *STM Trends* 2028: Reflections from China

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INTRODUCTION

STM Trends is an annual report published by the International Association of Scientific, Technical, and Medical Publishers. The association is a global community with over 200 member-publishers from more than 30 countries worldwide. Naturally, it operates from a publisher-centric perspective, with an inherent focus on commerce and market dynamics. As a result, its trend analyses emphasize businesses, markets, and users, with comparatively little attention paid to the role of governments in scientific journal publication.

THE CHINESE EXPERIENCE

Government intervention has been a cornerstone of China's scientific journal development. In 2019, for example, the China Association for Science and Technology (CAST), along with the Publicity Department, Ministry of Education, and Ministry of Science and Technology, jointly issued the *Opinions on Deepening Reform and Cultivating World-Class Scientific Journals* (hereinafter referred to as *Opinions*). That same year, CAST and six other ministries launched the *China Scientific Journal Excellence Action Plan* (hereinafter referred to as *Excellence Plan*), which encompasses five subprojects: programs involving leading journals, key journals, journal teams, new high-starting-point journals, and cluster pilot projects. During the first phase (2019–2023), nearly 200 projects received funding, with total support exceeding ¥1 billion. Significant advancements were made in China's scientific journals, as reflected in recent statistics from the Science Citation Index: 166 Chinese journals ranked in the top 25% globally; 55

ranked in the top 5%; 43 ranked in the top three; 19 ranked first in their disciplines; and five journals had impact factors among the global top 100.^[1] Such progress would have been challenging without robust government support in policies and funding.

Moreover, driven by the *Opinions*, some provinces have started taking action. Provinces such as Hunan Province, Shaanxi Province, Guangdong Province, Hubei Province, Sichuan Province, and Jiangsu Province have formulated their own funding plans for scientific journals and have provided corresponding financial support. Additionally, most of China's scientific journals are hosted and published by universities, research institutions, and state-owned enterprises. Even without support from the *Excellence Plan*, basic operational costs, including staff salaries, utilities, travel, and office expenses, are covered primarily by state funding.

Thus, the attitudes and support of governments at all levels are crucial for the survival and sustainable development of scientific journals in China. Government backing remains the most significant factor in ensuring their continued existence and growth.

WESTERN PRACTICES

In Western countries, market forces have traditionally driven the development of scientific journals. However, the role of governments should not be overlooked even in these contexts. On September 4, 2018, for instance, the European Science Foundation launched Plan S, which advocates for scientists and researchers funded by national organizations and institutions to publish their work in open-access repositories or journals.

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Received: 6 December 2024; Revised: 17 January 2025; Accepted: 21 January 2025

<https://doi.org/10.54844/ep.2024.0809>

Notably, 11 European national funding organizations (analogous to China's Ministry of Science and Technology or National Natural Science Foundation) jointly initiated Plan S, collectively providing approximately €7.6 billion in annual research funding. This plan reflects the will of European governments and has significantly accelerated the open-access movement in Europe. Recent governmental declarations, such as the European Union Council's conclusions on high-quality, transparent, open, reliable, and fair academic publishing, and the G7 Science Ministers' Declaration in May 2022, have reinforced this trend. Publishers are also adapting, recognizing that the question is no longer whether to transition to open access but how to do so. Some publishers have adjusted their policies to align with Plan S principles or are exploring new models such as Subscribe to Open (S2O), diamond open access, and other non-article processing charges (APC)-based approaches.

Similarly, the US government has extensively contributed to the promotion of open-access publishing. On February 22, 2013, the White House Office of Science and Technology Policy issued a public access memorandum stating that scholarly articles and research data resulting from federally funded research projects (with annual funding exceeding \$100 million) should be considered public assets. It mandates that these nonclassified research outputs be stored in public knowledge repositories and made freely accessible 12 months after publication.

While the US policy is more conservative than Europe's Plan S—with restrictions such as a \$100 million funding threshold and a 12-month embargo period—it has profoundly influenced the development of open-access practices and the scientific journal industry in the United States. It has even been noted that "new business models involving universities, libraries, publishers, academic, and professional societies will emerge as a result".^[2]

CONCLUSION

This tendency is illustrated by a review of the themes and content of reports issued over the last five years. Here are some examples. (1) *STM Trends 2024*: Users; (2) *STM Trends 2025*: Trust; (3) *STM Trends 2026*: The Beauty of Mass Open Access; (4) *STM Trends 2027*:

Upgrades. These themes predominantly focus on commercial and market aspects, with minimal mention of governmental roles. To enhance the comprehensiveness of future *STM Trends* reports, greater consideration should be given to governments' roles in scientific journal development. Firstly, include representatives from governmental or international organizations in the design process of *STM Trends* to incorporate their perspectives and insights. Secondly, invite representatives of government-initiated scientific journal development plans (e.g., China's *Excellence Plan*) to participate in discussions, enriching the report with their goals and priorities. Finally, engage officials from scientific journal management agencies in developing countries to better understand their needs and contribute to the advancement of their journals.

DECLARATIONS

Acknowledgement

None.

Author contributions

Wu XG: Conceptualization, Writing—Original draft, Writing—Review and Editing. The author has read and approved the final version of the manuscript.

Source of funding

This research received no external funding.

Ethical approval

Not applicable.

Conflict of interest

The author has no conflicts of interest to declare.

Data availability statement

No additional data.

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