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COMPARATIVE AI REGULATION AND DIGITAL SOVEREIGNTY: EU, USA, CHINA AND INDIA

AN LIS PERSPECTIVE

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CONTEXT AND MOTIVATION

Artificial Intelligence (AI) is significantly reshaping the creation, access, filtering, and preservation of information. Governments worldwide are adopting diverse regulatory frameworks that reflect differing political values and conceptions of digital sovereignty. These regulatory choices have direct implications for libraries, archives, and information professionals, as AI increasingly mediates knowledge production and information flows. From a Library and Information Science (LIS) perspective, understanding these models is essential to fostering ethical, transparent, and equitable information ecosystems.

RESEARCH AIM

This study compares AI regulation and digital sovereignty approaches in four geopolitical contexts, the European Union, the United States, China, and India, through the lens of Library and Information Science (LIS).

Focus areas:

- Knowledge creation and dissemination
- Information access
- Digital preservation
- Libraries and archives
- Media and information literacy

METHODOLOGY

- Comparative qualitative analysis
- Review of legal frameworks, policy documents, and academic literature
- Interdisciplinary approach combining AI governance and LIS principles

CONCLUSIONS

- AI regulation shapes national and global information ecosystems
- No single regulatory model fully resolves the tension between innovation and rights
- LIS values provide a critical ethical foundation for AI governance
- Libraries and information professionals are essential actors in building trustworthy, transparent, and inclusive AI-driven knowledge societies

References (selected)

European Union. (2024). *Artificial Intelligence Act*. European Commission.

International Federation of Library Associations and Institutions (IFLA). (2023). *Statement on artificial intelligence and libraries*.

UNESCO. (2021). *Recommendation on the ethics of artificial intelligence*.

Comparative Overview of AI Regulation

European Union (EU)

The European Union has adopted a comprehensive, rights-based approach to AI regulation. The EU Artificial Intelligence Act applies a risk-based framework that bans unacceptable uses of AI and imposes strict obligations on high-risk systems. Transparency, accountability, and AI literacy are central elements. This model aligns closely with LIS values such as privacy protection, intellectual freedom, and public accountability, while also promoting digital sovereignty by reducing dependence on foreign technologies.

China

China has implemented a state-driven and highly prescriptive AI regulatory framework. AI development is encouraged, but strict controls ensure alignment with state ideology and national security objectives. Regulations mandate content labeling, algorithm registration, and censorship compliance. While AI is extensively deployed in libraries and knowledge infrastructures, access to information is tightly controlled. This model prioritizes digital sovereignty and efficiency over intellectual freedom, reshaping the traditional role of LIS institutions.

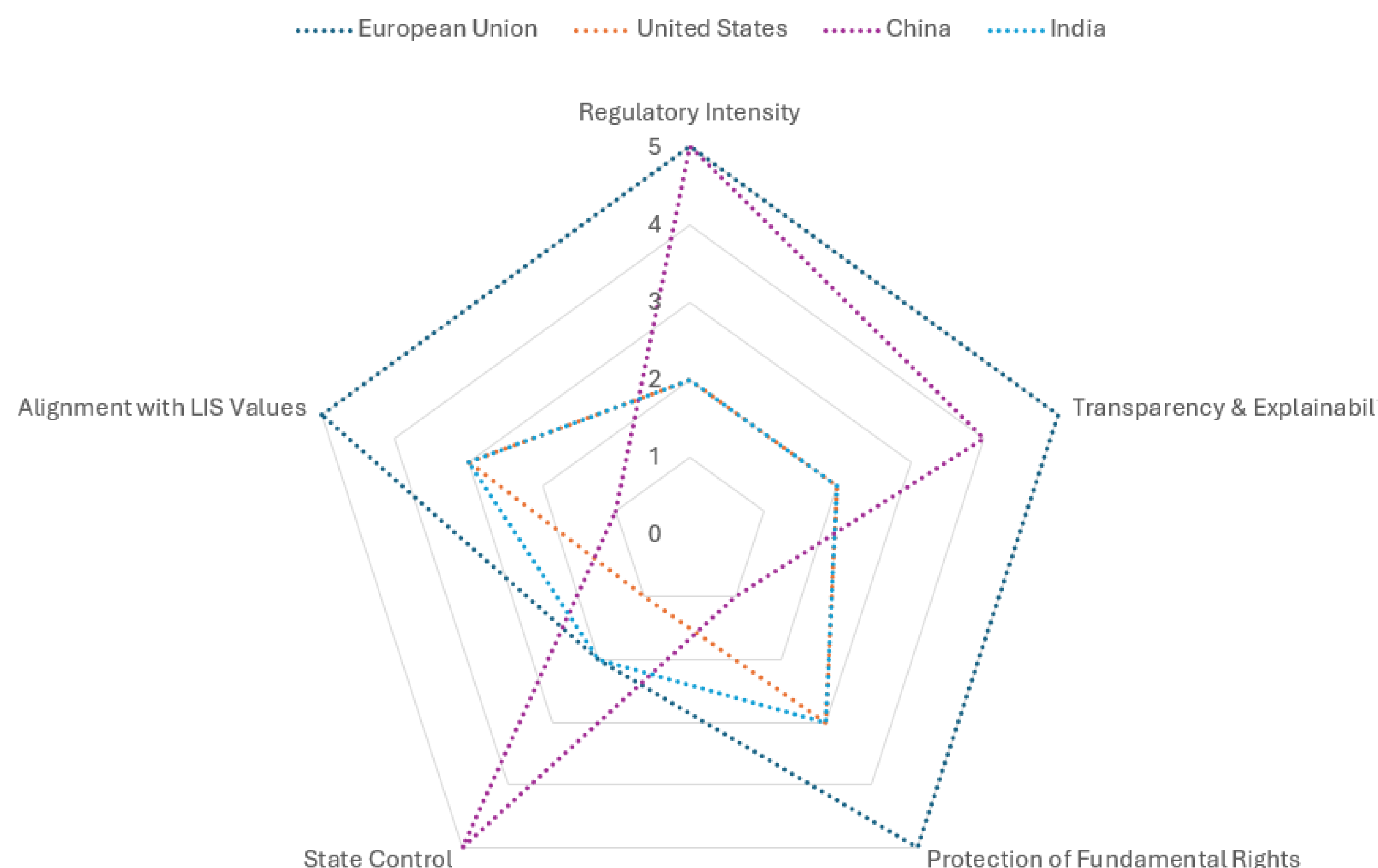
United States (USA)

The United States follows a market-led and largely self-regulatory approach to AI governance. There is no comprehensive federal AI law; instead, regulation consists of voluntary guidelines, sector-specific rules, and executive actions. This innovation-driven model enables rapid technological development but leaves gaps in transparency, accountability, and protection against misinformation. As a result, libraries and information professionals play a critical role in promoting media literacy, AI literacy, and ethical information practices.

India

India is developing an emerging and hybrid approach to AI governance. Rather than adopting strict regulation, India emphasizes innovation, digital inclusion, and economic development, while gradually addressing risks such as misinformation and data misuse. Digital sovereignty focuses on data protection and the development of national digital infrastructure. Libraries and information institutions are positioned as key actors in supporting multilingual access, digital literacy, and equitable knowledge dissemination.

COMPARATIVE AI REGULATION AND DIGITAL SOVEREIGNTY (LIS PERSPECTIVE)



Values represent a qualitative comparative assessment (scale 1–5), not quantitative measurement.

Role of LIS Professionals in the AI Era

Library and Information Science professionals act as key mediators between technology, policy, and society. Their roles include:

- Advocating for ethical, rights-based AI governance
- Ensuring transparency and accountability in AI-mediated information systems
- Preserving digital knowledge and cultural memory
- Educating citizens in media and AI literacy
- Protecting privacy and intellectual freedom

Across all regulatory contexts, LIS professionals help translate abstract policy principles into practical, user-centred information services.

Implications for Libraries and Archives

AI significantly impacts information institutions:

Opportunities

- Improved discovery, cataloging, and digitisation
- Multilingual and inclusive access to information
- Scalable digital preservation

Risks

- Algorithmic bias and opacity
- Misinformation and deepfakes
- Erosion of privacy and intellectual freedom

Libraries must adopt AI critically, guided by professional ethics rather than technology alone.