

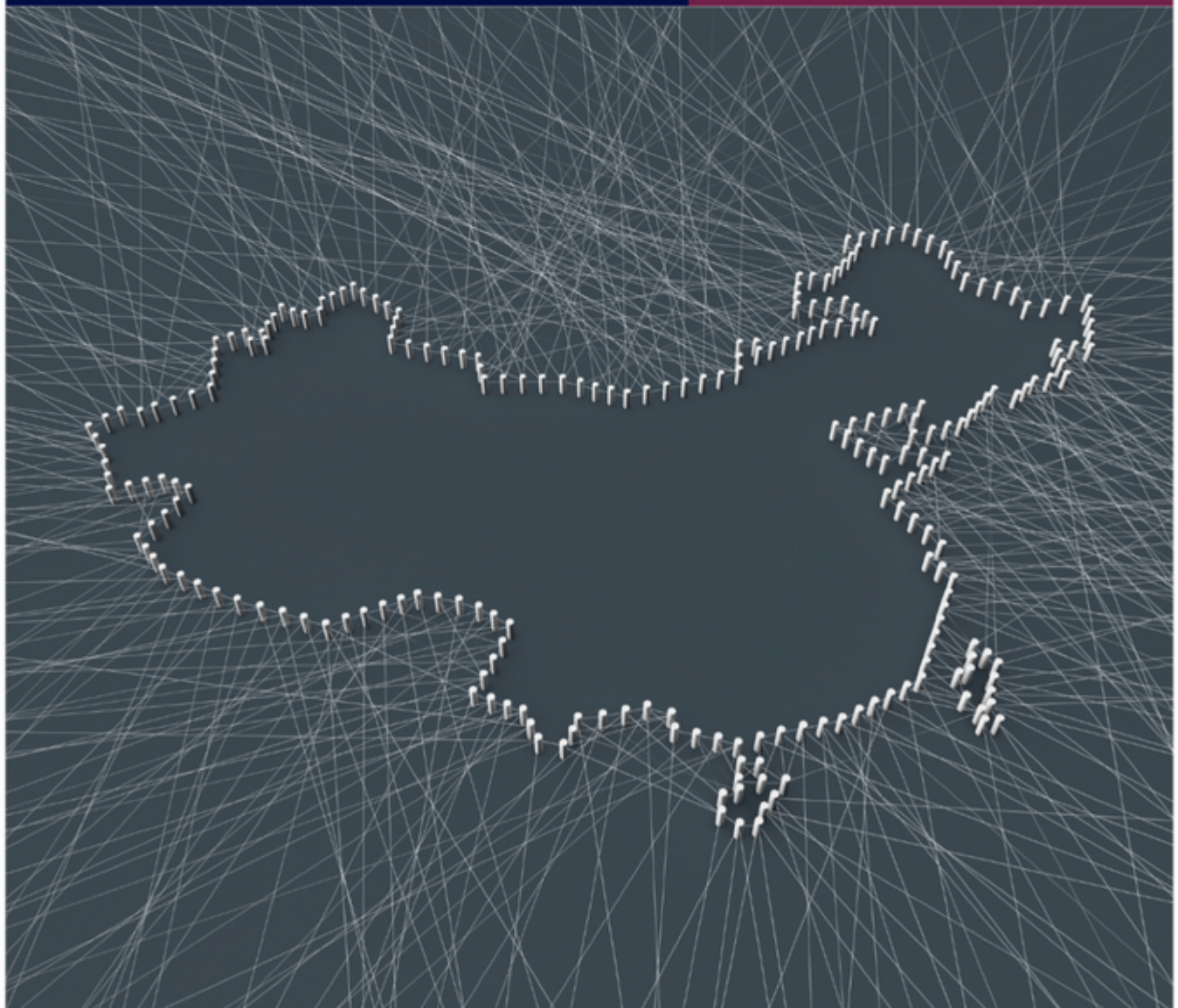
Linking Ethics to Governance

How can Chinese Artificial
Intelligence Regulations
Address Ethical and Social
Concerns?

The
Gender
Equity
Initiative



Sheng Yang
Intern report. June 2024



Acknowledgement of Country

The University of Melbourne acknowledges the Traditional Owners of the unceded land on which we work, learn and live: the Wurundjeri Woi-wurrung and Bunurong peoples (Burnley, Fishermans Bend, Parkville, Southbank and Werribee campuses), the Yorta Yorta Nation (Dookie and Shepparton campuses), and the Dja Dja Wurrung people (Creswick campus).

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We recognise the unique place held by Aboriginal and Torres Strait Islander peoples as the original owners and custodians of the lands and waterways across the Australian continent, with histories of continuous connection dating back more than 60,000 years. We also acknowledge their enduring cultural practices of caring for Country.

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Executive Summary

As an emerging and revolutionary technology, Artificial Intelligence (AI) is developing at an unexpected speed and gradually barreling in myriad aspects of our daily lives. Just in several decades of development, AI has shown its possibility to generate solutions superior to human expectations or even capacity for the first time throughout human history (Wu & Liu, 2023). Since the AI market is projected to grow by 19.6 percent per year and reach 500 billion USD in 2024, proactive players in AI technology, such as the US, EU, China, and the UK, are all intensifying their regulatory focus on risk management and standard setting (Holistic AI, 2024). Globally speaking, China is among the nations rolling out some of the world's earliest and most detailed regulations for AI governance along with its AI technology development (Sheehan, 2023).

This research paper aims to explore the underlying motivations behind Chinese AI regulations and to uncover the potential and methods for shaping a more ethical and inclusive AI governance framework. The analysis primarily relies on released regulatory documents and publicly discussed events. It draws extensively on academic research and policy analysis, as well as the specific Chinese political, economic, and social context.

Through mapping out the Chinese AI governance landscape, the paper identifies and examines the three most recent and concrete provisions that targeted specific AI technologies including algorithmic recommendation, deep synthesis, and generative AI. The research reveals five underlying motivations (three main and two auxiliary ones) that are driving Chinese AI regulations and shaping the prospective Chinese AI governance architecture. They are:

1. Serving state governance and the political agenda by strengthening control over AI technology, tech companies, information, and public discussion.
2. Contributing to economic development with the potential for a new round of industrial transformation, addressing the challenges of demographic change and sustainable development.
3. Leading global technological development and application of AI, striving to win the tech arms race and attain leadership in AI technology.
4. Setting the standards and norms of AI governance, which is associated with international soft power and influence.
5. Addressing the myriad social and ethical concerns in society, as well as the potential impacts AI can have on people.

Since this research focuses on the social and ethical aspects of Chinese AI governance, the paper uses two case studies to explore how these regulations can incorporate extensive ethical concerns and address social issues. Despite being a peripheral driving motivation, it is evident that there is potential to promote social advocacy in shifting the regulatory focus, thus making AI governance more inclusive and effective

for social impact. The paper presents key recommendations for policy advisors and those who would like to engage in the development of Chinese AI governance.

- The key principle of linking ethics to governance: It would be more effective to link certain social issues to other driving forces such as state governance, technology development, and social stability rather than solely promoting advocacy.
- Engagement with regulatory authorities: It is essential to utilize formal public channels, raise bureaucrats' awareness, and contribute to the decision-making process.
- Engagement with the private sector: The public can hold the private sector accountable for any misconduct in AI applications.
- Engagement with social power: Leveraging grassroots advocacy and public opinion can be influential and put additional pressure on governments to effectively address social concerns.
- Promoting supervision of the implementation gap: Collective and innovative efforts will prove to be more efficient and effective than simply relying on a single entity.
- Promoting international conversations: Ongoing international discussions will enhance Chinese AI governance with more widely accepted ethical standards.
- Promoting continuous evolution of the regulatory architecture: The AI governance framework should evolve or update more rapidly and frequently than other legal and regulatory reforms.

1. Introduction

Artificial Intelligence (AI) is considered the most revolutionary technology contemporarily with both great potential power for good by driving socio-economic advancement and myriad risks of causing complicated moral, ethical, and legal problems (Dadhich, 2018; Hogenhout, 2021). The increasingly identified prevalence of biased, discriminatory, manipulative, unlawful, or human rights-violating use of AI has raised concerns about the legality, ethics, and trustworthiness of AI data, algorithms, and deployments (Gillespie et al., 2023). As AI and associated technologies gradually barrel into every facet of life with escalating concerns, the attitudes and methods of AI governance, especially in countries owning high AI capabilities and industries, become hugely significant in setting norms that influence worldwide (Au, 2023).

The international discourse on Chinese AI regulations often falls into the political trap or treats them as irrelevant or meaningless. Portraying China as readily compromising ethics to security-focused AI applications and stability goals is also an oversimplification as more complex dynamics are at play (Au, 2023). In fact, the effects of Chinese AI regulations will not be limited within the borders but will ripple out internationally. The emerging and forming of the Chinese AI governance framework determines how the technology is developed and applied in China, impacting the global research networks through technology exports and international collaborations (Sheehan, 2023). Therefore, it is essential to understand China's AI policies not just externally from a Western perspective, but also internally to sort out its needs, ambitions, purposes, and ethical and social concerns.

Chinese AI governance involves numerous components and complicated mechanisms. Every perspective deserves thorough consideration and considerable work to understand and unfold the whole picture comprehensively. This research paper focuses on the key motivations driving the formation of AI regulations and the possibility of facilitating more ethical and socially sound AI governance. It aims to explore the following questions: What forces are driving Chinese AI governance? How do the regulations and implementations prioritize different pursuits? Will the regulatory framework be effective or have the potential to address any social, economic, and ethical impacts AI is having on people? By unfolding the underlying motivations and analyzing two case studies, the paper reveals the peripheral role of ethical and social concerns in shaping AI governance structure. It also highlights the possibility and potential to facilitate a more inclusive AI society, pointing out the importance of linking social concerns and ethical guidelines to other motivations. This approach would increase the significance of ethical guidelines in the governance structure by attracting attention ranging from the state to the public.

The paper begins with mapping out the Chinese AI governance architecture. By tracing the formation process and examining key components of the three most concrete provisions, the research uncovers the political, economic, technical, and social roots underlying the regulatory structure, depicting the conceptual framework of Chinese AI governance. To further dig into the social and ethical concerns of AI technologies, the research examines two real cases that prove the capability and potential for regulations addressing these concerns. Based on the analysis of the dynamics of different motivations, the paper presents recommendations for promoting a progressive and inclusive Chinese AI governance.

2. The landscape of Chinese AI regulations

Key takeaways:

- China has been steadily producing regulations and building governance architecture of AI since 2021.
- China's AI regulation landscape includes both strategic documents such as the New Generation AI Development Plan and detailed regulations on specific technologies.
- Three concrete regulations released in recent years attract considerable attention as they target specific technologies – algorithm recommendation, deep synthesis, and generative AI – and have profound social and economic impacts.
- The Algorithmic Recommendation Provisions aims to regulate algorithms, which are the basis of AI technology. The algorithm registry system derived from it laid the foundation for further AI technology governance.
- The Deep Synthesis Provisions demonstrates the controversial influence of information moderation and addressing social concerns.
- The Generative AI Measures is the first-of-its-kind regulation and reflects the government's attempt to balance between maintaining legal constraints and fostering technology innovation.

2.1 The Chinese AI Governance Architecture

In recent years, China has emerged as a proactive frontrunner in AI governance, enacting various regulations to supervise the AI sector and to govern the ethics of relevant technology and business operations (Wu, 2023a). Since 2021, China has been steadily producing regulations and legal documents to regulate the development and application of AI technologies (Kachra, 2024). Table 1 lists all the relevant documents and policies that have been published and have gone into effect up to date.

Table 1. List of Main Chinese AI Regulatory Documents

No.	Main AI regulatory documents in China
1	New Generation Artificial Intelligence Development Plan
2	Governance Principles for New Generation AI: Develop Responsible Artificial Intelligence
3	Guiding Opinions on Strengthening Overall Governance of Internet Information Service Algorithms
4	Ethical Norms for New Generation AI
5	Provisions on the Management of Algorithmic Recommendations in Internet Information Services
6	Opinions on Strengthening the Ethical Governance of Science and Technology
7	Provisions on the Administration of Deep Synthesis Internet Information Services

8	Interim Measures for the Management of Generative Artificial Intelligence Services
9	Personal Information Protection Law
10	Provincial and local level regulation: Shanghai Regulations for the Promotion of the Development of the AI Industry
11	Provincial and local level regulation: Shenzhen Special Economic Zone Regulations for the Promotion of the AI Industry

Note. Refer to Table 2 in annex for details. Own work.

Among all these policies, three provisions (highlighted in Table 1) deserve close analysis as they have concrete and targeted requirements for the development and application of AI, resulting in profound social and economic impact. In the rest of this section, the paper will present brief overviews of each of them regarding the main regulatory authorities, key provisions, intellectual roots, and the changes made throughout the formation procedures. It will provide an entry point and a general idea of the formal regulatory instruments in Chinese AI governance to date.

2.2 Provisions on the Management of Algorithmic Recommendations in Internet Information Services

The Algorithmic Recommendation Provisions was initially drafted for comment by the Cyberspace Administration of China (CAC) and released on August 27, 2021 (Toner et al., 2021). Three months later, the formal regulation was promulgated and went into effect on March 1, 2022 (CAC et al., 2021; Creemers et al., 2022). The aim of the regulation is to address the monopolistic behaviors of platform companies and require AI-based service providers to uphold user rights (Kachra, 2024).

The key provisions and requirements are grouped into three categories including general provisions, information service norms, and user rights protection (CAC et al., 2021; Creemers et al., 2022). It bans commercial platforms from offering dynamic pricing based on collected personal information and characteristics, requiring companies to notify users if the personal recommendation was made based on an algorithm or AI, as well as allowing users to opt-out or delete tags about their personal characteristics. The regulation also particularly emphasizes the protection of minors and the elderly by prohibiting addictive content promotion, fake accounts, and fraud-related behaviors. However, the final version removed the explicit discrimination protection in the drafted version (Article 10) regarding the “discriminatory or biased user tags” (Creemers et al., 2022).

One significant regulatory tool derived from this regulation is the algorithm registry (or algorithm filing system). Relevant authorities will “establish a graded and categorized algorithm security management system” to regulate and assess algorithmic recommendation services based on their “public opinion properties, social mobilization capability, content categories, scale of users, etc.” (CAC et al., 2021; Creemers et al., 2022). According to this provision, the algorithm developers need to file the information to the registry system on how the algorithms are trained and deployed, as well as the datasets (Sheehan, 2023).

2.3 Provisions on the Administration of Deep Synthesis Internet Information Services

The draft version of deep synthesis provisions was released on January 28, 2022 for solicitation of comments. The formal version was published on November 25, 2022 with the effective date of January 10, 2023 (China Law Translate, 2022).

This regulation aims to strengthen the state's supervision over deep synthesis technologies and services. It applies to both "deep synthesis service providers" and "deep synthesis service users" where the former mainly covers the companies that provide technical support or services and the latter refers to the organizations or individuals who create, duplicate, publish, or transmit information with the help of deep synthesis technologies. The regulation was based on four key principles: data security and personal information protection, transparency, content management and labeling, and technical security (Kachra, 2024). Deep synthesis providers are also required to file their algorithms to the registry system created under the Algorithmic Recommendation Provisions.

The main concern around deep synthesis is closely related to the fake information created and disseminated online beyond the state's control. Under this regulation, any synthetically generated or altered information content needs to be labeled noticeably to remind the public (Yong & Huang, 2023). The strict requirements on the creation, labeling, or dissemination of deepfakes are ostensibly made to protect public interests. However, it is also argued that as one of the world's strictest laws on deepfakes (Fitri, 2023), the regulation will strengthen the content censorship system and pave the way for regulating any emerging and disruptive technologies. Meanwhile, some aspects of the provisions mirror the issues being discussed internationally around synthetic content regulation. The requirements on clearly labeling, building secure data pipelines to protect user privacy, and facilitating transparency for better understanding and preventing bias correspond to the EU's AI Act and Digital Services Act (Fitri, 2023).

2.4 Interim Measures for the Management of Generative Artificial Intelligence Services

The Generative AI Measures was officially issued by the CAC along with six other agencies on July 10, 2023, after one month of soliciting public comments (China Law Translate, 2023a). The regulation was officially adopted on August 15, 2023.

This is the first comprehensive AI regulation in China pertaining to the development and deployment of generative AI services (Wu, 2023b). It is also the first groundbreaking law internationally that specifically targets generative AI (Roberts & Hine, 2023). The measures require providers of generative AI to conduct training activities using legal data sources, respect intellectual property rights, obtain consent for personal information, comply with relevant laws, and increase the truthfulness, accuracy, objectivity, and diversity of training data (Kachra, 2024). In general, it aims to reduce misuse of AI technologies and mitigate

potential harm to individuals and disruptions to society (Wu, 2023a). Meanwhile, it reflects the government's attempt to balance the legal regulation constraints and the encouragement of technology innovation.

Compared with the draft version, the measures were significantly watered down and made changes to several aspects. The main concerns in the draft version including content censorship, discrimination prevention, protection of intellectual property rights, etc. (Daum, 2023a) remain in the formal release. However, significant compromises on the strictest controls were also identified in the name of promoting development and innovation in the AI industry (Daum, 2023b). For instance, the requirements to “rectify illegally generated content through model training within a three-month period” and to ensure that all training data and generated content are accurate were removed (Roberts & Hine, 2023). These previous provisions are seen as insurmountable limits on technology development like AI chatbots. Moreover, the final version states (Article 3) that development and innovation are to be emphasized equally with security and governance in AI (China Law Translate, 2023b). The measures also emphasize the encouragement of cooperation in generative AI development, application, and research, as well as the coordination with basic technologies adding areas such as chips and supporting software platforms (Daum, 2023b).

In addition, the measures shifted the regulations to focus mainly on public-facing generative AI services, which may leave room for the research and development of such technologies or products. The obligations of public-facing generative AI service providers are still relatively strict, as they remain liable for "content made using their services, and for the improper handling of personal information" (China Law Translate, 2023b). However, they are no longer responsible for discriminatory output, since the relevant requirements have been removed in the final version. The specific provisions on fines for platform operators are deleted as well, shifting the emphasis to the use of secure and trustworthy chips, tools, and data sources (Wu, 2023b).

With the rapid advancement of AI technology, it is expected that additional legislation and regulations may soon emerge accordingly. The Generative AI Measures indicates that relevant authorities will produce further regulations on generative AI services through categorized and graded rules (Ge et al., 2023). It enables companies and provinces to specialize and regulate various applications or aspects of AI independently from one another (Villarino et al., 2023). Therefore, Chinese regulatory architecture is anticipated to keep flourishing and evolving.

3. The underlying forces of Chinese AI regulations

Key takeaways:

- Although key bureaucratic players dominate the orientation of regulations, a variety of stakeholders including leading technology companies, intellectual think tanks, academic organizations, civil societies, and the public all participate in the discussion and feed into the rulemaking process.

- There are three main forces and two auxiliary ones driving all the AI regulations and shaping the prospective Chinese AI governance landscape.
- Serving state governance and political agenda is still the fundamental motivation. AI control has multiple layers, including technology control and the social control of information.
- With multiple challenges faced by China, AI technology is seen as a critical tool for boosting the economy and national power. It is well articulated in the national AI strategic plan.
- China is striving to win the tech arms race and attain leadership in AI technology.
- A “nice-to-have” motivation is to drive and define ethical norms and standards for AI, growing soft power in the governance and regulation of AI.
- Regulations also serve as a tool to address the myriad social, ethical, and economic issues that exist in society, as well as any potential impacts AI can have on people.

Given China’s important role in AI technology and regulation, it is crucial to understand its motivations and priorities, as well as the lessons that other countries and regulators can learn. Before delving into the underpinning pillars of China’s regulatory architecture, the paper will briefly examine the actors and procedures involved in the policy-making process.

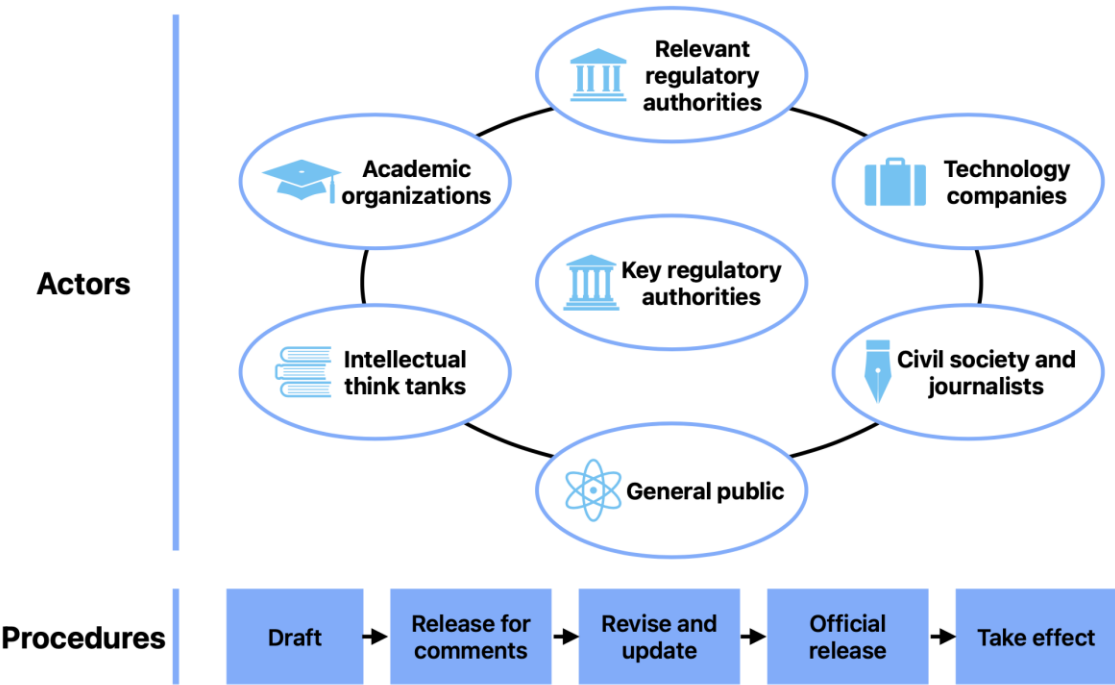
3.1 The actors and procedures of Chinese AI regulations

In China, all the regulations undoubtedly are directed and guided by the government. The key bureaucratic players shaping Chinese AI governance include the Cyberspace Administration of China (CAC), and the Ministry of Science and Technology (MOST). Besides bureaucrats, experts from the private sector and academic research jointly participate in the discussion and contribute to shaping the regulation landscape. The Chinese bureaucrats dominate the orientation but enjoy the synergy of multiple stakeholders’ participation and advice (Tao & Zhang, 2021). Several intellectual think tanks and academic organizations provide suggestions and recommendations to feed into the rulemaking process, such as the China Academy for Information Communications Technology and Tsinghua University’s Institute for AI International Governance (Sheehan, 2023). The diversified actors who participated in the policy-making discussion could improve the relevance and legitimacy of the regulation structure and method. However, the degree to which policymakers will embrace their suggestions, and the transparency of the trade-off mechanism, are somewhat uncertain.

The leading technology companies also shape the AI governance landscape by navigating the focus, limit, and even terminology. The introduction and popularization of the term “deep synthesis” are the result of the technology company Tencent aiming to replace politically radioactive “deep fakes” with a more neutrally technical term (Sheehan, 2023). For the private sector, if the regulations are too strict or lag behind the actual technological development, they will have to deal with various compliance requirements or face the uncertainty of abrupt regulatory issues that inevitably hinder them from transforming the latest technology into successful products (Wu & Liu, 2023). In this regard, their active

engagement in policymaking can not only provide regulators with technological inputs but also grant them the privilege of deeply understanding the direction and orientation of regulatory governance.

Figure 1. Actors and Procedures of Chinese AI regulations.



Note. Diverse actors may be involved in shaping the regulation landscape. The procedures may not be liner as depicted. Own work.

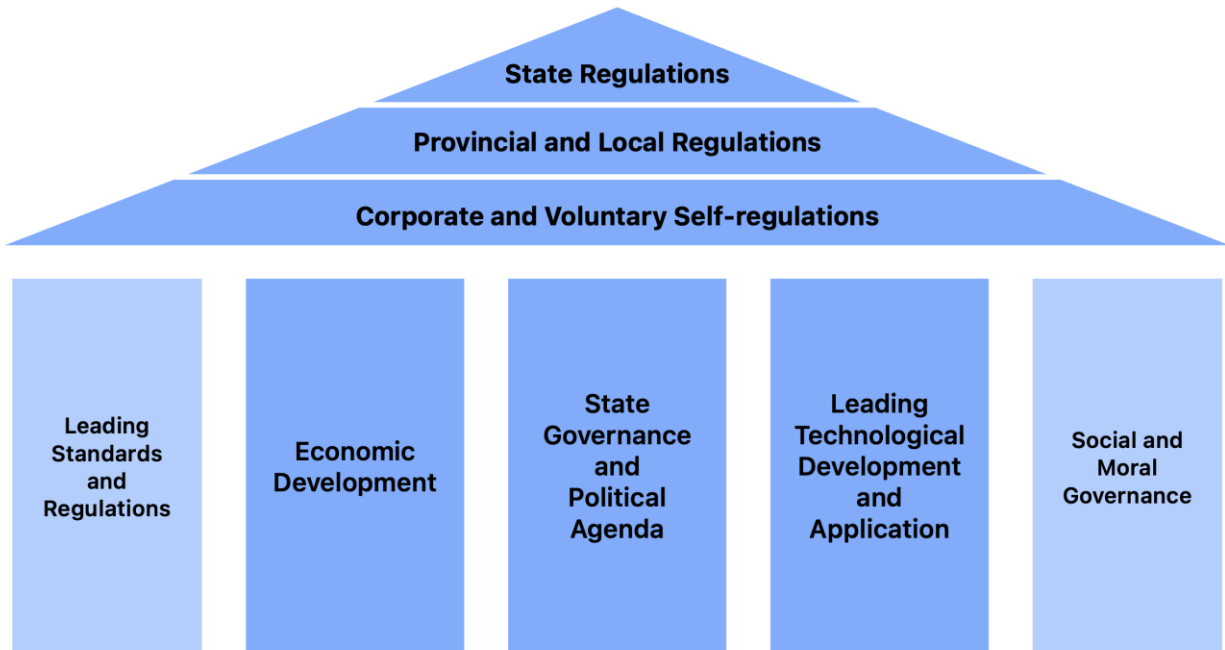
Regarding the general procedures, all the regulations have gone through the process of releasing draft versions for consolidation of comments before the promulgation of the formal versions. The policies often contain several months of buffering time, allowing the market and public to adapt or adjust.

3.2 The key motivations driving Chinese AI regulations

Apart from the three specific provisions analyzed in Section 2, other strategic and regulatory documents are also indispensable in shaping and navigating the Chinese AI industry. For instance, the New Generation AI Development Plan is the first national-level legislative effort that focuses on AI technology development as a unified strategy (Roberts et al., 2021). To provide a comprehensive and critical understanding of China’s AI trajectory and governance, the paper will collectively consider all the relevant policies, aiming to unfold the purposes, reasons, and underlying motivations driving these provisions.

In general, there are five fundamental pillars underlying the production and iteration of Chinese AI technology governance. They can be categorized into three main forces and two auxiliary ones. Figure 2 shows the conceptual framework of Chinese AI governance.

Figure 2. The underlying forces and conceptual structure of Chinese AI governance



Note. Five fundamental pillars underlying the production and iteration of Chinese AI technology governance: three main forces and two auxiliary ones (the lighter blue pillars). Own work.

a. Serving state governance and political agenda.

Political forces and intentions are relevant in all regulation formations, especially in China. It is undeniable that information control and content censorship for the aim of political and social stability underpin all AI regulations (Sheehan, 2023). From algorithmic recommendation to generative AI, requirements on upholding the Core Socialist Values (Figure 3) are the baseline of AI technology development and overarching direction for its deployment (Tobin, 2023). With AI technology evolving, it will inevitably penetrate more industrial and security-related areas. From the government's perspective, the productive potential needs to come after serving the state governance (Roberts et al., 2021).

Figure 3. The Chinese “Core Socialist Values”



Note. From “24-character Core Socialist Values in Chinese and English” by People’s Daily, 2013.
<http://politics.people.com.cn/n/2013/1224/c1001-23936171.html>

The government’s motivation for AI control has multiple layers, including the technology control as to how it is understood and deployed, the centralization and control over tech companies, and the further social control of information and public discussion through massive data collection, algorithm registry, and various application (Lucero, 2019). All the relevant provisions contain the central goal of information control and require developers’ filing to China’s algorithm registry since 2022. The registry mechanism documents and gathers the forming and training information of algorithms, requiring them to pass a security self-assessment as well (Sheehan, 2023). In a sense, the government’s focus is not just the governance of AI but also the governance through AI (Blomquist, 2022).

b. Contributing to economic development.

China’s economic development is facing multiple challenges. China’s rapid growth in the past three decades has largely benefited from the demographic dividend (Roberts et al., 2021). With the aging population looming large and the labor force growth slowing down, the government has realized that it is necessary to adopt an alternative development model for maintaining high rates of growth (Cai & Lu, 2013). AI technology is seen as a critical tool for boosting the economy and national power with its

revolutionary potential. The Chinese government believes that AI will be the driving force behind a new round of industrial transformation (Webster et al., 2017). In China's New Generation AI Development Plan, it is clearly articulated the monetary marks of the size of AI core and related industries by 2020 (1 trillion RMB), 2025 (5 trillion), and 2030 (10 trillion), in order to become a world leader in AI (Lucero, 2019).

In addition to the demographic change, how to balance economic growth and environmental impact is a challenging task as the Chinese government put forward the initiative to achieve a carbon peak and carbon neutrality in line with the global consensus on climate challenge (Wang et al., 2021). AI development has been tested effective in contributing to green technology innovation and enhancing green technological efficiency (Yin et al., 2023). AI development and application will trigger a revolution in numerous industries and bring synergy if properly guided.

However, the benefits and transformation brought about by AI come with the risk of labor market disruptions, which can exacerbate China's growing inequality (Barton et al., 2017; Roberts et al., 2021). AI can be revolutionary in changing production modes, labor relations, and the labor market. In the long term, it will benefit economic development by supplementing the labor shortage caused by the aging population, as well as tremendously increase productivity or completely change the traditional production mode. However, in the short term, the impact such as the replacement of simple and repetitive labor force by AI manufacturing machines will cause a relative surplus of labor and further widen the wealth gap (Duan et al., 2022). The increasing unemployment rate could cause problems like inflation and impoverishment that jeopardize social stability and economic development. This also explains why the government carefully balanced and weighed the use of AI.

c. Leading the technological development and application of AI.

Building China into a science and technology giant is an integral part of China's national development strategy and vigorous efforts were made to implement the innovation-driven strategy (Chinese Premier's speech, 2017). China's goal of global leadership in AI technology is written in the New Generation AI Development Plan. In line with this, policy should serve to create a conducive environment to foster and facilitate innovation and advancement of AI technology.

The tech arms race between China and the United States has been brewing in recent years and the quest for tech supremacy is in full force (Nguyen, 2023). To the Chinese government, AI development is a global contest that is striving to win (Lucero, 2019). Parallel to technology development, the legal and regulatory environment will not only determine the impact of AI but also shape the development trajectory of industries. Despite the ambitious plan to be the world leader in AI, China still lags behind the United States in computing power and fast-evolving AI products. On top of technical gaps and the lack of resources and infrastructures, legal and regulatory barriers will put another layer of strain on Chinese technology companies and consumers for the development and use of the emerging generative AI (Kshetri, 2023). This means the regulators need to balance the desire to regulate and the intention of stimulating the AI industry and innovation.

This motivation is well reflected in the Generative AI Measures. It contains explicit articles noting the importance of cross-industry collaboration and innovation. With an added provision (Article 23), the providers of generative AI services will need to obtain official approvals and certifications complying with legal and administrative regulations (Wu, 2023b). However, just weeks after the Measures went into effect, eight major Chinese tech companies, including Baidu and SenseTime, obtained the certificates to deploy their conversational AI services (Au, 2023). Although regulators are cautious of potential risks, they are aware of the counter effects of hard limits and appear to foster growth with gradually built ethical guardrails, rather than imposing sweeping barriers. The future AI governance landscape is bound to be shaped by the ongoing debates over the competing needs for constraints and promotions.

d. Leading the standards and regulations in AI.

Countries and regions consider AI as a facilitator of international leadership. AI represents an emerging pivotal domain of strategic competition as major powers seek to export their value systems through the technical standards they promote (Villarino et al., 2023). China is among many other political counterparts that are trying to seize the rhetorical high ground (Lucero, 2019). This is why China intends to lead rather than follow the AI regulations by producing its own policies even without international references. Although the EU's AI Act, the White House executive order, and China's AI regulations demonstrate shared interests (Yang & Bernot, 2023), they are also in the race to shape and develop the governance and regulation of AI utilization. In this regard, the technological race extends to the game of incentives, standards, and regulations that are intertwined with geopolitical, economic, cultural, and value-driven interests.

Research shows that China's AI governance is closely related to the soft power strategy on the international stage that attempts to depict its global image as an innovative country and global leader with both good governance of AI and governance of society through AI's application (Blomquist, 2022). Along with the aim to become the world leader in AI industry is the goal to drive and define ethical norms and standards for AI (Roberts et al., 2021). China is one of the 28 countries that signed the Bletchley Declaration on the first AI safety summit hosted by the UK in November 2023, pledging cooperation on AI safety.

However, it is argued that this consideration is just a “nice-to-have” motivation for the Chinese government in forming relevant regulations as the definition and understanding of some ethical norms and standards are always under contestation globally. Moreover, China's regulation targets of recommendation algorithms and deep synthesis are not common focuses or a major strand of discourse on AI governance in other countries (Sheehan, 2023).

e. Social and moral governance.

At last, another driving factor is to address the myriad social, ethical, and economic issues that exist in society, as well as any potential impacts AI can have on people. This motivation is closely related to social

governance but far less political. The social and moral considerations are mostly promoted by academics, journalists, analysts, and technocrats, who are genuinely grappling with the diverse ways in which AI will change the lives of people (Sheehan, 2023). With their effort, addressing social issues and ethical concerns can be brought into consideration when the government conceives regulations and solicits comments.

Most of the regulations stressed the public-facing applications that directly impact consumer rights and labor rights. These provisions promote anti-competitive business practices, correct excessive price discrimination, and protect platform delivery workers (Wu, 2023b). Despite potentially being the peripheral driving force, regulators still strive to uphold moral standards, address social issues in line with the Core Socialist Values, and tackle the societal, ethical, and economic ramifications of AI (Daum, 2023a).

With all the factors at play in shaping the AI regulation architecture, the simplified discussion as to whether these provisions on AI governance are rooted in a power play of the government or a genuine effort to curb any existing or potential harms associated with AI technologies would be misaligned. There is no doubt that the state's effort is primarily motivated by the desire to reinforce information control, facilitate technology advancement, and boost economic development (Sheehan, 2023). However, the multi-pronged approach allows all the actors in AI development to join the effort in regulating AI harms and deepening the understanding of high-risk algorithms, as well as integrating the ethical and transparency standards in other parts of the world (Kachra, 2024). As such, it is efficient to use case studies to discuss the potential for Chinese AI regulations to expand protection on certain problems in society caused by AI technologies.

4. Cases of addressing socio-economic and ethical impact

In this section, we will delve into two case studies to decipher the interplay of the discussed underlying motivations and explore the potential to address social issues through nudging and shaping regulatory frameworks. The cases can be seen as part of the backdrop and essential impetus associated with the rollout of AI regulations.

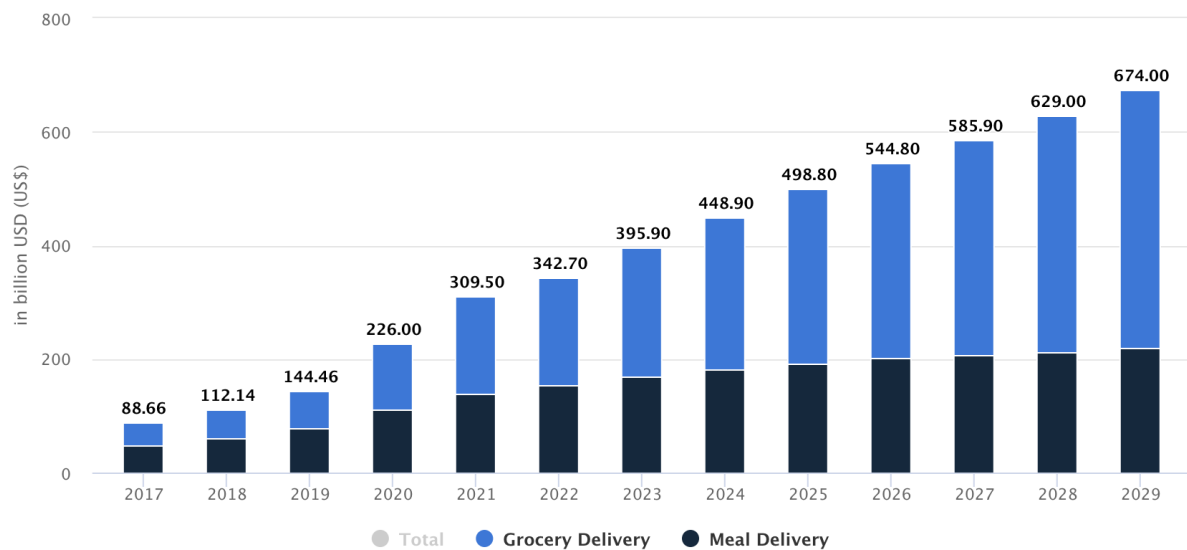
4.1 Food delivery workers and the Algorithmic Recommendation Provisions

a. The delivery workers trapped in the system.

As e-commerce continues to reshape Chinese consumption habits, the online food delivery market is also flourishing. It is projected to reach a revenue of 448.9 billion USD in 2024 (Figure 4), with a continuously anticipated annual growth rate of 8.47 percent (Statista, 2024). The huge and booming industry involves over 6 million food delivery workers who traverse cities on electric bikes and scooters (Tobin, 2021). These workers are mostly migrant laborers who lack insurance or proper legal protections. Unfortunately, these

workers also have to bear the costs of intense competition between major platform companies and suffer from exploitation and control of AI algorithms, which assign orders, work times, rewards, and penalties.

Figure 4. China's Online Food Delivery Revenue



Note: From “Online Food Delivery – China” by Statista Market Insights, most recent update in Mar 2024.
<https://www.statista.com/outlook/emo/online-food-delivery/china#revenue>

Despite the labor exploitation of delivery workers having been observed for a long time, public outcry didn't explode until the Chinese media Renwu published a long-form inquiry titled “Delivery Workers Trapped in the System” in September 2020 (Sheehan & Du, 2022; Renwu, 2020). Based on six months of research, the article revealed the struggles and unfair treatment experienced by delivery workers. The iterative machine learning processes push for increasingly shorter and unrealistic time limits, compelling riders to risk their lives by violating traffic regulations to avoid hefty fines for “late” deliveries and “poor” services (Renwu, 2020). The algorithmic system also constantly generates unreasonable route recommendations, instructing workers to drive against the flow of traffic or even ride through walls (Renwu, 2020). The allegedly “smart systems” do not account for any severe weather like heavy rain and snow, and only make conditions even more difficult for workers. In addition to the numerous problems, the platform companies hold the power to set benchmarks and parameters in the system to optimize revenues and improve customer experiences, often without considering the concerns, conditions, or feelings of the delivery workers (Tobin, 2021). The programmers coding these algorithms are also ensnared within a larger system and often lack the capability to fully understand the impact of the platforms they design. As a result, even without any human supervision, severe exploitation and dehumanization infiltrate every aspect of the delivery process, shifting risks onto riders while ensuring that profits continue to accumulate for the company.

b. The policy response and analysis.

The report quickly spread across Chinese social media, garnering more than 3 million views and extensive reposting. It made a splash in public debates and sparked a series of related articles. The extreme exploitation and dehumanization by corporates' algorithmic management led to serious backlash and some strikes and protests (Tobin, 2021). The government's policy response came soon in 2021. The central government issued specific guiding opinions to platform companies to safeguard the rights and interests of food delivery workers (Sheehan & Du, 2022). As platforms adjusted their algorithms to provide riders with more flexible timing and other improvements, the government released the Algorithmic Recommendation Provisions. This official regulation includes a specific article (Article 20) that directly addresses the role of recommendation algorithms in assigning and coordinating systems for laborers, such as food delivery workers, to safeguard their rights and interests. In line with the regulation, major platforms finally implemented substantial changes to extend delivery times and were required to file their algorithms to the registry (Sheehan & Du, 2022).

This case demonstrates that algorithms have emerged as a culture, gradually embedding into commercial practices and daily interactions (Seaver, 2017). Moreover, the logic of algorithms in food delivery platforms and other commercial products mainly reflects the logic of capitalism. The intelligent mechanisms are not, as claimed, impartial and value-free, but rather serve to enhance capitalist accumulation and prioritize the objectives and needs of companies (Sun, 2019). The rollout of the Algorithmic Recommendation Provisions also shows that AI governance has the potential to address social issues through broad public debates and the efforts of diverse social powers.

4.2 Deepfake scams and the Deep Synthesis Regulation

a. The deepfake scams and social concerns.

The emergence and widespread application of AI technologies also come with a dark side. While deep synthesis applications are beneficial in various areas such as education, healthcare, and the film industry, this technology also has malicious applications that present ethical challenges, including pornography, fraud, and political defamation (Li et al, 2022). With the help of AI technologies such as deepfakes, fraudsters are increasingly making scams more sophisticated and harder to detect. In 2023, a fraudster in China successfully convinced a victim to transfer 4.3 million RMB (622,000 USD) to a supposed friend using AI-powered face-swapping and voice-mimicking technology (J. Wu, 2023). The case triggered widespread concerns and discussions about the threat of AI facilitating financial crimes. The hashtag "#AI scams are exploding across the country" garnered over 120 million views in just one day (Reuters, 2023). Similar cases have been rapidly increasing in various regions in China, such as a finance worker in Hong Kong who was tricked into paying out 25 million USD to fraudsters using deepfake technology to impersonate the company's chief financial officer during a video conference call (Chen & Magramo, 2024).

China is not the only country suffering from AI-assisted crimes. In Southeast Asia, there have been instances where tech-savvy criminals exploit AI technology to impersonate public figures, disseminate disinformation, and defraud and extort individuals. In December 2023, deepfake videos of Singapore's Prime Minister Lee Hsien Loong and Deputy Prime Minister Lawrence Wong were circulated online, promoting crypto and investment products (Surasit, 2024). Moreover, AI-powered deep synthesis technologies also pose challenges to copyright laws. AI-synthesized videos, in which the voice of Chinese pop singer Stephanie Sun was used to create covers of various songs ranging from folk songs to anime theme tunes, gained popularity on a Chinese video-sharing platform (J. Wu, 2023).

b. The policy response and analysis.

Following the heated debates surrounding deepfake technologies, the government released the Deep Synthesis Provisions in 2022 (Kharpal, 2022). Compounded with previous regulations on online information, China set forth to tackle fake information dissemination that jeopardizes social stability. The new regulation imposes specific responsibilities on deep synthesis service providers to foster the healthy growth of businesses and mitigate any risks associated with platforms using deep learning or virtual reality to alter online content (Interesse, 2022).

The Deep Synthesis Provisions largely addresses ethical and social concerns regarding fraud, misinformation, and copyright infringement. However, these concerns are not isolated from governance. The rise of AI-generated content has increased the possibility of anti-regime elements using deepfakes of political leaders and spreading fake information, thus threatening societal stability (Kharpal, 2022). As such, prohibiting the dissemination of fake information and digitally altered content is not just for public benefit, but serves as an effective tool for social governance and political stability. Taking facial recognition technology as another example, although it also impacts privacy and data security with some public concerns, the government still actively uses it to scan profiles of minorities to strengthen surveillance and enhance governance (Mozur, 2019). Therefore, the attitude and utilization toward technologies lie in the government's final weighing among governance, social stability, and the extent of public concerns.

5. Recommendations for an ethical and inclusive Chinese AI governance

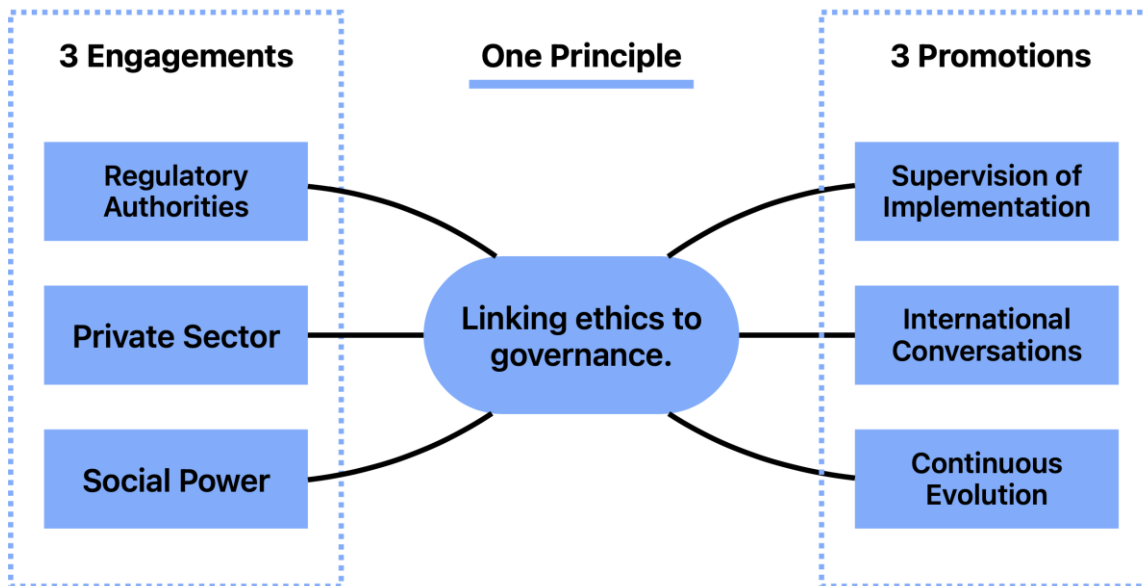
Key takeaways:

- To foster a more ethical and inclusive AI governance landscape in China, this paper presents recommendations structured around one principle, three engagements, and three promotions.

- Given the particular social and political context, it is effective to link pressing social issues to other driving forces such as state governance, technology development, and social stability rather than solely articulating the advocacy.
- Engaging with regulatory authorities, the private sector, and social power are all essential, while different methods should be applied.
- Promoting supervision of implementation, more international conversations, and continuous evolution will ensure the relevance and improvement of the regulation landscape.

Chinese regulations are made in a more politically constrained environment as some topics are not allowed to be discussed publicly and certain policy prescriptions are off the table (Sheehan, 2023). Yet these constraints do not necessarily mean there is no room for regulatory instruments to address social issues and to experiment with any interventions to mitigate AI's negative impact. Based on the case studies, it is evident that there is potential to promote social advocacy in shifting regulation focus, thus making AI governance more inclusive and effective for social impact. To foster a more ethical and inclusive AI governance landscape in China, this section will present recommendations structured around one principle, three engagements, and three promotions (Figure 5).

Figure 5. Recommendations for an ethical and inclusive Chinese AI governance



Note. Recommendations structured around one principle, three engagements, and three promotions. Own work.

5.1 One principle: Linking ethics to governance.

The Chinese government will inevitably keep beholding to some degree of surveillance for stability and will continuously ensure all regulatory measures are compatible with innovation. The regulatory authorities and bureaucrats are aware of the potential benefits, practical risks, and social and ethical challenges that AI can induce (Roberts et al., 2021). To counter state dominance, it is imperative to advocate and articulate the pressing societal impacts and problems to encourage the government to increasingly align with public attitudes rather than just official principles. The key question is how to influence the rulemaking orientation and reshape AI governance to address more social concerns.

Going through all the provisions, user protection in consumer-facing AI applications stands as a core component and a paramount need. For instance, they mandate service providers to handle information lawfully and promptly, preventing harm to minors or the elderly (Ge et al., 2023). This reflects the Chinese government's role as both guardian and mediator between commercial applications and the public. The ethical and social concerns that are incorporated in provisions such as price discrimination, labor rights, and AI scams are not just intended for public benefit. They also serve as efforts to calm public backlash without addressing the core issue, maintaining state governance over information technologies and services.

On the contrary, other social issues and impacts identified in AI such as implicit discrimination, education inequality, and gender bias are not emphasized or even muted in the provisions (Creemers et al., 2022). The result could stem from a delicate balancing act among competing priorities, including the imperative to maintain competitiveness in the AI race. As such, the direction of AI development and the regulatory landscape will be largely determined by the interplay of all the driving motivations and the stakeholders in the industry, especially by the extent to which the government's interests and focuses outweigh other concerns.

In line with this, it would be more effective to link certain social issues to other driving forces such as state governance, technology development, and social stability rather than solely promoting the advocacy. For instance, instead of advocating gender equality in the tech sector, linking the increased inclusion of female engineers to potential technological development and economic growth can improve the acceptability of the initiative.

5.2 Engagement 1: Regulatory authorities.

The regulatory authorities enjoy participation and advice from a variety of stakeholders, especially for emerging and evolving AI technologies (Tao & Zhang, 2021). It is essential to seize the time window provided for soliciting comments on newly released draft provisions and propose suggestions regarding pressing social concerns across various aspects and levels. These formal public channels should be leveraged with political sensitivity to gradually influence the regulatory architecture.

Meanwhile, actively engaging with regulatory authorities and linking social and ethical issues to governance could raise bureaucrats' awareness and feed into the decision-making process. With AI technologies entering the public service, the government and bureaucrats themselves are not immune to the impact of AI as well (Li & Yang, 2021). They can also benefit from an inclusive regulatory framework.

In addition, along with the rollout of AI regulations, numerous new bureaucratic and technical tools such as algorithm registry mechanisms, disclosure requirements, model auditing, and technical performance standards were created (Sheehan, 2023). It is crucial to engage with the government to not only use them as management instruments but also move toward more broadly transparency and collective governance.

5.3 Engagement 2: The private sector.

Tech companies are on the frontline of AI technology applications and often rush to trial and deploy new technology for the sake of market share and profits. Consequently, without well-set guardrails and periodic assessments of data, algorithms, and operations, thoughtless innovations can lead to unintended biases, new risks, and even (unintentionally) breaking regulatory requirements (Baeza-Yates & Fayyad, 2024). Although provisions watered down explicit requirements on service providers and shifted their responsibility for AI discrimination (Daum, 2023b), the public can hold the private sector accountable for any misconduct according to other legal rules. Companies are increasingly aware of the value of trust placed on them by regulators and the public (Baeza-Yates & Fayyad, 2024). Thus, the voice of customers and the public can encourage them to minimize risks and be thoughtful about AI's possible consequences.

5.4 Engagement 3: Social power.

Regulating AI for the good of society cannot purely rely on government sanctions or corporate social responsibility (Charlesworth, 2021). Grassroots advocacy and public opinion are indeed influential and put additional pressure on governments. The case studies in Section 4 have demonstrated the significance of public debates and the social powers including journalists, scholars, and civil societies in shaping the regulation focus. Moreover, extensive public debates can uncover and highlight essential concerns and unintended negative consequences that are often overlooked or obscured by primary interest groups, thereby tackling misuse and reckless deployment. AI is not isolated from the broader social systems it operates within and is intrinsically linked to the continuous production of the social and cultural meaning of these social systems (Charlesworth, 2021). In this context, continuously raising awareness and facilitating education are pivotal and profoundly meaningful.

5.5 Promotion 1: The supervision of implementation gap.

Both technical and practical reasons contribute to the gap between policy and implementation. For instance, although some of the regulations require measures to prevent discrimination during model training and application of generative AI technology and services, these principles would be significantly

hard to convert into practice (Daum, 2023a). On the one side, the rules are too vague. On the other, the mechanism relies on technical transparency and user feedback. The standards regarding every single discrimination deserve broad discussion and exploration. They also require efficient methods for preventing and identifying discriminatory outputs.

In practice, the ethical review and oversight regarding designing, developing, and deploying AI always lack transparency and limit the understanding and practice of accountability (Charlesworth, 2021). As to supervision and monitoring, collective and innovative efforts will prove to be more efficient and effective than simply relying on a single entity. For example, the [AI incident database](#) identifies and publishes AI-associated incidents from around the world, which is a good mechanism worthy of further dissemination.

5.6 Promotion 2: Participation in international conversations.

AI's ethical concerns and societal consequences put challenges on all governments and regulated institutions. It is a consensus to leverage a proper group of ethical and social principles for guiding the design, regulation, and utilization of AI. However, the attempt faces challenges in twofold. On the one hand, it is not easy to identify the right set of fundamental ethical principles, as they may vary depending on cultural and social contexts. On the other hand, it is also pivotal to translate the identified principles into viable guidelines to shape AI innovation and development, while embedding them into self-learning and evolving AI systems without ethical risks and unwanted consequences (Taddeo & Floridi, 2021).

Each country and region will inevitably keep rolling out its version of laws and regulations, as well as setting up unique systems of supervision and governance (Hogenhout, 2021). China's active effort to regulate AI and related technologies highlights the importance of adequately considering the socio-political context compounded with economic and technological factors when analyzing and unfolding specific AI governance ideologies and methods. It is an urgent necessity for the global community to take action collectively in identifying common concerns, setting up safeguards, and conducting ethical impact assessments with certain consensus on ethical and moral standards (Baeza-Yates & Fayyad, 2024). Therefore, promoting China's participation in the ongoing discussion will contribute to the international framework and complete the Chinese AI governance with more widely accepted ethical standards.

5.7 Promotion 3: The continuous evolution of regulatory architecture.

Currently, the AI governance structure still follows the traditional regulatory methodology and philosophy. However, in complex socio-technical systems, inclusive AI governance requires more sophisticated political and legal interventions, as well as intersectional-aware responses (Charlesworth, 2021). AI is a powerful and dynamic force that will gradually permeate into societal structures and individual behaviors, reshaping daily practices, interactions between people, and even how we navigate and perceive the world around us (Taddeo & Floridi, 2021). All existing AI regulations perhaps simply serve as an early marker in the development of an evolving and reflexive field of regulatory practice. The AI governance architecture is

set to evolve or update more rapidly and frequently than any other legal and regulation reforms. With this idea in mind, the whole society needs to prepare for and adapt to the continuous and unexpected changes both in technology and regulation.

6. Conclusion

Regulating AI is challenging due to its fast-evolving character, increasing and ubiquitous embedded applications in our lives, and its nature of not being a stand-alone technology. Regulators are somehow under the pressure of quickly learning and understanding the technologies and their profound impact. The process of making, revising, and updating AI provisions would also gradually help Chinese bureaucrats build up technological know-how and regulatory capacity. China's active engagement in AI technology and governance is critical not only for its own development but also for contributing to global debates from the perspective of a developing country.

As a newly built and still evolving regulatory structure, Chinese AI governance presents multifaceted underlying motivations that are intertwined and connected in various ways. Analyzing them individually in this paper is an effective attempt to sort out the complexity of forming the governance architecture and mechanisms. However, the contestation, overlapping, and interaction between these motivations are key to exploring the logic and efficacy in addressing specific political, economic, and social issues. The case studies also demonstrate their interplay in practice.

Therefore, given the Chinese political and social context, linking ethical concerns to factors such as state governance, technology development, and social stability can enhance the potential for a more inclusive and socially impactful AI governance. Leveraging various resources to engage with regulatory authorities, the private sector, and grassroots advocacy can improve the reliability and inclusiveness of the regulatory framework. Moreover, facilitating international dialogues and continuous iterations will align Chinese AI governance with global ethical standards. These measures are all essential for advancing a robust and ethically sound AI governance architecture that addresses both current and future societal challenges.

A holistic approach and collective effort that safeguards the dignity of individuals and societies is key to mitigating risks and addressing the wider impacts of AI on society. Effective future regulatory mechanisms will not rely solely on scientific, technological, or engineering knowledge but will be grounded in the integration of diverse interdisciplinary fields, especially social sciences and humanities. Despite the challenges, ongoing discussions and advocacy aimed at addressing social concerns and promoting ethical and inclusive AI governance must be upheld alongside technological advancement.

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8. Annexes

Table 2. Details of Main AI regulatory documents in China

No.	Release Date	Effective date	Key governmental bodies	Key requirements and provisions	Similar international regulations
1	New Generation Artificial Intelligence Development Plan Chinese original English translation				
	20 July, 2017		State Council	Encouraging AI development. High-level timetable for developing AI	

				regulations through 2030.
2	Governance Principles for New Generation AI: Develop Responsible Artificial Intelligence Chinese original English translation			
	17 June, 2019		National New Generation AI governance Expert Committee	Eight principles for AI governance, including respect privacy, secure, safe, and controllable, agile governance.
3	Guiding Opinions on Strengthening Overall Governance of Internet Information Service Algorithms Chinese original English translation			
	17 September, 2021		CAC, Publicity, MOE, MOST, MIIT, MPS, MCT, SAMR, NRTA.	Led by the CAC, cosigned with other authorities. General guidance for regulation of online algorithms.
4	Ethical Norms for New Generation AI Chinese original English translation			
	25 September 2021	25 September 2021	National New Generation AI Governance Expert Committee	High-level guidance for ethical norms proposed to be embedded in AI governance. Humans should maintain control over AI. Focus on safety, privacy, and fairness.
5	Provisions on the Management of Algorithmic Recommendations in Internet Information Services Chinese original English translation			
	December 31, 2021	1 March 2021	CAC, MIIT, MPS, SAMR	Address monopolistic behavior of EU Digital Markets Act (1 November

			platform companies. Content control, protections for workers impacted by algorithms, algorithm registry.	2022) and EU Digital Services Act (16 November 2022)
6	Opinions on Strengthening the Ethical Governance of Science and Technology Chinese original English translation			
	March 20, 2022	CCP Central Committee, State Council	Focus on internal ethics and governance mechanisms scientists and technology developers should deploy. AI, life sciences, and medicine are listed as the top three areas.	
7	Provisions on the Administration of Deep Synthesis Internet Information Services Chinese original English translation			
	25 November, 2022	10 January 2023 CAC, MIIT, MPS.	Targets AI applications for generation of text, audio, and video. Prohibit fake information and deepfakes. Require labelling for AI generated content.	EU AI Act (Adopted by European Parliament on 14 June 2023) and EU Digital Services Act (16 November 2022)
8	Interim Measures for the Management of Generative Artificial Intelligence Service Chinese original English translation			
	10 July, 2023	15 August, 2023 CAC, NDRC, MOE, MOST, MIIT, MPS, NRTA.	More emphasis on text generation and training data. Balance	EU AI Act (Adopted by European Parliament on 14 June 2023)

				innovation and legal governance.	
9	Personal Information Protection Law Chinese original English translation				
	20 August, 2021	1 November, 2021	National People's Congress	Define the term of “personal information” and “automated decision-making”. Specific requirements on. Impact assessments.	EU General Data Protection Regulation (25 May 2018)
10	Provincial and local level regulation Shanghai Regulations for the Promotion of the Development of the AI Industry Chinese original English translation				
	22 September, 2022	1 October, 2022	Shanghai Municipal People's Congress	Industry promotion legislation, support AI innovative development. A graded management system and sandbox supervision for test and exploration.	
11	Provincial and local level regulation Shenzhen Special Economic Zone Regulations for the Promotion of the AI Industry Chinese original English translation				
	5 September, 2022	1 November, 2022	Shenzhen Municipal People's Congress	Encourage governmental organizations to be at the forefront. Increasing financial support. Risk classification system.	

Note. Adapted from “China’s AI regulations and how they get made”, by M. Sheehan, 2023.
(<https://carnegieendowment.org/2023/07/10/china-s-ai-regulations-and-how-they-get-made-pub-90117>)

Abbreviations in Table 2:

CAC – Cyberspace Administration of China

MCT - Ministry of Culture and Tourism of the People's Republic of China

MIIT – Ministry of Industry and Information Technology of the People's Republic of China

MOE - Ministry of Education of the People's Republic of China

MOST – Ministry of Science and Technology of the People's Republic of China

MPS – Ministry of Public Security the People's Republic of China

NDRC - People's Republic of China National Development and Reform Commission

NRTA - National Radio and Television Administration

Publicity - Publicity Department of the CCP Central Committee

SAMR – State Administration of Market Regulation