V. N. KARAZIN KHARKIV NATIONAL UNIVERSITY

School of Economics

Department of Economic Cybernetics and Applied Economics

QUALIFYING MASTER'S THESIS

Transformation of China's Labor Market in the Context of Artificial Intelligence Technologies

Performed by: 2nd year student, group K2

Specialty 051 "Economics"

Educational program "Applied Economics"

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Reviewer

Kharkiv – 2025

АНОТАЦІЯ

Ван Сінь. **Трансформація китайського ринку праці в умовах технологій штучного інтелекту** (Науковий керівник д.е.н., проф. Меркулова Т.В.).

У роботі досліджується трансформація ринку праці Китаю в контексті розвитку технологій штучного інтелекту. Аналізується вплив генеративного ШІ на структуру зайнятості, вимоги до навичок і політику в сфері праці, розглядаються як виклики, так і можливості, що виникають у результаті стрімкої технологічної інтеграції. Поєднуючи теоретичні підходи та емпіричні дані, автор висвітлює, як диджиталізація й автоматизація змінюють попит на робочу силу, зменшують кількість рутинних завдань і створюють нові професії, що вимагають високого рівня цифрових компетенцій. Основні результати свідчать про те, що інновації на основі ШІ можуть значно підвищити продуктивність і якість праці, але водночас поглиблюють поляризацію ринку праці та несуть ризики витіснення працівників і зростання нерівності. У роботі підкреслюється важливість стратегічного розвитку людського капіталу, безперервного перенавчання та партнерських моделей між державою, бізнесом і освітніми установами. У висновку пропонується комплексна й інклюзивна політика зайнятості, яка враховує потенціал ШІ та водночас пом’якшує його соціально-економічні наслідки.

Ключові слова: *Штучний інтелект, ринок праці, цифрова трансформація, структура зайнятості, перенавчання працівників*.

SUMMARY

Wang Xin. **Transformation of China's Labor Market in the Context of Artificial Intelligence Technologies.** (Scientific supervisor: Doctor of Science in Economics, Professor, Merkulova T.).

This paper examines the transformation of China’s labor market in the context of artificial intelligence technologies. By analyzing the impact of generative AI on employment structures, skill requirements, and labor policies, the study investigates both the challenges and opportunities that arise from rapid technological integration. Through a combination of theoretical frameworks and empirical data, the paper highlights how digitalization and automation are reshaping labor demand, reducing routine tasks, and creating new professions requiring advanced digital competencies. Key findings indicate that while AI-driven innovation can significantly enhance productivity and job quality, it also exacerbates labor polarization and introduces risks of displacement and inequality. The research emphasizes the importance of strategic workforce development, continuous reskilling, and collaborative models involving the state, enterprises, and educational institutions. In conclusion, the study advocates for comprehensive and inclusive labor policies that not only embrace AI’s potential but also mitigate its social and economic disruptions.

Key words: *Artificial Intelligence, Labor Market, Digital Transformation, Employment Structure, Workforce Reskilling.*

CONTENTS

INTRODUCTION

Relevance of the Research. The socio-economic development of the global community in the 21st century is characterized by a number of key trends that reflect deep structural transformations. One of the main factors is the rapid development of technologies and innovations that are fundamentally changing all areas of human activity. In modern conditions, artificial intelligence has an increasingly significant impact on the transformation of the labor market. This technology contributes to the large-scale automation of work processes, while opening up new areas of employment and forming qualitatively new forms of interaction between humans and intelligent systems. The relevance of the study of the impact of artificial intelligence (AI) on the labor market in China is due to the rapid development of technologies, which are fundamentally changing the structure of employment and creating new challenges and opportunities for the labor sphere. Digital transformations encompassing global labor markets highlight the urgent need for strategic human capital management and targeted talent development - both in response to impending systemic failures and in the context of preparation for future challenges.

Research Problem. The main research problem is to analyze the impact of artificial intelligence on the labor market in China and to develop effective, evidence-based strategies aimed at enhancing labor market stability, adaptability, and inclusivity in the context of rapid AI integration across key economic sectors. The introduction of AI in various sectors of the economy entails the automation of processes, which can lead to job cuts in traditional sectors, while creating new professions that require highly qualified specialists. It is important to understand how to eliminate the skills deficit in the workforce through the education system and retraining, as well as what measures can be taken to reduce social inequality caused by technological transformation. The central aspect of the research is to develop recommendations for state and corporate policies aimed at effectively adapting the workforce to new requirements, creating jobs in high-tech areas and minimizing the social risks associated with the transition to an AI economy.

The purpose and tasks of the research. The aim of the research is to analyze the impact of artificial intelligence on the labor market in China, focusing on identifying key changes in the employment structure, assessing the need for new skills and qualifications, and developing recommendations for creating effective measures to adapt the workforce and improve socio-economic conditions in the context of technological transformation.

To achieve this purpose, the following tasks have been set:

1. To explore theoretical approaches to labor market transformation in the AI era.

2. To conceptualize artificial intelligence and its role in economic transformation.

3. To evaluate the opportunities and risks AI poses to employment, including job creation and displacement.

4.To analyze key trends in China's labor market within the context of digital transformation.

5. To assess the role of AI in China's economy, identifying challenges and opportunities for labor.

6. Develop recommendations to improve labor market resilience, flexibility, and inclusivity in response to AI-driven changes.

Object of the Research. The object of this research is the labor market in China, specifically its transformation in response to the rapid development and integration of artificial intelligence technologies across various sectors of the economy.

Subject of the Research. The subject of this research is the impact of artificial intelligence on employment patterns, skill requirements, and labor market dynamics in China, with a focus on understanding the challenges and opportunities posed by AI, as well as the development of effective policies and strategies for labor market adaptation.

Elements of scientific novelty. The elements of scientific novelty of the study lie in the proposed model of partnership between the state, business, educational

institutions and AI companies to ensure the sustainability of the Chinese labor market. The model assumes an integrated approach to the adaptation of the labor market, where the coordination of the actions of these key sectors helps to solve the challenges and take advantage of the opportunities arising from the introduction of artificial intelligence into the economy. The inclusion of AI companies and educational institutions in the development of specialized workforce training programs, the active role of business in employee training and the participation of the state in the creation of supporting policies and initiatives for workforce retraining are important elements of novelty.

Practical significance. The practical significance of the study lies in the recommendations developed to increase the flexibility of the Chinese labor market in the context of the rapid introduction of artificial intelligence technologies. The work proposes specific measures to adapt the employment system to technological changes, including the development of retraining and requalification programs for personnel, support for labor mobility, and stimulation of the creation of new jobs in high-tech sectors. Particular attention is paid to strengthening the social protection system: ways to strengthen mechanisms for protecting workers affected by automation and AI displacement are considered, including income support, employment insurance, and access to training opportunities. The practical value is that the proposed solutions can be used by government agencies, companies, and educational institutions in forming effective labor and employment policies in the context of the digital transformation of the economy.

Research Methods. To examine the impact of artificial intelligence on the labor market in China, with a focus on developing effective strategies for labor market adaptation, the study employed primarily analytical research methods. The analytical and comparative-analytical approaches were central to identifying key labor market trends, evaluating the effects of AI-driven transformations, and assessing sector-specific risks and opportunities. Systematization and classification methods were used to organize data from various sources, enabling the identification of patterns in employment shifts, technological adoption, and workforce responses.

The evaluation method allowed for a critical analysis of existing policy measures and institutional practices aimed at mitigating labor market disruptions. The research is based on a thorough analysis of theoretical models and empirical data drawn from national labor statistics, policy documents, expert reports, and case studies, ensuring a well-rounded and evidence-based investigation.

Structure and scope of the work. The structure of the work includes an introduction, three main chapters, a conclusion, and a bibliography consisting of 55 sources. The total length of the qualification project is 90 pages, with references and 4 appendices. The work contains 13 tables and 12 figures.

SECTION 1. THEORETICAL FRAMEWORK: CONCEPTS, MODELS, AND GLOBAL PERSPECTIVES ON THE IMPACT OF ARTIFICIAL INTELLIGENCE ON LABOR MARKETS

1.1. THEORETICAL APPROACHES TO LABOR MARKET TRANSFORMATION IN THE AGE OF AI

The socio-economic development of the global community in the 21st century is characterized by a number of key trends that reflect deep structural transformations. One of the main factors is the rapid development of technologies and innovations that are radically changing all areas of human activity. The service sector is playing an increasingly important role in the global economy, and globalization is accelerating the integration of national economies. The digital economy, which includes a wide range of economic processes based on the use of digital technologies and the Internet, is becoming the basis for these changes. Its components include such areas as e-commerce, digital finance, online entertainment, telecommunications, as well as digital services in logistics, marketing and other industries. Digitalization, in fact, is the basis of modern economic transformation, within which both businesses and consumers are actively using digital tools to conclude transactions, interact and receive various services. Labor relations are undergoing significant changes: digital communications and remote formats of interaction between employees and employers are forming new models of motivation and behavior. In these conditions, a flexible and virtualized labor market is actively developing, reflecting the realities of the digital age (Umanets, et al., 2022).

In the context of digital transformation, the economy dictates new rules for the functioning of the labor market, turning it into a highly dynamic system of socio-economic relations, where the exchange of labor for remuneration is increasingly carried out with the support of digital technologies and algorithmic mechanisms. The modern labor market is not just a space of interaction between employers, employees, the state and other institutions, but a complex socio-technical construct in which

traditional forms of employment coexist with new ones - flexible, remote and platform.

Saudi Arabian researchers Sarabdeen, M. & Alofaysan, H. (2023) argue that technological capabilities are critical to the economic growth and resilience of countries around the world. Chinese researchers Zhao, K., Li, H., & Luo, Y. (2024) note that China’s regional digital transformation has revitalized economic development and revolutionized the labor force employment landscape. Technological innovations and applications driven by digital transformation will lead to significant changes in labor demand across sectors and industries. These changes affect the quality of employment by adjusting the structure of the labor force, including reconfigurations of industries, sectors, and skill levels. In the current economic environment, artificial intelligence, automation, and digital tools are changing traditional company organizational structures and ways of working (Bousrih, et al., 2022). Jordanian researchers Sandri, S., et al. (2022) argue that digitalization is creating demand for new occupations revolving around new modes of production and consumption. According to Italian researchers Cirillo, V., et al. (2024), digital transformation involves the modularization and reconfiguration of professional work skills and tasks across the entire division of the production and service delivery process.

According to the opinion of Ukrainian researchers Tokunova, A., et al. (2023), digitalization is transforming not only the processes of labor resource allocation, but also redefining the concepts of employment, legal protection, professional self-realization and access to opportunities. In these conditions, the labor market becomes a reflection of not only economic feasibility, but also the degree of society's readiness for inclusive, sustainable and equitable development in the digital age. According to Stryzhak, O. (2023), trends in the digitalization of the economy have a direct impact on the transformation of the labor market, bringing significant benefits to employers. It not only reduces transaction costs associated with the search and coordination of personnel, but also accelerates interaction between market participants. Thanks to digital technologies, the efficiency of labor resource allocation increases, which

contributes to more flexible and dynamic adaptation to changing economic conditions. An important consequence of digitalization is the expansion of participation in production activities - especially for people with disabilities, who have received the opportunity to realize their potential remotely. According to Nazarova, G. et al. (2024), the processes of digitalization of the economy create new solutions and types of employment in the digital environment, stimulating the movement of workers from traditional sectors of the economy to high-tech industries. In addition, digitalization entails changes in the employment structure due to the activation of remote work, freelancing and other flexible forms of employment. Digitalization of the labor market brings both opportunities and risks. It can increase social inequality between different groups, reduce the number of permanent jobs in favor of temporary and contract ones, increasing the instability of employment and income. The demands on productivity and adaptability are also increasing, especially in professions where working standards and conditions are changing. These challenges require a systemic revision of approaches to employment and social protection.

The profound transformations sweeping global labour markets highlight the urgent need for strategic human capital management and targeted talent development, both in response to looming systemic disruptions and in preparation for future challenges. Flexible and responsive mechanisms for the redistribution of labour resources both within organisations and across industries and sectors are key. The coming years offer a unique window of opportunity for both businesses and governments to facilitate the transition of workers from disappearing occupations to new, promising roles, while building a sustainable employment architecture. Such a transition will not only strengthen economic inclusion and expand access to opportunities, but will also form the basis for building more equitable, resilient, adaptive and people-centred economies (WEF, 2024).

According to Indian researchers George, AS, et al. (2025), against the backdrop of global technological breakthroughs, profound demographic transformations, and a reassessment of human values, established paradigms of work are being destroyed.

This poses a challenge for organizations around the world to rethink not only their operating model, but also fundamental approaches to corporate culture, human capital management, and creating value for employees in the new reality. The main trends in the formation of the labor market are presented in Figure 1.1.

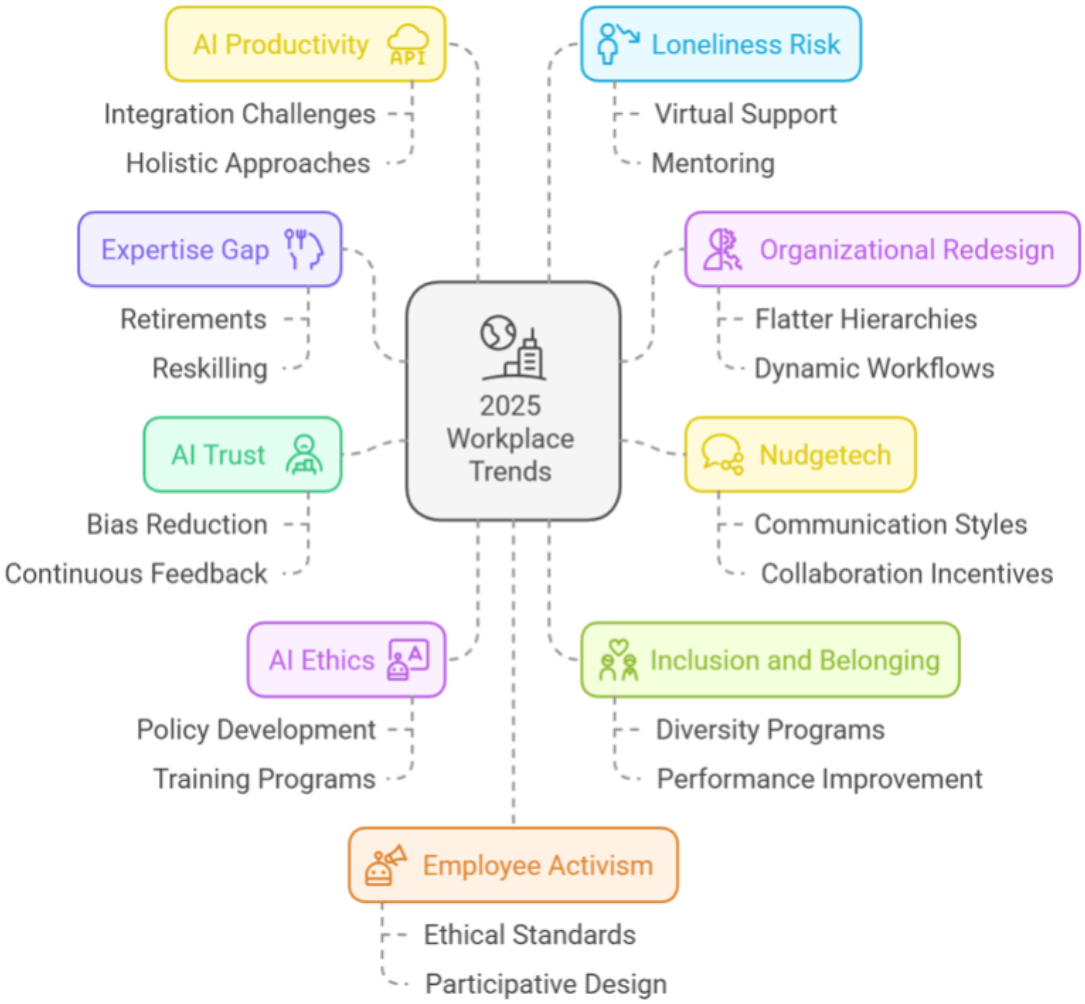

Fig. 1.1. Key trends in the formation of the modern labor market

Source: George, AS, et al. (2025)

From bridging the growing knowledge gap to fostering a culture of responsible AI use, each of these key trends represents a profound transformation that organizations must prepare for today. In the face of unprecedented technological shifts, these trends are the ones that will guide them to reimagine processes, transform employee experiences, and renew leadership strategies. Those that

consciously integrate these trends into their HR and organizational policies will not only remain competitive, but also unlock the potential for sustainable growth—from increased productivity and creativity to building trust and increasing social impact. To not just adapt, but to become an active participant in global transformation, organizations must continually reimagine the future of work through a human-centric lens.

Thus, globalization, technological progress, demographic, environmental and socio-cultural shifts have immediate and long-term impacts on labor markets and the movement of people between employment, unemployment, economic inactivity and retirement (EC, et al., 2024). Modern work processes are characterized by rapid digitalization and automation of jobs, increasing integration of artificial intelligence, which increases the value of specialists with a stronger skill set and readiness for change.

1.2. CONCEPTUALIZING ARTIFICIAL INTELLIGENCE AND ITS ROLE IN ECONOMIC TRANSFORMATION

Since the beginning of the 21st century, artificial intelligence has evolved from a theoretical concept to a key element of business processes, deeply integrating into everyday business practices and transforming them from within. In a general sense, artificial intelligence (AI) encompasses machines and systems that are capable of performing tasks that traditionally require human intelligence. Such tasks include pattern recognition, decision making under uncertainty, and natural language processing (Serrano, 2025) (Figure 1.2).

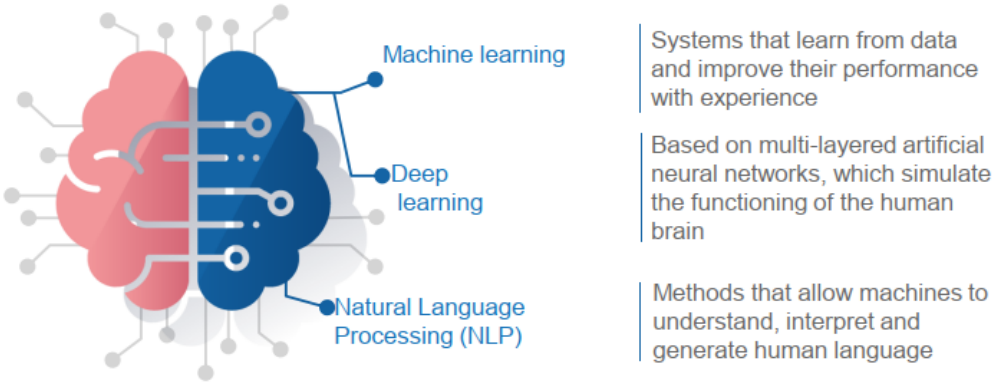

Fig. 1.2. The essence of AI

Source: Doménech, R., Neut, A., & Ramírez, D. (2025).

Generative Artificial Intelligence (GenAI or GAI) is a progressive direction in the development of AI technologies that is the result of many years of evolution of intelligent systems and the accumulation of scientific and technical potential in this area (Salari, et al., 2025). Generative Artificial Intelligence (AI) is a class of machine learning technologies that can create new content - be it text, images, music or video - based on the identified patterns and relationships in existing data. One of the most significant directions in this area is large language models (LLM), which are neural networks specifically designed to process and generate sequential data such as text and speech streams. Large language models (LLM) are trained by predicting the next word in a chain based on previous elements, using large text corpora. The performance of large language models (LLMs) is directly related to the scale of their training: this includes both the amount of computational resources involved in the process, the number of model parameters, and the amount of data on which it is trained (Brynjolfsson & Raymond, 2024).

The analysis of keywords and their interrelations plays an important role in the study of the impact of artificial intelligence on the labor market, as it allows us to trace the structure of the discourse, determine the dominant topics, and identify the main areas of public and scientific attention. The visualization of the obtained connections, presented in Figure 5, helps to form a holistic view of the lexical-semantic field within which this issue is discussed. In particular, this makes it

possible to identify thematic clusters such as “automation,” “retraining,” “unemployment,” and “new professions,” and to trace how they relate to each other in the context of public and expert discourse. Figure 1.3 shows a sample of 145 keywords obtained based on the criterion of minimum occurrence frequency — at least five repetitions. The use of this threshold allows us to exclude irrelevant or random terms and focus on stable lexical units that are most characteristic of the corpus of texts devoted to transformations in the labor market under the influence of artificial intelligence technologies. This approach facilitates a more accurate interpretation of empirical data and the formation of well-founded hypotheses for further qualitative analysis.

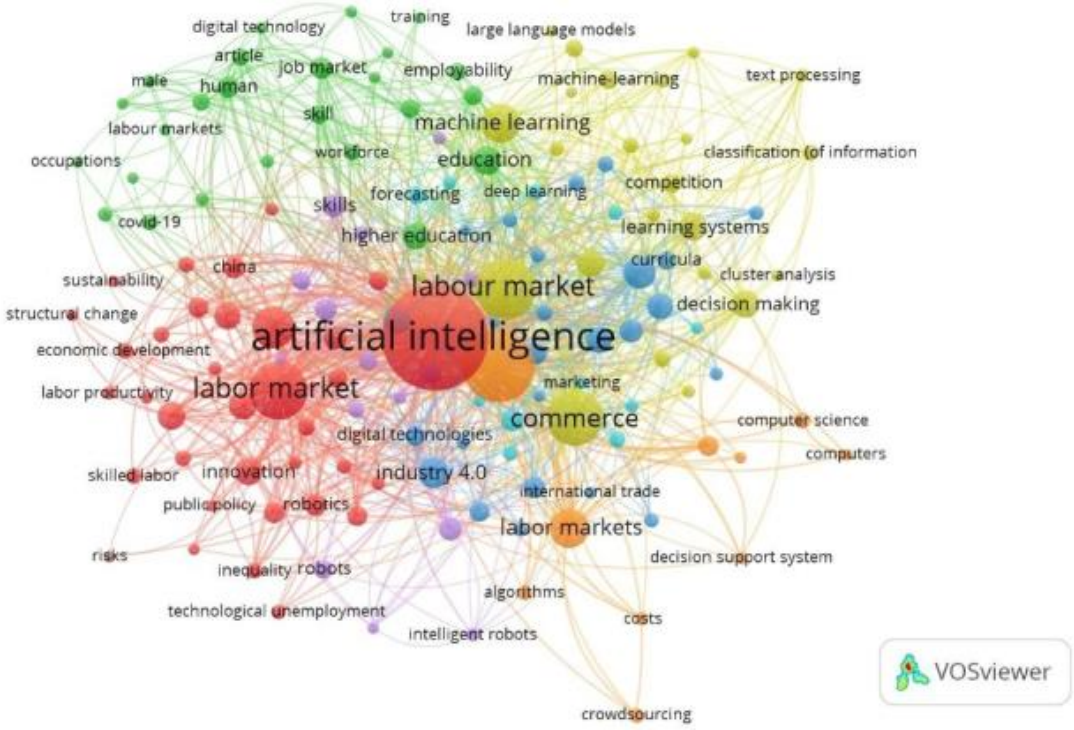

Fig. 1.3. Key words for studying the relationship between artificial intelligence and the labor market

Source: Grigorescu, A., & Joita, F. (2024)

The keywords underlying the study of the relationship between the development of generative artificial intelligence and transformations in the labor market are visualized in Figure 1.4. Their analysis allows us to identify not only the frequency of mentions of individual concepts, but also a picture of semantic

intersections reflecting current public and expert views on the role of AI in the labor economy. Figure 1.4 is a visual model that selects the most significant terms that occur in the studied corpus of texts with a frequency of at least five times. This quantitative threshold allows us to narrow the focus to the most stable concepts that regularly appear in the context of discussions about the impact of generative models on the employment structure, skill requirements, and labor mobility prospects. Visualized relationships between keywords create an opportunity for multidimensional analysis - identifying thematic clusters, establishing logical and semantic connections, and identifying hidden patterns in the discourse. This approach serves not only as a tool for structuring information, but also as a basis for formulating new research hypotheses concerning the adaptation of the labor market to the challenges of technological transformation caused by the introduction of generative AI systems.

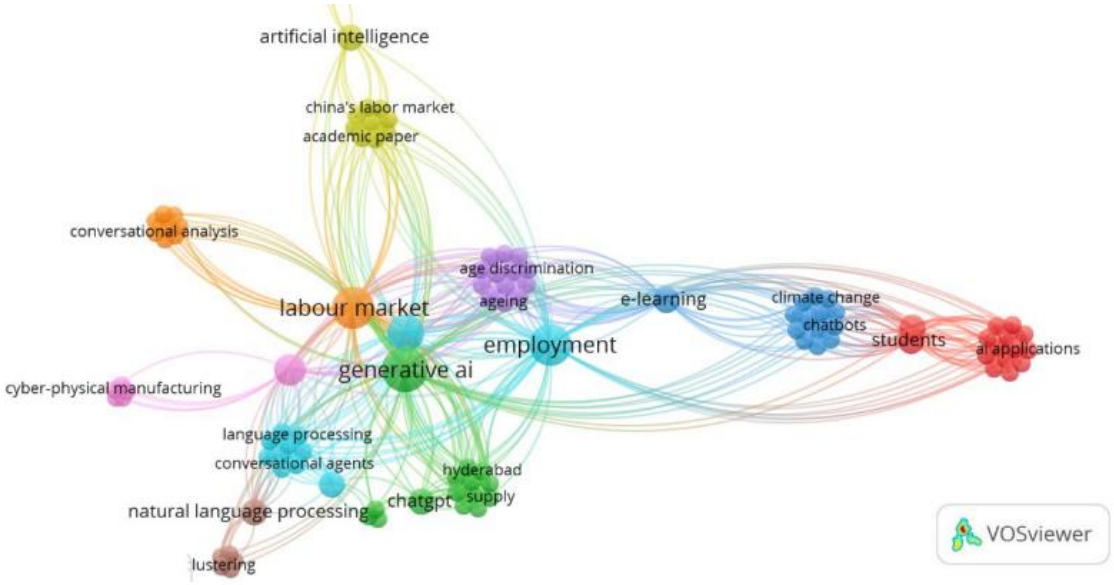

Fig. 1.4. Key words for studying the relationship between generative artificial intelligence and the labor market

Source: Grigorescu, A., & Joita, F. (2024)

Generative artificial intelligence (GenAI) is transforming many fields, including workforce development, higher education, and business management. The integration of generative artificial intelligence (GenAI) is having an increasingly significant impact on the transformation of the labor market. This technology

facilitates large-scale automation of work processes, while opening up new areas of employment and forming qualitatively new forms of interaction between humans and intelligent systems. Generative AI can both complement human labor by increasing productivity and accuracy of task performance, and completely automate certain activities. This leads to a revision of traditional job functions, a change in organizational structures, and a rethinking of employee roles in various sectors of the economy. In addition, the implementation of GenAI creates both challenges and opportunities for the field of higher education. In this context, higher education becomes not only a field for experimenting with new technologies, but also a key mechanism for training personnel capable of functioning effectively in the AI-driven economy (Joshi, 2025).

In the business environment, artificial intelligence is viewed as a strategic tool that can radically improve operational efficiency, strengthen the validity of management decisions, and deepen customer engagement. Using automation, predictive analytics, and personalized services, AI helps companies not only optimize internal processes and anticipate market changes, but also create unique customer offerings, thereby stimulating innovation and strengthening competitive positions in a variety of industries (Faluyi, 2025). Artificial intelligence has radically transformed the employment landscape, evolving from a basic automation tool to intelligent systems that actively influence all stages of HR management. While its role was initially limited to performing routine tasks, such as sorting resumes, today AI, using machine learning algorithms, not only improves the candidate selection process, but also automates the onboarding stages, and provides in-depth analytics on employee performance and engagement (Ifeyinwa, 2025). Table 1.1 presents the key aspects of integrating AI into corporate labor relations.

Table 1.1

Key aspects of AI integration into corporate labor relations

Applications of AI in Modern Companies	Functional features
Employee adaptation	AI has revolutionized onboarding processes, moving from manual paperwork and formal briefings to intelligent platforms that automate training and compliance. Virtual assistants provide real-time support, reducing the burden on HR. The future includes integrating VR technologies to create more interactive learning environments.
Performance Management	AI has replaced subjective assessments with analytics systems that track employee behavior, productivity, and engagement. These tools identify patterns, provide recommendations for improvement, and in the future, will predict and manage problems proactively, including the emotional aspects of team dynamics.
Training and development	Previously standardized training programs have given way to adaptive AI platforms that customize content to individual needs and career goals. In the future, AI is expected to synergize with AR and VR to create practice-oriented and motivating learning environments.
Resource planning and job selection	AI can accurately predict talent needs, identify skill gaps, and match employees with the most appropriate roles. In the long term, it will track and develop talent in real time.
Remote work	AI has enhanced the ability to manage distributed teams, from monitoring productivity to improving communication. In the future, AI-powered platforms will take into account the emotional state of employees, prevent burnout, and create a balanced work environment.
Engagement and Retention	AI tracks mood, communication, and feedback to identify risks of declining engagement. Advanced systems predict burnout and offer personalized measures to improve employee well-being.
Automate tasks	AI has moved beyond routine automation to perform cognitive functions, from planning to handling client requests. This frees up time for more creative and strategic activities.
Diversity, Equity and Inclusion (DEI)	AI helps eliminate unconscious bias in hiring and promotion by analyzing DEI metrics and making decisions more equitable. Algorithms are becoming increasingly accurate, helping to create an inclusive workplace.
Creation of new professions	AI not only automates, but also creates jobs — in analytics, AI ethics, and systems training. Roles are transforming, creating a hybrid model of human-AI interaction

Source: compiled by the author based on Ifeyinwa, EE (2025)

According to Joshi, S. (2025), the widespread adoption of AI technologies is transforming industries, leading to significant changes in the labor market. Despite the potential of AI to improve productivity and open up new horizons for development, concerns remain about its potential social costs, from job displacement to increased inequality and ethical dilemmas. Understanding the scale of these transformations is becoming a key factor in formulating effective strategies by

governments, businesses, and workers themselves. In the study by Chen, Q., et al. (2023), an analytical framework is presented for understanding the labor market impacts of increasingly efficient AI systems in China. Key innovations include occupation-level impact analysis, an industry aggregation approach, and economic modeling that incorporates AI adoption and labor market effects. According to Chinese researcher Sun, Z. (2025), AI can be viewed as a form of creative destruction that is transforming society by eliminating part of the low-skilled labor force, but at the same time stimulating innovation and significantly increasing productivity. The introduction of AI opens up new opportunities for jobs and industries. AI generates new jobs, expands technological horizons, and can significantly change the economic landscape, improving living standards.

According to Chen, WX, et al. (2024), the implementation of generative AI is transforming the labor market: while the need for human resources and skill levels to perform routine cognitive tasks is decreasing, the importance of professions that require active human interaction with AI, where more complex and flexible skills are needed, is increasing. The study by Green, A. (2024) argues that AI is transforming labor functions themselves, changing the skill requirements needed to perform them. The results of the study showed that the most in-demand skills in professions with a high degree of AI impact are management, business processes, and social skills. Management and business processes include skills such as project management, budgeting and accounting, administration, clerical tasks, and customer support. The results of the study by Law, M., & Varanasi, RA (2025) showed that the integration of generative artificial intelligence (GenAI) into professional activities led to a variety of task transformations within the 18 professions studied. In practice, this was reflected in the redistribution of labor functions: a significant number of specialists transferred auxiliary or routine tasks to AI, thereby freeing up resources to focus on key aspects of their activities. Others, on the contrary, began to actively use the potential of GenAI in solving strategically important tasks, seeking to improve their quality and efficiency. Interestingly, in some cases, there was a tendency to completely transfer even basic functions to GenAI, which indicates a growing level

of trust in technology and a willingness to profoundly transform professional practice. However, such flexibility and scalability of interaction with AI also brought new challenges. In particular, there was a need to implement the so-called “AI governance”: an additional cognitive and organizational load associated with the control, coordination and calibration of GenAI actions. This aspect highlights not only the potential, but also the complexity of integrating AI into human work, which requires the development of new management and technological competencies.

1.3. ARTIFICIAL INTELLIGENCE AND EMPLOYMENT – OPPORTUNITIES AND RISKS

Generative AI has become a catalyst for change in the technology space, showing itself to be a tool capable of creating meaningful content with minimal human intervention. Thanks to large language models (LLM), it not only imitates but also visualizes processes resembling human thinking. Its potential goes far beyond traditional statistics-based automation: generative AI demonstrates the ability to perform intellectually complex tasks, from creative text production to analysis, problem solving, and decision support (Grossi, et al., 2024). Researchers Einola, K., & Khoreva, V. (2022) argue that the coexistence of humans and AI is changing, thereby (re)creating and replacing human work roles. As organization members learn to use AI solutions and as the technology further develops, organization members learn more about the limitations and capabilities of AI, leading to further changes in work roles. Artificial intelligence is rapidly entering corporate processes, which gives rise to two opposing points of view: proponents believe that AI helps to increase productivity and reduce workload, while critics focus on technostress (e.g., the threat of job displacement) and deterioration in employee well-being (Chuang, et al., 2025). In the study by Zirar, A., et al. (2023), it was determined that workers' interactions with artificial intelligence in the workplace are accompanied by several key trends. First, mistrust of AI is often associated with the perception of it as a threat to employment. However, on the other hand, AI has the potential to expand professional capabilities by stimulating interest in collaboration. Effective coexistence of man and machine requires not only technical training, but also the development of soft,

interpersonal and conceptual skills. In this context, continuous training and upskilling of workers becomes critical, which allows building productive and mutually beneficial relationships with AI as part of the digital transformation of labor.

The impact of generative artificial intelligence (GenAI) on the labor market is becoming one of the most discussed and uncertain issues in the current debate about the future of employment at the global level. Potential changes in the structure of the labor force could have a significant impact, as recent studies suggest that millions of jobs are at risk of automation or, conversely, could benefit from synergies with technology, expanding human capabilities. In terms of the quality of work, the impact of GenAI should be considered in the context of changes affecting not only the number of jobs, but also the working conditions in general (Monaco, & Nurski, 2024).

The rapid development of artificial intelligence and its integration into the workplace brings with it both challenges and opportunities for the labor market. AI has the potential to drive unprecedented innovation and productivity. According to Jiang, S., et al. (2025), on the one hand, artificial intelligence opens up opportunities to automate routine operations, optimize decision-making, and create new professions in the fields of data analysis, machine learning, and the development of intelligent systems. On the other hand, it gives rise to concerns about job displacement, a widening skills gap, and the emergence of ethical dilemmas. Figure 1.5 presents the opportunities and risks of integrating AI into the professional environment.

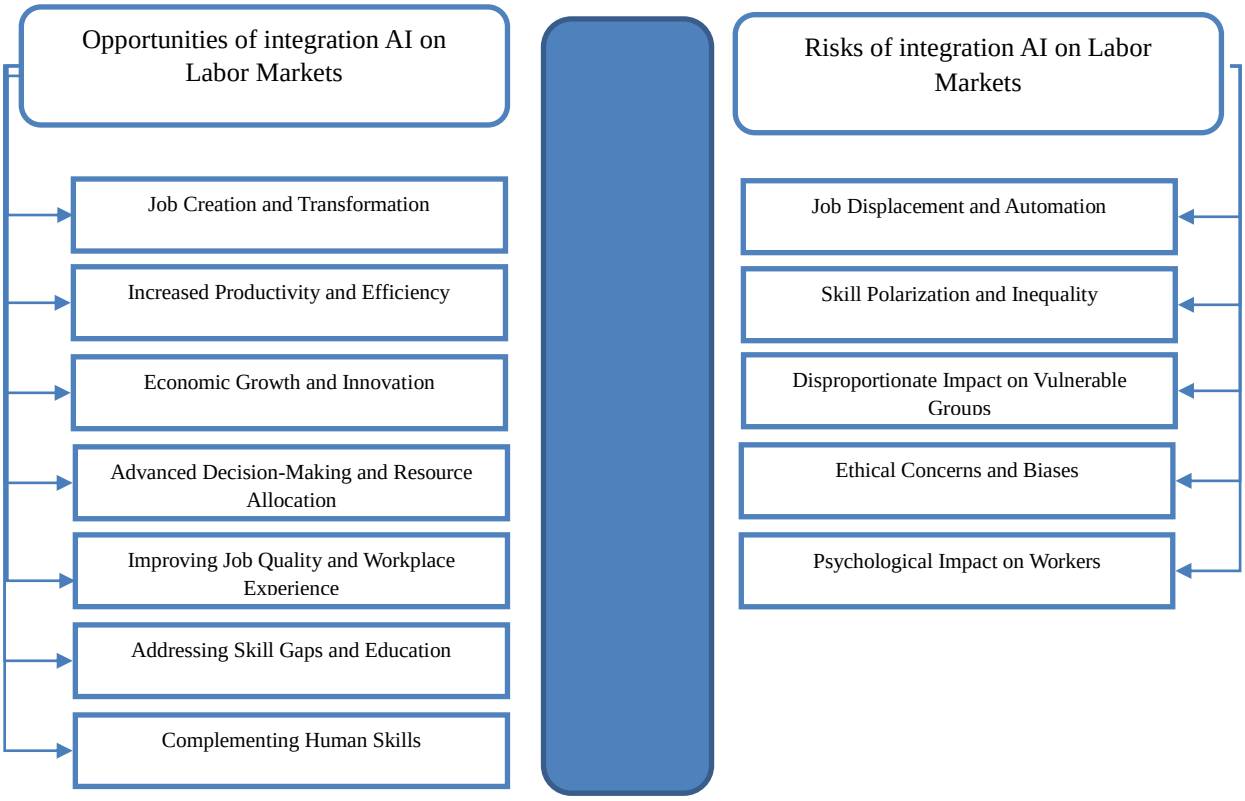

Fig. 1.5. The Impact of Artificial Intelligence on Labor Markets: Opportunities and Risks

Source: developed by the author based on Jiang, S., et al. (2025).

According to Hampole, M., et al., (2025), the impact of specific AI technologies on the labor market can be characterized using two key statistical indicators. First, it should be taken into account that the implementation of AI in an occupation usually reduces the demand for the corresponding jobs. For example, even limited capabilities of chatbots for customer service can reduce the need for workers in this area. However, a moderate improvement in the technology that affects most tasks of the occupation may be sufficient to estimate changes in labor demand at the company level. Second, the impact of AI on the tasks of an occupation can create the effect of increasing labor demand in specific areas, despite the remaining stability in the average impact on the entire occupation. For example, the automation of the reporting process allows employees to reallocate their efforts to other, more complex tasks. These two aspects show how different aspects of AI application can have different effects on labor demand.

Artificial intelligence has a significant impact on changing approaches to employment and the development of new format labor relations. In modern labor markets, there is a significant reduction in jobs in industries that rely on routine tasks. In parallel, there is an increase in jobs in industries that integrate AI as an additional tool. The main problem of the digital transformation of economic sectors under the influence of AI is the need for a smooth transition to new formats of labor relations that require new competencies and skills from personnel. The results of the study by Maria, S., et al. (2025), conducted in Indonesia, found that AI is both a threat and an opportunity for labor markets. The study showed that AI affects both the displacement of jobs in such areas as manufacturing and retail (45% and 35%). At the same time, it affects the creation of jobs in such areas as healthcare and education (50% and 60%). The key challenge of integrating AI into the workforce was identified as the lack of digital AI skills and difficulties in adapting the workforce due to the lack of AI-related training programs, as confirmed by 84% of respondents. The study also identified psychological and social challenges in the use of AI in the workplace, such as job insecurity, workplace surveillance, and mental health issues. To overcome these challenges, reskilling initiatives, fair labor policies, and ethical implementation of AI are needed. Only a proactive approach to technology management and workforce training will ensure a fair and sustainable transition to the new employment model.

A study by Wang, KH., & Lu, WC., (2025) examined workers' perceptions of the risk of job displacement caused by AI. The survey results of 3,682 full-time workers showed that highly educated workers were more concerned about being replaced by AI, likely due to the close overlap between their occupations and advances in AI. Women and older workers showed similar concerns, with their vulnerability exacerbated by the influence of social roles, the digital divide, and high costs associated with retraining. The nature of work also showed an impact on risk perception, with telecommuting and online workers more likely to perceive a threat from AI, possibly due to their increased reliance on digital solutions. An industry analysis showed that the level of perception of AI as a potential threat varied

significantly across sectors, particularly in the manufacturing and service industries, where the impact of AI affects occupational categories differently.

Data on the state and dynamics of the labor market play a key role in the formation of effective policies in the areas of employment, education, training, and macroeconomic planning. The increased availability of such information, especially in real time and at large scale, significantly expands the possibilities for informed decision-making by government agencies, educational institutions, and other market participants. The advent of generative artificial intelligence (GenAI) has opened up new horizons in the processing and interpretation of job vacancies. Unlike traditional methods that focus on the analysis of occupations, competencies, and salary levels, GenAI makes it possible to extract a wider range of characteristics: educational requirements, remote work conditions, type of employment (full-time or part-time), and offered benefits. In the study by Howison, M. et al. (2025), generative AI models were used to automatically extract structured information from unstructured online job postings covering the entire US labor market. The results confirmed the high effectiveness of GenAI in monitoring and interpreting market trends, demonstrating the potential of the technology as a tool for large-scale analysis of labor processes and prompt identification of changes in demand for skills and professional roles.

Another study by Joshi, S. (2025) explored the role of generative AI in workforce development, education, and business management, focusing on AI-powered reskilling, higher education transformations, labor market shifts, and advances in business analytics. The priority of AI-human collaboration to improve economic productivity while maintaining workforce adaptability was highlighted. By enhancing workforce adaptability, improving learning outcomes, and stimulating industrial innovation, AI contributes to economic stability, global competitiveness, and societal well-being.

In the study by Grossi, T., et al. (2024), it is noted that the AI revolution caused by generative AI potentially affects white-collar and mid-skilled professions. Also, generative artificial intelligence integrated into work processes deepens the polarization of the labor market along low- and high-skilled professions. Artificial

intelligence has the potential to transform the employment structure in the labor market. Such a transformation can both increase and decrease wage disparities - both between different professional fields and within the professions themselves, depending on the degree of their automatability and the demand for new competencies. In addition, generative AI can disproportionately affect employees based on gender, as well as certain social groups and categories of workers. It is also noted that the continuous growth of AI highlights the growing demand for digital and AI-specific skills, highlighting the need for reskilling. According to Sayed, MA, et al. (2025), generative AI has enormous potential to advance businesses, optimize production, and generate valuable solutions and ideas. By developing digital AI skills and adapting to the changing work landscape, workers will be able to thrive in the AI era and effectively take advantage of all the opportunities it offers.

Conclusion to Section 1

In the context of digital transformation, the economy dictates new rules for the functioning of the labor market, turning it into a highly dynamic system of socio-economic relations, where the exchange of labor for remuneration is increasingly carried out with the support of digital technologies and algorithmic mechanisms. The modern labor market is not just a space of interaction between employers, employees, the state and other institutions, but a complex socio-technical construct in which traditional forms of employment coexist with new ones - flexible, remote and platform.

Modern work processes are characterized by rapid digitalization and automation of workplaces, growing integration of generative artificial intelligence. The integration of generative artificial intelligence (GenAI) has an increasingly significant impact on the transformation of the labor market. This technology contributes to the large-scale automation of work processes, while opening up new areas of employment and forming qualitatively new forms of interaction between humans and intelligent systems. Generative AI is capable of both complementing human labor, increasing productivity and accuracy of task performance, and

completely automating certain types of activities. This leads to a revision of traditional job functions, a change in organizational structures and a rethinking of employee roles in various sectors of the economy. In the corporate segment, GenAI is increasingly integrated into processes related to: employee search and adaptation, performance management, training and development, resource planning and job selection, remote work organization, engagement and retention, task automation, ensuring diversity, equality and inclusion, and the creation of new professions.

The rapid development of artificial intelligence and its integration into the workplace brings with it both challenges and opportunities for the labour market. Opportunities of AI integration in labour markets: job creation and transformation, increased productivity and efficiency, economic growth and innovation, improved decision-making and resource allocation, improved quality of work and workplace experience, closing skills and education gaps, complementing human skills. Risks of AI integration in labour markets: job displacement and automation, polarization and skill inequality, disproportionate impact on vulnerable groups, ethical issues and biases, psychological impact on workers.

SECTION 2. OVERVIEW OF THE CHINESE LABOR MARKET IN CONDITION OF DIGITAL TRANSFORMATION

2.1. ECONOMIC ANALYSIS OF MODERN CHINA: LABOR MARKET TRENDS IN A TRANSITIONING ECONOMY

China is undergoing a profound economic transformation, moving from an industrial-oriented model to an economy dominated by innovation, digital technologies, and the service sector. These changes are having a significant impact on the labor market, forcing employers to rethink their talent needs. With accelerated technological development, there is an increasing demand for specialists with modern knowledge and digital competencies, especially in areas such as IT, artificial intelligence, and renewable energy. At the same time, professions associated with routine work and low qualifications are gradually losing relevance, giving way to more flexible and technologically intensive forms of employment.

China's economy will continue its transformation path, focusing on more sustainable and high-quality development (Appendix A, Table A.1). In 2020, the economy experienced a sharp contraction, with GDP growth of only 2.3%, the worst performance in a decade and a clear reflection of the impact of the COVID-19 pandemic and the global economic crisis. The situation reversed in 2021, and the economy returned to growth of 8.1%, thanks to strong government stimulus measures, increased foreign trade and a revival of domestic consumption, but this recovery proved short-lived. In 2022, the economy slowed again, with growth of only 3.0%, due to continued domestic restrictions, "zero tolerance for COVID" policies, problems in the construction sector and external economic instability. In 2023 and 2024, the economy stabilized at around 5%, reflecting a recovery in business activity and a strengthening consumer sector, but the growth rate is still below the peaks of the early 2000s. Forecasts for 2025–2027 suggest a gradual slowdown to 4.0%, indicating a transition to a new economic normal – a growth model focused on quality rather than quantity, where domestic consumption, innovation and sustainable development will play a key role.

In 2020, inflation in China was 2.6%, a moderate level given the economic shocks caused by the pandemic. This figure reflected rising consumer prices driven by restrictions and changes in consumer demand. In 2021, inflation fell sharply to 0.9%, likely reflecting weak post-pandemic demand and the effects of low core inflation. In 2022, inflation rose slightly to 2.0%, reflecting economic stabilization and recovering demand. However, it fell to a very low 0.2% in 2023, possibly reflecting weak consumer demand and lower prices for goods and services. In 2024, inflation was very low, reflecting the continued weak economic recovery, as well as restrictions related to the zero-tolerance policy and high price sensitivity to external economic factors. In the period from 2025 to 2027, a gradual increase in inflation to 1.3% is expected, which will be associated with the recovery of consumer demand and stabilization of prices, but inflation will remain low, confirming the stability of the economic situation.

In 2020, China’s producer price index (PPI) fell by 1.8%, reflecting a drop in industrial prices due to the economic downturn and reduced demand caused by the pandemic. However, in 2021, the PPI rebounded sharply by 8.1%, driven by economic recovery, rising demand, and higher commodity prices. In 2022, the growth rate slowed to 4.2%, reflecting economic stabilization and the high base effects of the previous year, while global instability continued to have an impact. In 2023, the PPI turned negative again (-3.0%), reflecting weak demand for industrial goods and pricing pressures in the manufacturing sector. In 2024, the PPI was 2.2%, indicating continued weakness in the manufacturing sector and external economic challenges. From 2025 to 2027, moderate growth in producer prices is expected, starting from 1.0%, which may indicate industrial recovery and an improving economic situation.

China's population growth from 2012 to 2024 shows a noticeable slowdown in growth, reflecting changes in the country's demographic structure. In the early years (2012-2014), growth was steady, at around 0.6-0.7%. However, since 2015, growth has gradually declined, due to a declining birth rate and an aging population. By 2020, population growth slowed to 0.18%, and by 2021 it was almost zero, at only 0.02%. Since 2022, there has been a negative trend, and the rate of population decline

has accelerated, reaching -0.23% in 2024. At the end of 2024, China's population was 1.408 billion, representing a decrease of 1.39 million compared to the end of 2023. This phenomenon confirms the downward trend in population size, which has long-term impacts on China's economy and social sphere (Figure 2.1).

Fig. 2.1. Population growth dynamics of China for the period from 2012 to 2024

Source: compiled by the author based on ChoZan (2025)

China’s working-age population, including people aged 16 to 59, continues to decline. Projections indicate that it will decline from 925 million in 2011 to 700 million by 2050, posing a significant challenge to the labor market, economic growth, and the stability of the social system. This dynamic requires active measures to stimulate labor activity and implement deep structural reforms in the economy. Between 2015 and 2024, China’s labor force showed an overall decline: from 800.91 million in 2015 to 773.45 million in 2024. Although there were small growth spurts in some years, such as 2019 and 2023, the overall trend points to a decline in the working-age population. The decline was especially noticeable after 2018, which may be due to demographic factors such as an aging population, declining birth rates, and a limited influx of young workers. A modest recovery in numbers in 2023 and 2024 may indicate government efforts to maintain labour force participation, but in the

long term the downward trend remains persistent and requires comprehensive economic and social solutions (Figure 2.2).

Fig. 2.2. Labor force in China from 2015 to 2024

Source: compiled by the author based on Textor, C. (2024).

From 2015 to 2024, China's employment-to-population ratio showed a steady downward trend, falling from 66.08% to 62.4%. The decline was particularly noticeable in 2020, when the ratio dropped to 61.72% amid the impact of the COVID-19 pandemic. Although there was a short-term recovery in 2021 (64.06%), the employment-to-population ratio began to decline again in 2022, reflecting demographic changes, a shrinking working-age population, and structural changes in the economy. This trend highlights growing challenges for the labor market, including an aging population, the need to improve productivity, and the importance of implementing policies to stimulate employment, especially among young people and the elderly (Figure 2.3).

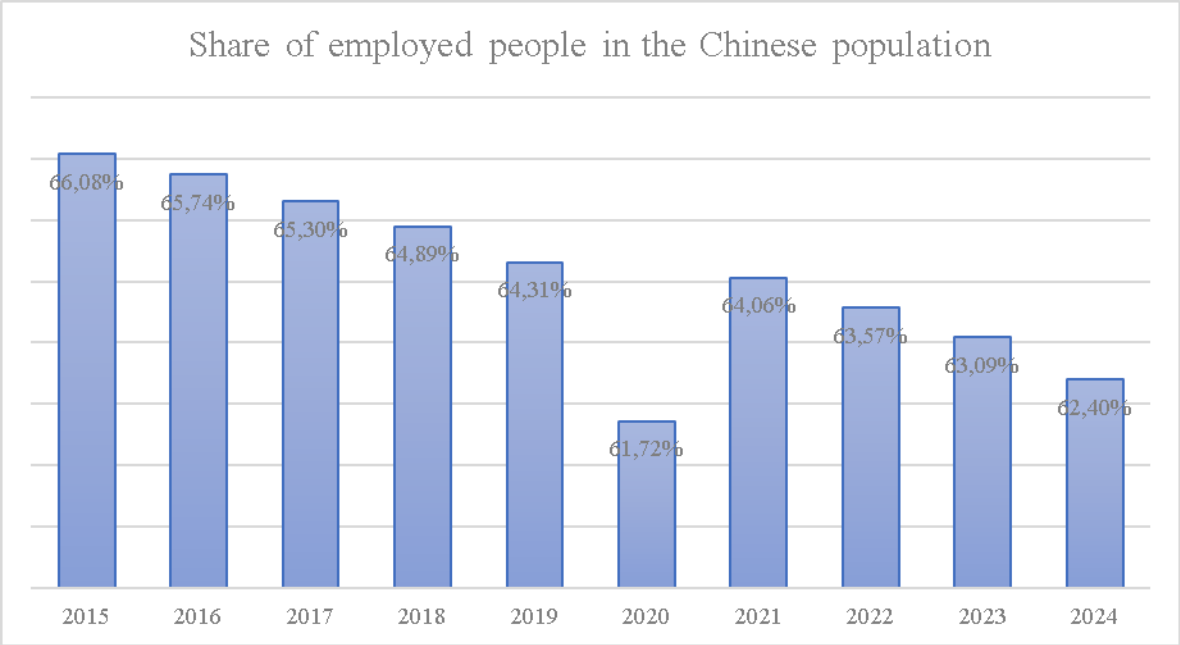

Fig. 2.3. Share of employed people in the Chinese population

Source: compiled by the author based on Textor, C. (2024).

China's employment data from 2015 to 2024 show a steady downward trend. While the country employed 763.2 million people in 2015, by 2024 this figure had fallen to 734.39 million, a decrease of almost 29 million people over a decade. The decline was particularly noticeable after 2018, which coincides with an overall reduction in the labor force and an aging population. In 2022, the lowest figure for the period was recorded at 733.51 million people, followed by a short-term recovery in 2023, but then a decline was observed again in 2024. Such dynamics point to structural problems in the labor market, including demographic challenges, automation of production, and the need to adapt educational and social policies to new market realities (Figure 2.4).

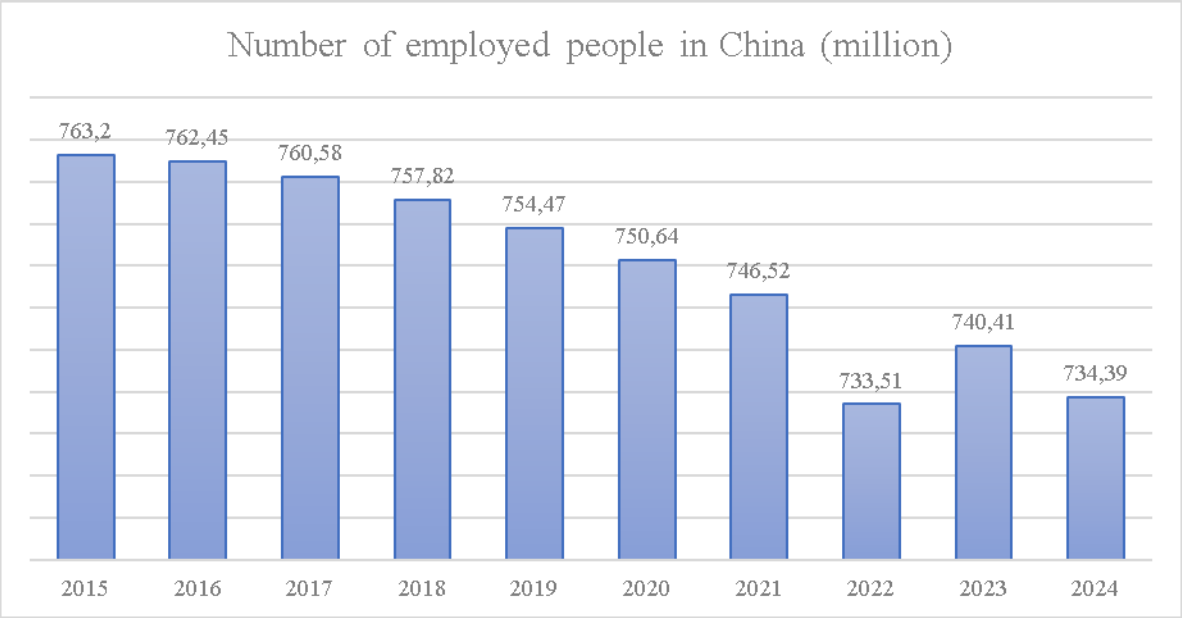

Fig. 2.4. Number of employed people in China

Source: compiled by the author based on Textor, C. (2024).

The distribution of China's labor force by economic sector in 2021–2023 shows a relatively stable structure with moderate fluctuations. The share of people employed in agriculture increased slightly in 2022 (to 24.1%) compared to 2021 (22.9%), which may be due to short-term migration or economic factors, but returned to its previous level of 22.8% in 2023. The industrial sector has maintained a stable share of employment at around 29.1% for three years, reflecting the sustainable role of industrial production in the country's economy. The largest share of the labor force is traditionally accounted for by the service sector, at around 48%. In 2022, there was a slight decrease to 47.1%, but in 2023 the sector again strengthened its position (48.1%), confirming the ongoing trend of increasing importance of the tertiary sector in China's economy. These data generally indicate a gradual transition to a more service-oriented development model while maintaining a balanced structure between the main sectors (Table 2.1).

Table 2.1

Distribution of the workforce across economic sectors in China

Economic sectors	Period		
	2021	2022	2023
Agriculture	22.9 %	24.1 %	22.8 %
Industry	29.1 %	28.8 %	29.1 %
Services	48%	47.1 %	48.1 %

Source: compiled by the author based on Textor, C. (2024).

An analysis of the unemployment rate in Chinese cities from 2017 to 2024 shows wave-like dynamics with an overall trend towards stabilization at around 5%. In 2017 and 2018, the rates remained below this threshold (5% and 4.93%, respectively), indicating a favorable situation in the labor market. In 2019, there was a slight increase to 5.15%, and in 2020, a more noticeable increase to 5.62%, caused by the impact of the COVID-19 pandemic and associated economic restrictions. In 2021, the unemployment rate slightly decreased to 5.12%, but in 2022 it rose again to 5.58%, probably due to ongoing global and domestic challenges. In 2023 and 2024, there is a gradual improvement in the situation (5.22% and 5.1%, respectively), which may indicate a recovery in economic activity and the effectiveness of government employment policies. Overall, despite external and internal shocks, the unemployment rate in China's cities remained relatively stable at around 6%, reflecting the resilience of China's labor market (Figure 2.5).

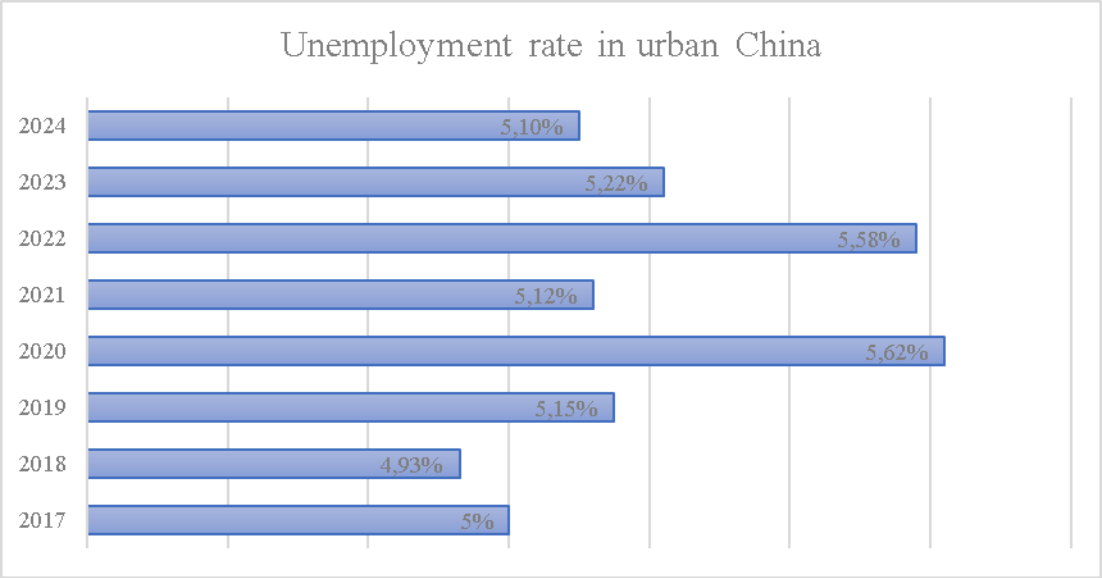

Fig. 2.5. Unemployment rate in urban China

Source: compiled by the author based on Textor, C. (2024).

In 2024, China saw significant differentiation in the average annual wages of workers in the urban non-entrepreneurial (public and semi-public) sectors. The highest incomes were recorded in the information technology and software sector, with an average of 231,810 yuan per year, significantly higher than the average for all sectors (120,698 yuan). The financial sector also showed high wages, at 197,663 yuan, confirming its status as one of the most profitable. Third place is occupied by the scientific research and technical services sector (171,447 yuan), indicating the growing importance of intellectual work. Health care, energy, and mining also rank near the top of the list, with wages ranging from 135,000 to 144,000 yuan. At the same time, workers in education, transportation, and trade receive below-average wages, ranging from 122,000 to 124,000 yuan. The lowest figure was recorded in the field of public administration and public organizations – 117,108 yuan. This income structure reflects the priorities of the economy, where high salaries are concentrated in areas related to technology, finance and innovation (Table 2.2).

Table 2.2

Average annual salary of employees working for urban non-private units in China in 2023, by sector

Sectors	Average annual salary (in yoan)
Information transmission, computer services, and software	231,810
Financial intermediation	197,663
Scientific research, technical services and geological prospecting	171,447
Health, social security and social welfare	143,818
Production and distribution of electricity, gas and water	143,594
Mining	135,025
Culture, sports and entertainment	127,334
Wholesale and retail trades	124,362
Education	124,067
Traffic, transport, storage and post	122,705
Average	120,698
Public management and social organization	117,108

Source: compiled by the author based on Textor, C. (2024).

The World Economic Forum's Future of Jobs 2025 report presents the results of a survey of more than 1,000 leading employers across 22 industries and 55 countries, covering over 14 million workers. The document analyzes key macro trends affecting the labor market around the world, including technological innovation, environmental transition, demographic change, geo-economic fragmentation, and economic instability.

According to the report, over half of companies operating in China expect geoeconomic fragmentation and environmental initiatives to have a significant impact on their business operations over the next five years. These expectations significantly exceed the global average of 34% and 47%, respectively. Over 90% of Chinese employers view artificial intelligence and robotics technologies as key tools for transforming business processes. A significant proportion of companies — 43% — emphasize the promise of new materials, while 19% note the importance of biotechnology development; both figures are also higher than global averages (30% and 11%). At the same time, 38% of organizations face a shortage of qualified specialists, considering this a serious challenge. More than half of respondents are

confident that increased government investment in personnel retraining and a flexible approach to employment and dismissal issues will significantly improve access to talent.

Analyzing the impact of technology trends on business in China, according to the survey data, several clear priorities can be identified. Companies attach the greatest importance to artificial intelligence and information processing technologies, including big data, virtual and augmented reality - 69% of respondents noted them as critical for business transformation. In second place are energy-related technologies: 50% of companies believe that energy generation, storage and distribution will have a significant impact on their activities. Robotics and autonomous systems also occupy an important place - their influence was noted by 45% of employers. New materials and composites are recognized as significant by 36% of companies, which indicates an interest in innovation in the field of production and industry. Other areas are still perceived as less of a priority: biotechnology (9%), quantum and encryption technologies (10%), sensor and laser technologies (10%), semiconductors and computing equipment (14%), as well as satellite and space technologies (8%). These data demonstrate that Chinese businesses are focusing on applied, already implemented technologies, especially in the digital and manufacturing sectors, while paying less attention to still developing or niche areas (Table 2.3).

Table 2.3

Impact of technology trends on Chinese companies

Technology trends	Level of influence
AI and information processing technologies (big data, VR, AR etc)	69%
Biotechnology and gene technologies	9
Energy generation, storage and distribution	50
New materials and composites	36
Quantum and Encryption	10
Robots and autonomous systems	45
Satellites and space technologies	8
Semiconductors and computing technologies	14
Sensing, laser and optical technologies	10

Source: compiled by the author based on WEF (2025)

An analysis of the preferences of Chinese employers allows us to identify the most sought-after competencies that shape the image of a modern specialist who is able to function successfully in the context of digital transformation and global challenges. The priority competencies of employees as assessed by Chinese employers are presented in Table 2.4.

Table 2.4

Priority Competencies of Employees as Assessed by Employers in China

	Competencies		Priority level
Attitudes	Ethics	Environmental stewardship	23%
		Global citizenship	3%
	Self-efficiency	Curiosity and lifelong learning	41%
		Dependability and attention to detail	46%
		Motivation and self-awareness	62%
		Resilience, flexibility and agility	70%
	Working with others	Empathy and active listening	34%
		Leadership and social influence	62%
		Teaching and mentoring	59%
Skills knowledge and abilities	Cognitive skills	Analytical thinking	75%
		Creative thinking	68%
		Multilingualism	45%
		Reading, writing and mathematics	18%
		System thinking	59%
	Engagement skills	Marketing and media	28%
		Service orientation and customer service	28%
	Management skills	Quality control	44%
		Resource management and operations	48%
		Talent management	49%
	Physical abilities	Manual dexterity, endurance and precision	11%
		Sensory processing abilities	7%
	Technology skills	AI and Big Data	32%
		Design and user experience	14%
		Networks and cybersecurity	20%
		Programming	17%
		Technological literacy	52%

Source: compiled by the author based on WEF (2025).

The table analysis shows which skills employers in China consider key for their employees in the near future. Employers place the greatest value on cognitive skills, especially analytical thinking (75%) and creativity (68%), indicating a high demand for the ability to solve non-standard problems and work effectively with

information. Among personal qualities and attitudes, the leaders are resilience, flexibility and adaptability (70%), motivation and self-awareness (62%), as well as leadership and social influence skills (62%). This suggests that in a rapidly changing business environment, increasing importance is attached to the ability to remain effective in stressful situations and take initiative. In the block of skills for interacting with others, mentoring and teaching turned out to be significant (59%), which emphasizes the importance of transferring knowledge within the team. At the same time, empathy and active listening turned out to be lower (34%), which may indicate a shift in focus from “soft” interpersonal skills to performance and learning. Among management skills, resource and operations management (48%) and talent management (49%) are especially in demand, which is logical in the context of the need to optimize processes and retain competent employees. An analysis of the technological skills in demand among Chinese employers shows that the greatest importance is attached to technological literacy - 52% of respondents consider it key for a modern employee. This emphasizes the importance of a general understanding of the digital environment and the ability to effectively use technology in everyday professional activities. Skills related to artificial intelligence and big data rank second (32%), reflecting the growing role of data analysis and automation in business processes. Next come skills in the field of networking and cybersecurity (20%) and programming (17%), indicating a growing need to protect information infrastructure and develop digital solutions. Less attention is paid to design and user experience (14%), although this aspect remains important for creating competitive digital products.

In the era of accelerated digital transformation, technologies are becoming the main driver of competitiveness of organizations. Employers are increasingly aware of the importance of implementing innovative solutions and are actively adjusting their strategies to meet changing market conditions. Table 2.5 presents the technological trends shaping the business of the future.

Table 2.5

Technological trends shaping the business of the future: employers' views

Technology trends	Influence on business transformation (%)
Ai and information processing technologies (big data, VR, AR…)	90%
Robots and autonomous systems	65%
Energy generation, storage and distribution	47%
New materials and composites	43%
Semiconductors and computing technologies	32%
Sensing, laser and optical technologies	23%
Biotechnology and gene technologies	19%
Quantum and encryption	17%
Satellites and space technologies	7%

Source: compiled by the author based on WEF (2025)

An analysis of the technology trends driving business transformation shows that artificial intelligence and information processing technologies (including big data, virtual and augmented reality) are the clear leaders: 90% of organizations consider them key drivers of change. Robots and autonomous systems are in second place (65%), reflecting companies' desire to automate and improve operational efficiency. Energy technologies (47%), as well as new materials and composites (43%), also play a significant role, especially in the context of sustainable development and technological innovation in manufacturing. Seven-wire and computing technologies (32%) are also recognized as important, but are inferior in significance to the leaders. A smaller proportion of respondents highlight sensors, laser and optical technologies (23%), biotechnology (19%), quantum and encryption solutions (17%), as well as satellite and space technologies (7%). This suggests that, despite the promise of the latter, their impact on business transformation is still less noticeable and limited to certain industries.

The dynamics of growth in demand for specialists in the modern labor market reflects the rapid impact of technological changes on business processes. The dynamics of growth in demand for specialists is presented in Table 2.6.

Table 2.6

Dynamics of the demand for specialists

	Dynamics of the demand for specialists		
Specialists	Net growth	Global net growth	Churn
AI and Machine Learning Specialists	208%	82%	208%
Data Analysts and Scientists	46%	41%	46%
Business Development Professionals	15%	19%	15%
General and Operations Managers	-3%	4%	8%
Assembly and Factory Workers	-4%	-	18%
Administrative Assistants and Executive Secretaries	-18%	-20%	19%

Source: compiled by the author based on WEF (2025).

The growth dynamics of demand for technology specialists reflects the rapid changes in the labor market. Artificial intelligence and machine learning specialists show the highest growth in demand — 208%, which emphasizes the growing importance of these technologies in business processes. Data analysts and scientists also see a significant increase in demand (46%), which confirms the increasing role of analytics in management decision-making. On the other hand, traditional professions such as general and operational managers, production workers, and administrative assistants show a slowdown in growth or even a decrease in demand. General and operational managers demonstrate negative net growth dynamics (-3%) and high turnover (8%), which indicates the transformation of management and the introduction of automated solutions. Administrative professions are also experiencing a decrease in demand: administrative assistants and executive secretaries note a drop in demand of -18%, which is a consequence of digitalization and automation of routine tasks. There is thus a clear trend towards increasing demand for technology-focused roles, particularly in the areas of analytics and artificial intelligence, while the need for more traditional administrative roles is declining. These changes highlight the structural transformation taking place within organizations driven by the adoption of advanced technologies.

Employers expect demand for certain skills to continue to grow rapidly due to global changes in technology and the structure of the labor market. Advances in areas

such as artificial intelligence, cybersecurity, and data analytics are driving the need for specialized knowledge and competencies. Table 2.7 shows the skills that will be in demand in China by 2030.

Table 2.7

Skills of the most increase in use by 2030 (%)

Skills	Level of increasing in use by 2030 (%)
AI and Big Data	88%
Networks and cybersecurity	68%
Creative thinking	66%
Technological literacy	62%
Resilience, flexibility and agility	61%

Source: compiled by the author based on WEF (2025).

An analysis of the skills that are expected to be in greatest demand by 2030 shows a clear trend towards increasing importance of technological expertise and agility in the labour market. Leading the way among these skills is artificial intelligence and big data, which 88% of respondents believe will play a key role, highlighting the growing importance of data analytics and the application of AI across industries. Network security and cyber protection are also highly valued, with 68% of respondents indicating the need to build secure digital infrastructures in the face of ever-evolving cyber threats. Creative thinking ranks third with 66%, highlighting the continued need for innovative approaches and problem solving in the face of rapidly changing technologies. Technological literacy comes in at 62%, highlighting the need for workers who can effectively use new technological tools in their professional activities. Finally, 61% of employers highlight resilience, flexibility and the ability to quickly adapt as essential qualities for successfully functioning in an environment of constant change and uncertainty. These trends confirm the general trend towards equipping workers not only with advanced technical skills, but also with qualities that will allow them to effectively interact with new technologies and quickly adapt to change.

2.2. Artificial intelligence in China's economy: challenges and opportunities for the labor market

China’s digital economy is growing rapidly, and is expected to reach RMB 63.8 trillion (approximately US$8.75 trillion) in 2024. This rapid expansion reflects the increasingly deep integration of digital technologies into all areas of the economy, making the sector a key driver of economic transformation and innovative development. 2024 marks the 30th anniversary of China’s full internet connection and a milestone in the deepening integration of the digital and real economies. The country’s digital economy continues to grow steadily, with the number of internet users growing and the range of digital solutions being applied across industries expanding. This milestone underscores the rapid pace of digitalization in China, which has become a catalyst for industrial transformation, increased efficiency, innovation, and overall economic growth.

From 2018 to 2019, China’s digital economy showed steady growth, increasing from $4.29 trillion to $4.91 trillion, an increase of 14.5%. This reflects the expansion of the sector, supported by the adoption of new digital technologies and platforms in various industries. In 2020, despite the economic crisis caused by the COVID-19 pandemic, the digital economy continued to grow, reaching $5.37 trillion, an increase of 9.4% year-on-year. This growth reflects accelerated digitalization in response to quarantine measures and increased demand for online services such as e-commerce and digital finance. The growth rate accelerated in 2021 and 2022, from $6.24 trillion in 2021 to $6.88 trillion in 2022, reflecting the stabilization of the economic situation and the further integration of digital technology into the economy. In 2023, China's digital economy reached $7.77 trillion, reflecting continued growth in digital technology, including through the development of 5G infrastructure and increased investment in innovation. In 2024, the digital economy achieved $8.75 trillion, confirming the long-term growth trend. The expected future growth will consolidate China's status as a leader in digital technology, focusing on sustainable development

and the introduction of new technologies into various industries (Appendix A, Figure A.1).

China's AI industry is growing rapidly, with the market size reaching RMB 747 billion in 2024, up 41.0% year-on-year. The market is projected to grow to RMB 1.0457 trillion in 2025, accounting for 20.9% of the global AI market size. This highlights China's growing influence on the global AI ecosystem.

The final months of 2024 saw the emergence of numerous high-performance models from leading Chinese AI labs. Chinese AI labs, including Alibaba, DeepSeek and Tencent, have released open weights frontier models that are competitive with the leading models globally. Early 2025 saw Chinese AI labs, including Alibaba, DeepSeek, MoonShot, Tencent, Zhipu, and Baichuan prolifically releasing frontier reasoning models. As of early 2025, several Chinese AI labs have demonstrated or claimed frontier-level intelligence, with seven releasing models featuring reasoning capabilities. The leading Chinese Big Tech firms are actively competing in the AI race and have released AI language models as well as models across other modalities. Chinese AI startups, with the support of Chinese Big Tech firms and the Chinese Government, have developed some of the world's leading open weights models. (Appendix B).

In terms of AI penetration in China, the internet industry consistently shows the highest adoption rate, rising from 82% in 2022 to 89% in 2024, demonstrating its leading role in AI adoption. Significant growth has also been seen in the telecommunications and public administration sectors. These trends indicate the expanding application of AI across various economic sectors (Table 2.8).

Table 2.7

Penetration of China's AI Industry from 2022-2024

Sector	Period		
	2022	2023	2024
Internet	82%	83%	89%
Telecom	45%	51%	68%
Government Affairs	50%	52%	65%
Finance	55%	62%	64%
Manufacturing	40%	45%	47%
Transportation	35%	38%	45%
Service	38	40	41
Education	25	27	30

Source: compiled by the author based on ChoZan (2025)

Artificial intelligence, as a universal technology, is gaining particular importance in various industries due to its ability to adapt and enhance existing processes. Its synergy with applied areas opens up new horizons for development, forming innovative models of interaction and decision-making. Below are the key areas in which AI demonstrates the greatest transformative power:

1. AI and Professional Services

The integration of AI into professional services creates a close symbiosis between technology and human expertise. Artificial intelligence does not replace professionals, but rather enhances their capabilities — from automating routine operations to advanced analytics and forecasting. This allows lawyers, consultants, auditors, and other experts to provide more accurate, faster, and more personalized solutions to clients, increasing the overall value of their services.

2. AI and the banking sector

In the banking industry, AI is becoming a key tool for transformation. Its implementation covers a wide range of tasks: from personalizing customer service

and fraud detection to automating credit decisions and risk management. By processing large volumes of data and using machine learning algorithms, banks can respond faster to market changes, improve operational efficiency and strengthen customer loyalty.

3. AI and local government

The use of AI in municipal governance paves the way for the creation of “smart cities” where governance processes become more transparent, responsive, and citizen-oriented. However, in this context, the issue of ethics and accountability becomes critical. To use AI effectively and safely, local governments need to develop clear policies and regulatory frameworks that ensure accountability, protect personal data, and prevent discriminatory algorithms.

4. AI and communications

AI is actively transforming the communications sphere, making it more adaptive, interactive and accessible. Modern voice assistants, chatbots, automatic translation systems and sentiment analyzers allow organizations and users to build effective communication channels. Such technologies significantly save time, improve the quality of customer service and ensure a high level of personalization of interaction.

Thus, the combination of AI with industry solutions not only increases productivity and reduces costs, but also creates new standards of quality, efficiency, and innovation in various sectors of the economy and management. Table 2.9 provides a summary of AI-based assistants in China. These digital assistants are becoming an increasingly important part of the country's digital infrastructure, covering various areas - from the corporate sector to the daily lives of users.

Table 2.9

China's AI Assistants Overview

	DEEPSEEK	**ERNIE BOT WENXINYIYAN)**	**TONGYI QIANWEN**	**YUANBAO**	**DOUBAO**	**KIMI**
LAUNCH TIME	Jan 2025	Mar 2023	Apr 2023	May 2023	Aug 2023	Oct 2024
BACKGROUND	High-Flyer (Hello 方量化, a hedge fund	Baidu	Alibaba	Tencent	ByteDance	Moonshot AI (a start-up company)

	company)					
CAPABILITIES IN ONE SENTENCE	Handles reasoning-heavy tasks, eg coding, math, and structured problem-solving	Advanced natural language understanding and generation	Supports tasks like text summarization and translation	Offers conversational assistance and content generation	Text generation, data analysis, and multimedia content creation	Summarization, querying, research and analysis report generation
UNIQUE FEATURE	High performance and signifcantly fewer resources (about 1/10 of what Meta spent on its AI tech)	Deep integration with Baidu's ecosystem	Integration with Alibaba's cloud services	Seamless integration with Tencent's platforms	High performance with the latest version, surpassing GPT-4o	Supports ultra-long context processing up to 2 million Chinese characters
MAU (AS OF NOV 2024)	N/A	~10 million	N/A	N/A	56 million	22 million

Source: ChoZan (2025)

Artificial intelligence (AI) has been rapidly expanding in China in recent years, expanding into new areas and impacting various industries. AI adoption is particularly active in the business and technology sectors, with companies such as Baidu, Alibaba, Tencent, and ByteDance developing their own AI agents to improve processes in data processing, content generation, and user interactions. These technological innovations open up new opportunities to optimize operations and increase productivity, while creating unique solutions that meet the needs of both large corporations and startups. By analyzing the presented data on various AI agents, several key trends and differences in their capabilities and features can be identified.

1. Deepseek (High-Flyer)

Launched in January 2025 by hedge fund specialist High-Flyer, this AI is focused on tasks that require high logical loads, such as coding, mathematics, and solving structured problems. Deepseek promises significantly lower resource costs compared to similar AI technologies such as Meta, using only 1/10th of the same resources. Although there is no MAU data as of November 2024, its high efficiency and resource savings make it a promising tool in financial and analytical processes.

2. ERNIE Bot (Wenxin Yiyan)

Developed by Baidu and launched in March 2023, ERNIE Bot features advanced natural language processing capabilities. This AI is deeply integrated into the Baidu ecosystem, allowing it to work seamlessly with other Baidu services and provide solutions for a wide range of tasks, from text generation to understanding complex queries. With approximately 10 million active users as of November 2024, ERNIE Bot continues to show strong growth, finding favor with data and business users.

3. Tongyi Qianwen (Alibaba)

Launched in April 2023, Tongyi Qianwen was developed by Alibaba and has strong integration capabilities with its cloud services. This AI is focused on tasks such as text summarization, translation, and other information processing applications. The introduction of Tongyi Qianwen into the Alibaba ecosystem will greatly improve the user experience and make AI more accessible to business applications. There is no MAU data yet, but its popularity is expected to grow as Alibaba’s business applications and users expand.

4. Yuanbao (Tencent)

Yuanbao was introduced in May 2023 and developed by Tencent, a Chinese tech giant known for its communication platforms and entertainment services. The AI specializes in conversational assistance and content generation, allowing it to be useful in both business settings and in everyday interactions with users. Integration with Tencent platforms allows Yuanbao to quickly integrate into the company's ecosystem and provide a convenient experience for a wide audience. MAU metrics are not yet available, but the success of integrating with the company's existing services gives this AI a good prospect.

5. Doubao (ByteDance)

Developed by ByteDance and unveiled in August 2023, this AI focuses on text generation, data analysis, and multimedia content creation. With 56 million active users as of November 2024, Doubao is heavily used for content creation, making it popular in the entertainment and educational sectors. ByteDance uses this technology

to improve user experience on its platforms like TikTok, making Doubao one of the leaders among Chinese AI agents.

6. Kimi (Moonshot AI)

Kimi, developed by Moonshot AI and released in October 2024, features high performance and the ability to handle ultra-long contexts — up to 2 million Chinese characters. This feature makes it suitable for data-intensive tasks such as research and analytics reporting. MAU metrics are not yet available, but Kimi's potential for big data and high performance promises a significant future in a variety of industries.

Each of these AI agents has its own unique features and focuses on different tasks depending on the needs of creators and their ecosystems. Whether it's content creation, data analysis, or cloud integration, these AIs promise to have a significant impact on technology development in China and elsewhere. Their success will depend largely on how effectively they can adapt to the rapidly changing digital landscape and meet the needs of both individual users and businesses.

The most accessible and rapidly implemented AI opportunity for most companies today is personalization. With AI, in both software and hardware, businesses can move from one-size-fits-all solutions to customized approaches, dramatically improving the customer experience. Based on large language models (LLM), AI agents cover both B2B and B2C use cases, with enormous market potential. Their automation, personalization, and customization capabilities make them a promising tool for a wide range of industries, from customer service to business analytics and process management. Figure 2.5 presents AI agent use cases illustrating the diversity of their use cases across industries. Over the next decade, the confluence of artificial intelligence (AI) and extended reality (XR) technologies is expected to dramatically transform the way humans interact with computing systems and entertainment content. XR devices, such as smart glasses, will gradually replace smartphones as the primary personal gadget, providing users with personalized information and content in real time.

AI agents embedded in devices are expected to act as digital mentors, assistants, and partners, helping to increase users' productivity and knowledge,

provide healthy lifestyle reminders, and promote intelligence and emotional well-being.

Predictions also indicate that an AI-driven workforce will free people from routine tasks and allow them to focus on creativity, self-fulfillment, and fulfilling activities.

In 2025, immersible AI agents that can “hear” and “see” will begin to radically transform business processes. For example, in the field of retail training, a training simulator has already been developed in the form of a video chat with an AI mentor, which provides a personalized approach to training on a scale previously unachievable due to limited budgets. Such a tool allows for significant improvements in sales skills, which was difficult to achieve using traditional methods.

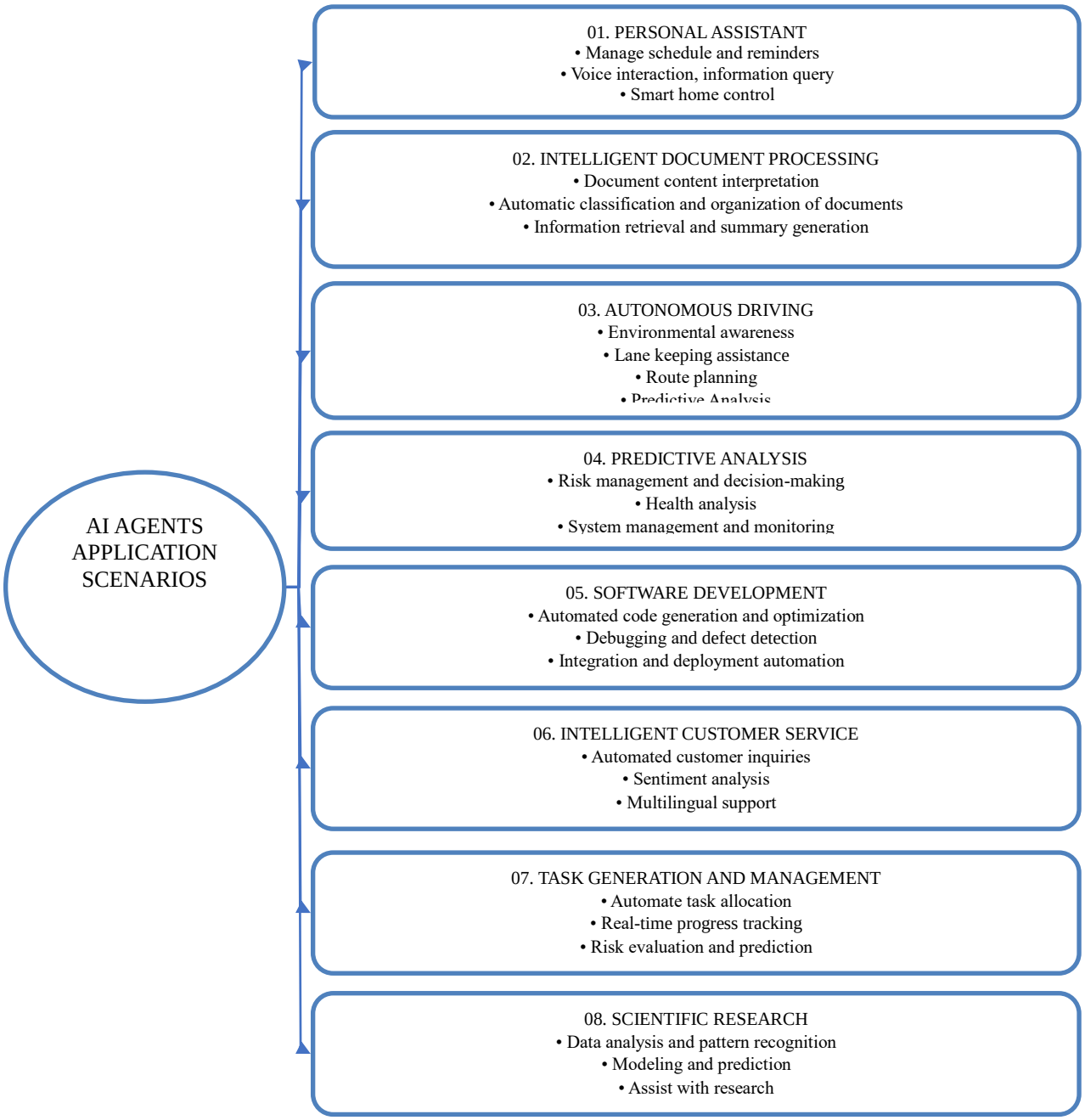

Fig. 2.5. AI Agents Application Scenarios

Source: compiled by the author based on ChoZan (2025)

So, there is indeed a significant gap in capabilities between Western and Chinese AI models, but it is closing faster than many expect. Despite the leadership of global systems like ChatGPT, Chinese models are rapidly evolving and will soon reach a level more than sufficient for widespread adoption in organizations - long before businesses are fully ready to use them.

With increasing competition for skilled talent, digital HR services are becoming a key element of China's employment ecosystem. Platforms such as BOSS Zhipin, Liepin, and Zhaopin demonstrate a high degree of integration of AI technologies into recruitment and HR processes. Figure 2.6 shows the key characteristics of digital HR services with AI in China.

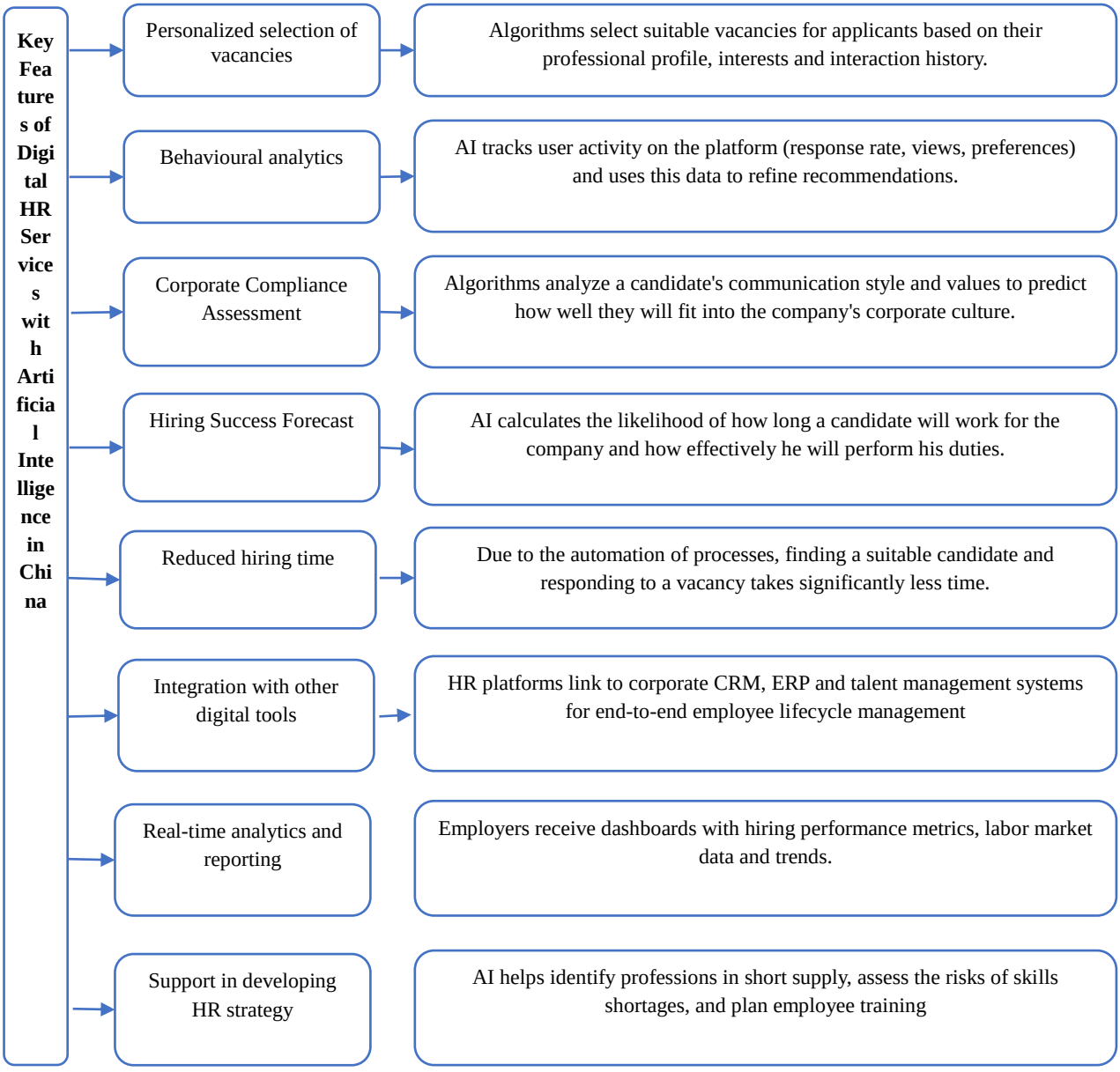

Fig. 2.6. Key characteristics of digital HR services with artificial intelligence in China

Source: compiled by the author based on OpenAI. (2023).

Modern AI algorithms not only analyze the content of a resume and the professional trajectory of a job seeker, but also evaluate behavioral patterns, career

motivations and preferences, which allows them to form the most relevant job offers. In addition, intelligent systems are able to predict the potential success of hiring, taking into account the candidate's communication style, their adaptability to the corporate environment and the expected duration of cooperation. This ensures a more accurate match between business needs and candidate capabilities, helps reduce recruitment costs and increases the sustainability of the staff. Thus, digital HR platforms are becoming a strategic resource for transforming the HR policy of companies in the context of the digital economy and rapid technological evolution. Automated resume analysis - AI systems instantly process and structure information from a resume, highlighting the key competencies, experience and achievements of candidates.

2.3. THE IMPACT OF MODERN DIGITAL TECHNOLOGIES ON LABOR MARKET GOVERNANCE IN CHINA AI-DRIVEN ECONOMY

China occupies a key position in the global debate on AI development and regulation. To fully understand the country’s approach, it is necessary to consider its domestic needs, international ambitions, and ethical challenges that influence national AI policymaking (Roberts, et al., 2021). China has adopted a centralized, hierarchical approach to AI development. Since the adoption of the Next-Generation AI Development Plan in 2017, the country has identified AI as a key element of economic growth and national security. This policy has been accompanied by significant public investment in AI infrastructure and strict regulation of data and research. This model reflects the country’s aspiration to become a global leader in AI, while also addressing domestic priorities for social stability. Despite notable advances in areas such as facial recognition and language processing, experts warn of potential risks to privacy and civil liberties (Serrano, 2025). The 14th Five-Year Digital Economy Development Plan (2022) sets a target for the added value of key digital economy sectors to account for 10% of the country’s GDP by 2025. The government is also focusing on developing an efficient infrastructure for artificial intelligence and strengthening the competitiveness of key industrial supply chains such as 5G,

integrated circuits, new energy vehicles, and AI. These measures are intended to enhance the resilience and efficiency of critical economic sectors, creating a favorable environment for innovation and technological advancement.

The government's 2024 Digital Economy Report focuses on developing policies that support high-quality development of the digital economy and actively promoting digital industrialization. An important element of this plan is the launch of the "AI+ Action Plan" aimed at creating a globally competitive cluster of digital industries. It also emphasizes the need to accelerate the construction of digital infrastructure with advanced capabilities, including the establishment of a unified national computing system, which will greatly improve the ability to exchange data and process information at the national level.

In July 2023, Chinese regulators approved the Interim Measures on the Governance of Generative AI Services. The measures aim to mitigate the risks associated with the use of AI technologies in the public sphere, with a particular focus on security and data protection. China’s approach to AI regulation is focused on managing the risks associated with rapid technological development while promoting innovation and progress. The tension between these goals is reflected in the content of the Measures (Zou & Zhang, 2024). Relevant Chinese policy documents on AI governance are presented in Appendix C.

For China, where the digital economy and artificial intelligence (AI) are developing rapidly, standardization plays a key role in ensuring technological compatibility. Important aspects of national standardization include:

1. Innovation and Development: Standards should support synergies between scientific advances and standardization processes, accelerating innovation in AI.

2. Application-focused: Standards should be focused on meeting industry needs, supporting innovation and the integration of AI into key economic sectors.

3. Collaboration: Standardization should facilitate collaboration between organizations and support cross-industry initiatives.

4. Openness and international cooperation: China actively develops international cooperation on standardization, promoting the participation of its enterprises in the global process.

China's AI standardization roadmap focuses on coordinated efforts to support technological development and promote the country as an active participant in international AI standards (Wang, et al., 2024). The structural diagram of the AI standardization system is shown in Figure C.1. (Appendix C).

China, a founding member of the International Labour Organization (ILO) since 1919, has undergone significant evolution over more than a century of cooperation. This partnership reflects the country's transformation from a low-income, agricultural economy to the world's second-largest economy, which has achieved middle-income status and made significant progress in areas such as living standards, health care, education, and working conditions. During this period, China has significantly modernized its labor market, adapting it to new economic and social conditions.

As China strives to become a high-income nation and provide decent employment for all its citizens, its labour market is facing new challenges that require changes in labour policies. These challenges include demographic changes, climate risks and rapid technological developments, which create the need for the country to further adapt its labour standards and approaches. In this context, cooperation with the ILO remains essential for China, as this cooperation is aimed at addressing pressing issues such as ensuring full and decent employment, expanding the social protection system and respecting fundamental labour rights.

Some of the key areas of cooperation between China and the ILO are: promoting full employment, enhancing social protection, protecting workers' rights and strengthening international relations. These goals are realized through participation in the work of such key organizations as the Ministry of Labor and Social Security of China, the All-China Federation of Trade Unions and the China Enterprise Confederation. The ILO actively supports China's efforts to create quality jobs, develop lifelong learning, expand social protection coverage and improve

occupational safety. In addition, the ILO focuses on promoting gender equality, strengthening labor laws and supporting social dialogue, and promotes international cooperation through various initiatives such as South-South and triangular cooperation projects aimed at implementing the Sustainable Development Goals.

Thus, as digital technologies develop, industries become increasingly interconnected in the digital space, which promotes innovation and efficiency across sectors. The deepening integration of digital tools into the economy creates significant opportunities for businesses to scale and implement new solutions. With 1.1 billion internet users and over 900 million online shoppers, China leads the world in digital retail and mobile payments. The growing user base and high mobile penetration rate underscore China’s enduring dominance in online commerce. Technologies such as artificial intelligence, cloud computing, and big data are becoming an integral part of business processes. Especially given China’s leading developments in AIGC (AI-generated content), companies are able to automate content creation and streamline decision-making processes, which helps improve efficiency and drive innovation across industries.

The development of generative AI (GenAI) is already showing impressive results, and as it improves, more and more tasks will be transferred to intelligent systems. However, this will not necessarily lead to job losses. Research shows that the impact of GenAI on the labor market is ambiguous: on the one hand, AI can replace certain tasks, especially in areas that require intensive data processing, such as information classification, pattern recognition, and computer vision tasks. On the other hand, AI can become a partner for humans, automating routine tasks and allowing them to focus on more complex and creative aspects of work, thereby increasing productivity. In addition, by stimulating innovation and freeing up human potential, GenAI can contribute to the creation of new professions and areas of employment. Increased productivity associated with the implementation of AI can also accelerate economic growth and increase overall demand for labor. Thus, GenAI does not so much displace workers as transform the very nature of work (Rozkrut, et al., 2025).

The problem of digital transformation in the Chinese labor market lies in the emergence of an imbalance between rapid technological changes and the readiness of the workforce for these changes. The active implementation of digital solutions, automation and the development of artificial intelligence are radically transforming the employment structure: on the one hand, there is a high demand for specialists with digital competencies, and on the other, the need for traditional, routine professions is decreasing. There is a problem of a shortage of qualified personnel capable of working in the digital economy, especially in industries related to IT, data and automated production. At the same time, a significant part of the population faces the risk of professional displacement, since they do not have the necessary skills and do not have access to a high-quality retraining system. Digital transformation also provokes an increase in non-standard forms of employment (freelancing, remote work, platform employment), which requires a revision of labor legislation and new social protection mechanisms. There is an increasing need for comprehensive government and corporate initiatives aimed at developing digital skills, adapting educational programs and reducing digital inequality.

Conclusion to Section 2

Thus, the Chinese labor market is undergoing significant changes caused by digital transformation and the integration of new technologies. The transition to a digital economy has a profound impact on the employment structure, which is reflected in the growing demand for specialists in the field of artificial intelligence, big data and cybersecurity, while traditional blue-collar jobs are gradually losing their relevance. At the same time, flexible employment is actively developing - freelancing, remote work and short-term contracts supported by large platforms such as Meituan, Didi and Alibaba, which is especially attractive to young people and IT specialists. However, the saturation of the market with university graduates increases competition, and employers increasingly expect not just a diploma, but real cases, internships and applied skills, which contributes to the growing interest in professional retraining and certifications. Against the backdrop of these changes,

traditional professions associated with routine work are becoming obsolete, and the need for retraining is increasing. At the same time, there is a geographical shift in labor resources: the development of secondary cities reduces the outflow to megacities and forms new centers of business activity. Soft skills are playing an increasingly important role: critical thinking, communication skills, and flexibility are becoming decisive for career success, especially in management and creative industries. The state, in turn, is strengthening regulation: protecting labor rights, promoting employment programs for young people, and stimulating regional development.

In the context of increasing competition for qualified personnel, digital HR services are becoming a key element of the employment ecosystem in China. Platforms such as BOSS Zhipin, Liepin and Zhaopin demonstrate a high degree of integration of artificial intelligence technologies into recruitment and HR management processes. Modern AI algorithms not only analyze the content of a resume and the professional trajectory of a candidate, but also evaluate behavioral patterns, career motivations and preferences, which allows for the formation of the most relevant job offers. In addition, intelligent systems are able to predict the potential success of hiring, taking into account the candidate’s communication style, their adaptability to the corporate environment and the expected duration of cooperation. This ensures a more accurate match between business needs and candidate capabilities, helps reduce recruitment costs and increases the sustainability of the workforce.

SECTION 3. PROSPECTS FOR LABOR MARKET STABILITY AMID ECONOMIC AND TECHNOLOGICAL TRANSFORMATION

3.1. RECOMMENDATIONS FOR IMPROVING LABOR MARKET RESILIENCE AND INCLUSIVITY IN THE AI-DRIVEN ECONOMY

In order to determine the attitude of the Chinese business environment towards the integration of AI technologies into labor relations, a survey was conducted in which 26 employers and 32 employees in China (Table D.1). The survey questionnaires are presented in Table D.2 and Table D.3. Appendix D. The survey results are presented in Table 3.1 and Table 3.2.

Table 3.1

Employer survey results

Statement	Likert scale (1 - Completely disagree, 2 - Somewhat disagree, 3 - Neutral/Difficult to answer, 4 - Rather agree, 5 - Completely agree				
	1	2	3	4	5
1. The widespread adoption of AI will significantly change the skill requirements of employees in our industry in the next 3 years.		6%	7%	11%	76%
2. The implementation of AI will lead to a reduction in the number of jobs in some divisions of our company.		6%	8%	22%	64%
3. AI will create new jobs in our company that will require new skills and competencies from employees			3%	6%	91%
4. The introduction of AI changes the requirements for the qualifications of employees in our company, making it more important to have digital AI literacy skills				4%	96%
5. AI improves the process of personnel selection and assessment through big data analysis.			3%	6%	93%
6. Training employees with AI tools increases their efficiency				5%	95%
7. Due to automation and integration of AI into business processes, flexible forms of employment (remote work, project employment) will become more acceptable for our company.			5%	7%	86%

8. The implementation of AI requires a revision of the company’s organizational structure and approaches to personnel management.			7%	6%	87%
9. Investments in AI will improve the company's competitiveness and labor potential				6%	94%
10. AI is perceived in the company as a tool to support, rather than replace, employees.				3%	97%
11. Our company is interested in attracting talented employees with digital AI skills				1%	99%
12. China's government initiatives promote AI in business.				7%	93%

Source: compiled by the author

The results of the employer survey demonstrated that the majority of respondents are confident in the inevitable and positive impact of artificial intelligence (AI) integration on the development of their companies. Thus, 76% believe that AI will significantly change the requirements for employee qualifications in the next three years, and 96% note that digital skills are becoming increasingly important. At the same time, the introduction of AI raises concerns about possible job cuts, as stated by 64% of respondents. However, 91% are confident that AI will create new jobs that require additional skills and competencies. An important aspect of AI implementation is improving the processes of personnel selection and assessment, which is supported by 93% of respondents, as well as increasing the effectiveness of employee training (95%) and improving the company's competitiveness (94%). At the same time, AI is perceived as a tool for supporting, rather than replacing employees, as stated by 97% of survey participants, which helps reduce anxiety among employees. Almost all respondents (99%) confirm that their company is interested in attracting specialists with digital skills. AI implementation also requires a review of organizational structure and approaches to personnel management (87%), and contributes to the growing interest in flexible forms of employment, such as remote work and project-based employment (86%). Additionally, 93% of respondents believe that government initiatives in China have a positive impact on the development of AI in business. These results highlight the need to continue training

employees, adapt organizational structures, and ensure effective communication to successfully integrate AI into work processes while minimizing potential risks.

Table 3.2

Employee survey results

Statement	Likert scale (1 - Completely disagree, 2 - Somewhat disagree, 3 - Neutral/Difficult to answer, 4 - Rather agree, 5 - Completely agree				
	1	2	3	4	5
1. Artificial intelligence technologies are already having a noticeable impact on the nature of labor relations in my company, including forms of communication, task management, and distribution of responsibility.			6%	7%	87%
2. The integration of AI leads to changes in the job responsibilities of employees and also transforms the format of interaction between the employer and staff.			5%	10%	85%
3. With the advent of AI, there is a change in approaches to labor management, including performance evaluation, process automation, and redistribution of roles.			5%	12%	83%
4. The development and implementation of AI impacts my career prospects within the company, including potential opportunities for advancement or change in career path.				4%	96%
5. I feel the need to update and develop my skills in line with new requirements related to digital and smart technologies.				2%	98%
6. I understand that in the future my current position may undergo significant changes or be completely automated as a result of the implementation of AI.			7%	7%	86%
7. I perceive AI as a potential resource for career growth, advanced training and expansion of professional expertise.				4%	96%
8. Our company's management demonstrates an understanding of the impact of AI on staff and takes these factors into account when planning employee development and training.			1%	5%	94%
9. The introduction of AI affects the balance between employer control and the degree of decision-making autonomy granted to employees.			4%	9%	87%
10. Digital transformation and the implementation of AI require a rethinking of labor relations and the development of new forms of interaction between employees and the organization.				4%	96%

Source: compiled by the author

The survey results demonstrate that the company's employees are well aware of the impact of artificial intelligence (AI) technologies on labor relations, perceiving them as an important factor that has a significant impact on changes in the organization and their professional careers. 87% of respondents believe that AI is already having a tangible impact on forms of communication, task management and distribution of responsibility within the company. 85% note that the introduction of AI leads to changes in job responsibilities and transforms the format of interaction between the employer and staff. At the same time, 83% confirm that AI changes approaches to labor management, including automation of processes and

redistribution of roles. Employees realize that AI affects their career prospects, which is confirmed by 96% of respondents, and 98% feel the need to update their skills in response to new requirements related to digital and intelligent technologies. Awareness of the risk of automation of positions is expressed by 86% of respondents, while 96% perceive AI as a resource for career growth and advanced training. 94% believe that company management actively takes into account the impact of AI when planning employee development and training. In addition, the introduction of AI affects the balance of control and independence in decision-making, which is noted by 87% of respondents. Almost all survey participants (96%) agree that digital transformation requires rethinking labor relations and creating new forms of interaction between employees and the organization. These data confirm that AI is perceived not only as a tool for process optimization, but also as a critical factor changing the structure of labor relations and opening up new career opportunities in the company.

The results of the labour market analysis in China, conducted taking into account the impact of the widespread use of artificial intelligence (AI) tools, as well as based on surveys conducted among employers and employees of companies, allowed us to identify key trends and challenges facing the labour market in the context of digital transformation. Having assessed the impact of AI on various aspects of labour relations, specific recommendations were developed aimed at increasing the sustainability of the labour market and ensuring inclusiveness in the economy, with an emphasis on partnerships between government, business, educational institutions and AI companies (Figure 3.1).

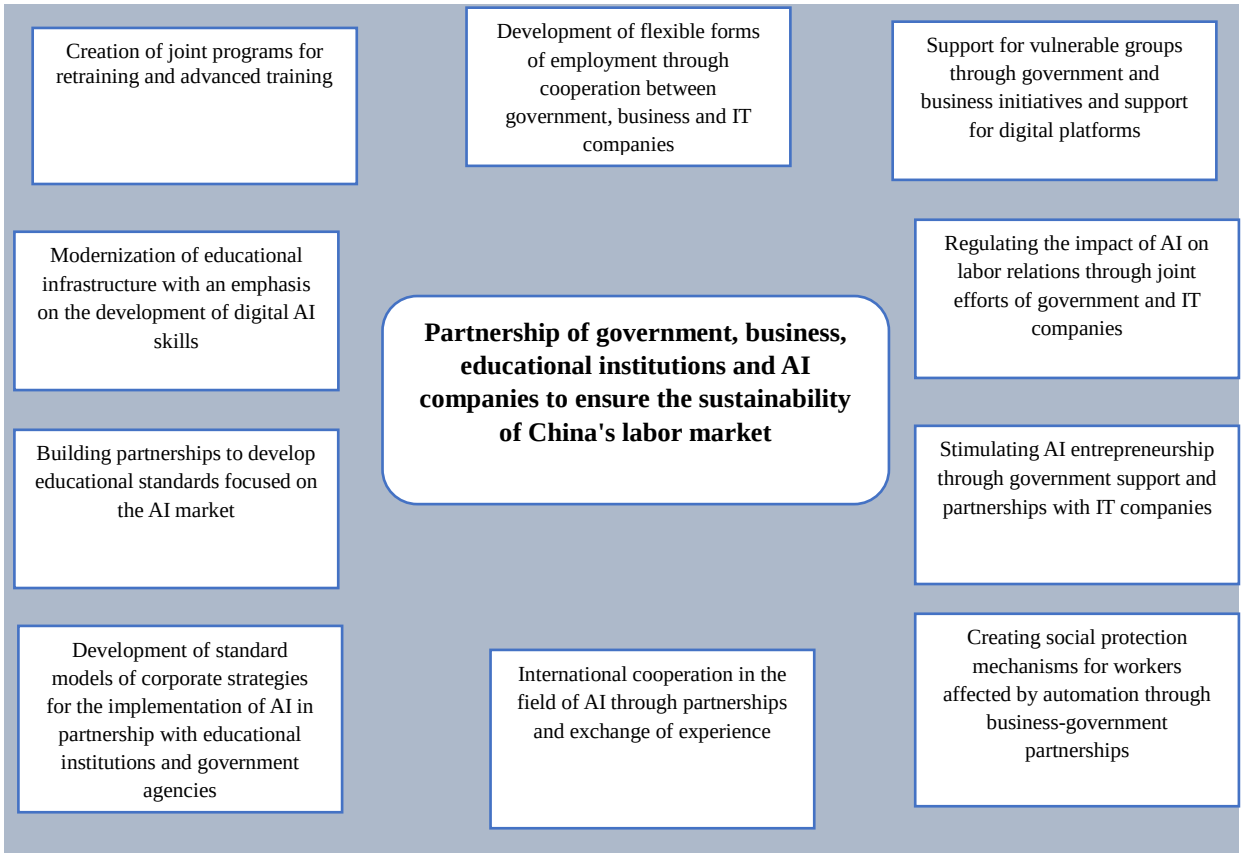

Fig.3.1. Partnership between government, business, educational institutions and AI companies to ensure the sustainability of China's labor market

Source: compiled by the author

To ensure the stability of China's labor marketrecommended:

1. Create joint retraining and upskilling programs. Governments, educational institutions, and businesses should partner to develop and implement large-scale employee training and retraining programs. This will help the workforce adapt to the changes in the labor market caused by the introduction of AI by improving their digital and technological skills.

2. Modernization of educational infrastructure with an emphasis on the development of digital AI skills. It is important to create partnerships between the government, educational institutions and IT companies to modernize educational programs with an emphasis on digital technologies, including AI, big data and other advanced disciplines.

3. Development of flexible forms of employment through cooperation between government, business and IT companies: To support the flexibility of the labor

market, government, business and technology companies must jointly develop practices of remote work and project employment.

4. Supporting vulnerable groups through government and business initiatives and support for digital platforms: To prevent social inequality, it is necessary for the state and private companies to actively work to create support programs and policies for vulnerable groups, such as older workers or residents of rural areas, providing them with access to training and new employment opportunities in the context of digital transformation.

5. Regulating the impact of AI on labor relations through joint efforts of government and IT companies: It is necessary to develop and implement regulatory mechanisms that will ensure a balance between automation and the preservation of jobs. Government agencies, businesses, and IT companies should actively participate in this process, ensuring the protection of workers' rights, including in the area of data and privacy.

6. Create partnerships to develop educational standards focused on the AI market: Governments, universities and IT companies should actively collaborate to create educational standards that will help students and young professionals prepare for the changes in the labor market associated with the introduction of AI.

7. Stimulating AI entrepreneurship through government support and partnerships with IT companies: The government should create favorable conditions for AI startups and small businesses by offering tax incentives and subsidies, as well as supporting initiatives by IT companies that can help develop new technologies and entrepreneurial solutions.

8. Develop model corporate AI strategies in partnership with educational institutions and government agencies: Companies, government agencies and educational institutions must work together to create AI strategies that not only improve productivity but also keep employees motivated and help them adapt to new work conditions.

9. Creating social protection mechanisms for workers affected by automation through business-government partnerships: An important step is to develop joint

initiatives to protect workers whose jobs may be automated. This includes social protection programs and access to retraining, taking into account the needs expressed by both governments and businesses.

10. International cooperation in the field of AI through partnerships and exchange of experience: The development of international partnerships between states, educational institutions and IT companies will allow for the exchange of experience in the field of adaptation of the labor market to the introduction of AI. This will help develop global standards for the use of AI in labor relations, ensuring the harmonious development of all participants in the process.

Thus, the integration of artificial intelligence into the Chinese economy requires a comprehensive and coordinated approach from the state, business, educational institutions and AI companies. Only through strategic partnerships can we ensure the stability of the labor market, minimize social risks and create conditions for inclusive growth, in which technology does not displace people, but expands their capabilities.

3.2. Enhancing labor market flexibility to adapt to technological changes

Despite legitimate concerns about job losses, a widening digital divide, and increased inequality, AI offers great potential for creating new jobs, increasing efficiency, and stimulating economic growth. Jiang, S., et al. (2025) argue that maximizing the potential of AI and minimizing its risks requires a comprehensive approach that includes proactive policies, investment in education and retraining, and strict ethical standards in technology development and implementation. Table 3.3 presents recommendations for increasing the flexibility of the labour market to adapt to technological changes.

Table 3.3

Recommendations for increasing the flexibility of the labor market to adapt to technological changes

Recommended measures	Initiatives
Creation and implementation of retraining and advanced training programs	*Government initiatives:*It is important that governments invest heavily in large-scale educational programmes to develop skills in AI, data analytics and digital literacy to help prepare society for the challenges of the future.
	*Corporate initiatives:*Organizations implementing AI technologies must actively engage in building a sustainable workforce by focusing on upskilling programs. This not only helps retain key employees, but also ensures smooth onboarding to AI-optimized processes.
Developing AI systems that are focused on enhancing human capabilities and collaboration	*Development of collaborative AI systems:*The development of AI tools that interact with humans to improve productivity and decision-making, rather than replacing workers entirely, should be supported.
	*Designing AI with Human Focus:*There is a need to prioritize the development of AI systems that enhance human capabilities, especially in areas where creativity, emotional intelligence, and the ability to solve complex problems are critical.
Support for innovative initiatives and entrepreneurial activity	*Government support for AI startup incubators:*There is a need to develop incubators and accelerators focused on AI startups that will stimulate job creation and the development of new high-tech industries.
	*Stimulating cross-sector application of AI:*It is important to stimulate the implementation of artificial intelligence in different sectors of the economy by creating innovative business models and new job roles that maximize the potential of AI technologies.
Confronting inequality and bias	*An inclusive approach to AI development:*Diversity in AI development teams is essential to minimize algorithmic bias and create fairer and more balanced AI systems.
	*Targeted support for vulnerable groups:*Develop specialized training and support programs for those demographics most at risk of job loss, including minorities and women in certain industries.
Ensuring consistency between ethical standards and regulation in AI	*Ensuring transparency and accountability:*Clear guidelines need to be created for the use of AI in hiring, performance evaluation and decision making to avoid discrimination and ensure fair processes.
	*Implementation of policies to protect labor rights:*Measures must be developed and implemented to protect workers' rights, including regulating the use of technology, protecting data privacy, and ensuring fair compensation for productivity gains associated with the introduction of artificial intelligence.
Psychological support and change management	*Implementation of psycho-emotional support programs:*It is important to ensure that workers experiencing difficulties due to changes brought about by the introduction of artificial intelligence have access to counselling and support to maintain their mental health.

	*Implementation of adaptation social programs:*Comprehensive change management strategies must be developed and implemented to help employees successfully integrate into new work environments and roles transformed by AI.

Source: compiled by the author based on Jiang, S., et al. (2025)

Thus, to increase the flexibility of the labor market and adapt to technological changes, it is necessary to implement comprehensive measures aimed at developing human capital and the sustainability of labor relations. A key role in this process is played by the creation and implementation of retraining and advanced training programs in partnership between the state, business and educational institutions. Particular attention should be paid to the development of artificial intelligence systems aimed not at replacing, but at expanding human capabilities and supporting cooperation. At the same time, it is important to stimulate innovative initiatives and entrepreneurship by providing startups and technology projects with access to financial and organizational resources. To ensure the inclusiveness of the labor market, it is necessary to counter inequality and bias by guaranteeing equal access to technology, training and employment for all social groups. It is also critical to ensure consistency of ethical standards and regulation in the field of AI, including transparency, responsibility and protection of personal data. In the context of rapid change, it is necessary to develop psychological support systems for employees, helping them adapt to new working conditions, reduce stress levels and master a culture of continuous development. Only coordinated interaction between the state, business, educational institutions and AI companies will allow us to create a sustainable, flexible and fair labor ecosystem in the context of digital transformation.

3.3. STRENGTHENING SOCIAL SAFETY NETS AND LABOR MARKET PROTECTION AMID AI DISPLACEMENT

The impact of artificial intelligence on jobs is a matter of great concern and speculation. As AI technologies continue to advance, there is a growing awareness that they could lead to job displacement in certain sectors, particularly those involving routine and repetitive tasks. While this raises concerns about potential

unemployment, the future job landscape is expected to undergo significant changes rather than be completely eliminated (Jain, 2023). However, to mitigate this effect, it is necessary to prepare the workforce for the new realities in advance – through skills development and opportunities in promising, growing industries. According to researchers Idrisi, MJ, et al. (2024), AI is not focused on completely replacing human workers, but rather on expanding and improving their work capabilities. It is imperative that the workforce adapts and prepares for these changes by acquiring new skills and knowledge that are relevant to the evolving labor market. Governments, educational institutions, and organizations must collaborate to provide training programs and resources that equip people with the necessary skills required in the age of automation. This includes nurturing creativity, critical thinking, problem-solving abilities, and technical skills related to AI and new technologies.

According to Serrano, A. (2025), the impact of AI on the labor market is uneven and depends on the industry, the skill level of workers, and regional characteristics. For AI to become a tool for enhancing human potential, rather than replacing it, proactive steps are needed - from the development of digital and professional skills to social support and flexible migration policies. Only a well-thought-out economic strategy focused on cooperation between humans and AI, compliance with ethical standards and principles of inclusiveness can create a more equitable and sustainable labor environment.

According to researchers Patil, D. (2024), advances in AI can significantly benefit highly skilled workers, but at the same time leave low-skilled workers unemployed, increasing economic inequality. Reskilling programs and social protection can mitigate the negative impacts of AI in high-income countries, but may worsen inequality in less developed regions. Technological concentration increases monopolization and inhibits wage growth, especially in sectors where control over data and AI technologies is concentrated in large companies. To ensure fair implementation of AI, public investment in digital infrastructure, vocational training, and protection of labor rights is needed. Ethical workforce planning is becoming increasingly important. The use of AI for monitoring or decision-making carries risks

of privacy violations, bias, and increased inequality. Without regulation, AI can harm vulnerable groups. Joint action by government and business is needed to establish ethical norms that ensure transparency, protection of workers' rights, and global fairness in the digital labor market.

According to Faluyi, S.E. (2025), effective regulation of artificial intelligence must strike a delicate balance between stimulating technological innovation and upholding ethical standards. It must ensure transparency of algorithms, accountability of developers, and fairness in the application of AI in various fields. To create a sustainable regulatory environment, policymakers can rely on key principles such as data protection, equal access, open processes, and international cooperation, thereby creating conditions for responsible and harmonious development of technologies.

The ILO study (2025) argues that comprehensive macroeconomic and labour market policies are needed to address employment challenges in the context of global digital trends. Investments in infrastructure can help distribute resources evenly across regions. Local education centres and employment services can support the development of industrial zones and local economic growth. Human capital development must be scaled up to improve structural change and industrial progress. It is important to coordinate skills and innovation policies, taking into account local advantages and needs.

As AI becomes more integrated into society, it is important to understand public perceptions of the technology. Understanding how people view AI can help predict its impact on society and identify differences in technology adoption across countries and demographics (Perrault, et al., 2025). Therefore, monitoring public opinion and taking into account multiple perspectives on AI are key to successfully integrating the technology into society and minimizing potential risks.

Figure 3.2 presents ways to strengthen the social protection system and protect the labor market in the context of the displacement of AI workers.

In the context of the rapid transformation of the labor market under the influence of artificial intelligence, it is extremely important to build new, sustainable social protection mechanisms that can respond to the challenges of the digital age.

Previous models of population support, focused on the industrial economy, no longer meet the needs of workers employed in flexible work formats. Therefore, the priority task is to rethink and modernize social programs - expand insurance coverage, introduce flexible benefits and create support mechanisms for freelancers, the self-employed and participants in digital platforms.

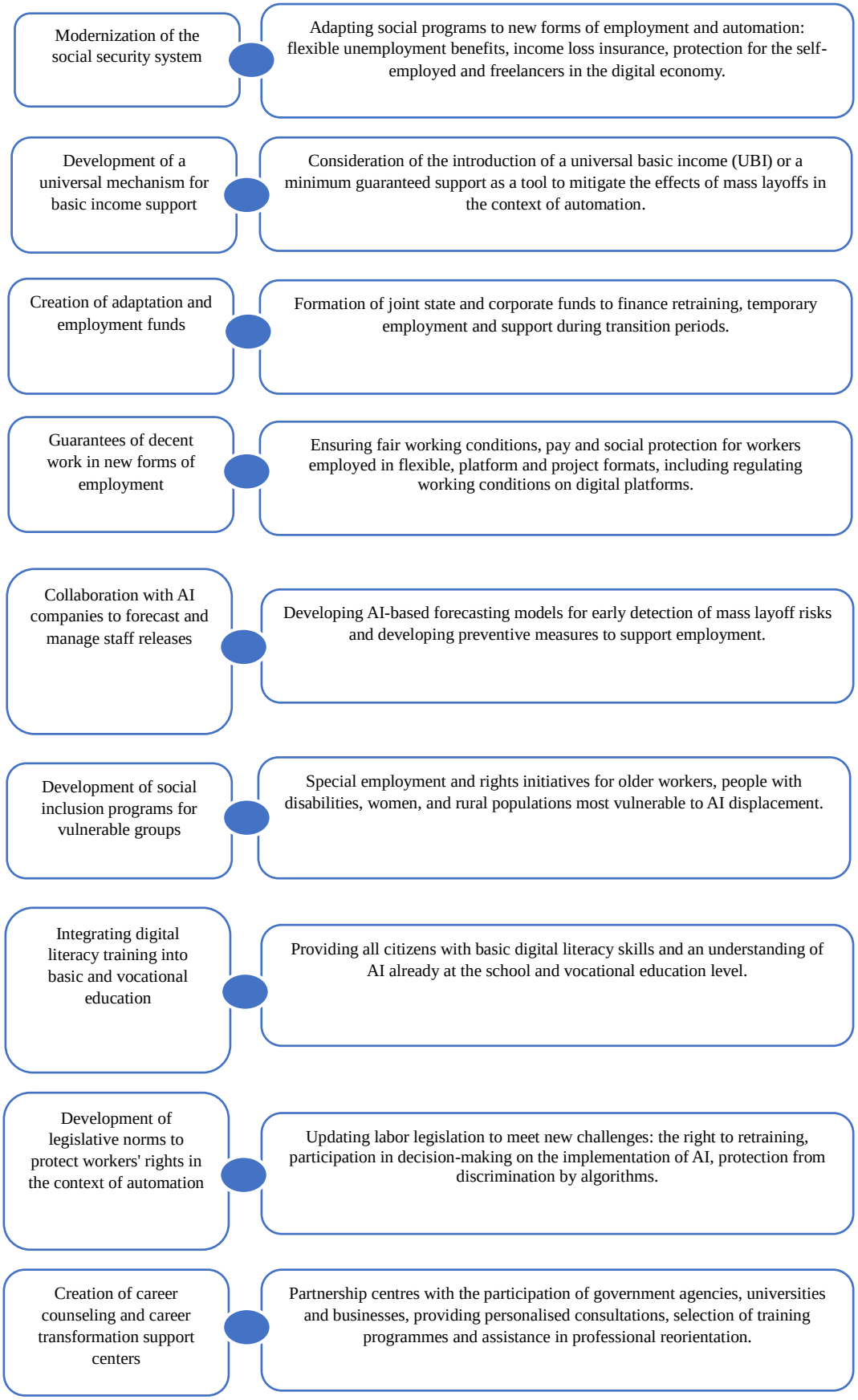

Fig. 3.2. Ways to strengthen the social protection system and labor market protection in the context of AI workers being displaced

Source: compiled by the author

One possible response to growing instability could be the introduction of a universal basic income or flexible minimum security systems adapted to the realities of an automated world. Such measures would create a basis for social stability and allow workers to more freely adapt to change without fear of a complete devaluation of their labor.

A key element of sustainable employment transformation should be the formation of adaptation funds, created in partnership between the state, business and technology companies. These funds will be able to provide funding for retraining programs, short-term employment and career counseling, helping people master new professions and remain in demand in the labor market.

No less urgent is the task of institutionalizing decent work in the context of digitalization. This includes legislative consolidation of wage guarantees, access to health care and pensions, as well as career opportunities for workers engaged in project, remote or platform employment. The protection of rights in new forms of work must keep pace with technological progress.

AI companies, in turn, can play a key role in developing early warning tools for mass layoffs. Joint development of analytical systems that predict employment dynamics will allow businesses and the government to act proactively, introducing support measures long before crises occur.

Particular attention should be paid to social inclusion. In a situation where automation can increase the gap between the center and the periphery, men and women, young and old, it is important to build targeted support programs for those who risk being left outside the digital economy. Investment in training and employment for these groups should be a priority.

An essential condition for adapting to the new working reality is the introduction of digital literacy into basic and professional education. Every citizen should be able to understand how AI systems work and how to interact with them — not only as a user, but also as an active participant in the digital society.

Labor law also needs to be updated. Employees should have the right to continuous development and retraining, to participate in decisions about the

implementation of AI in their work processes, and to be protected from discrimination caused by algorithmic assessments.

Partnership career hubs created at the intersection of education, business and government initiatives will be able to act as navigators in the new reality - selecting individual development trajectories, helping to master new competencies and providing mentoring support.

Finally, an open public dialogue is becoming a key element of the effective integration of AI into labor relations. The formation of the digital future of labor is impossible without trust, participation and awareness on the part of citizens themselves. Only with the interaction of all parties - the state, business, the education system and AI developers - can we build a fair, inclusive and sustainable employment model in the era of artificial intelligence.

Conclusion to Section 3

The results of the labour market analysis in China, conducted taking into account the impact of the widespread use of artificial intelligence (AI) tools, as well as based on surveys conducted among employers and employees, allowed us to identify key trends and challenges facing the labour market in the context of digital transformation. Having assessed the impact of AI on various aspects of labour relations, specific recommendations were developed aimed at increasing the resilience of the labour market and ensuring inclusiveness in the economy, with an emphasis on partnership between the government, business, educational institutions and AI companies. For the resilience of the Chinese labour market in the AI era, a partnership between the government, business, education and AI companies is necessary. It is recommended to launch joint retraining programs, modernize education with an emphasis on digital skills, develop flexible forms of employment, support vulnerable groups, harmonize AI regulation, develop common standards, stimulate AI entrepreneurship, create corporate AI implementation strategies, strengthen social protection and international cooperation in the field of AI.

To increase the flexibility of the labour market in the context of rapid technological change, it is recommended to implement retraining and advanced training programs aimed at developing relevant digital and AI skills; developing artificial intelligence systems that enhance human potential and promote collaboration; supporting innovative initiatives and entrepreneurship; combating inequality and bias in the labour market; ensuring consistency between ethical standards and regulatory frameworks in the field of AI, as well as introducing mechanisms for psychological support and effective change management in organizations.

To strengthen social protection in the context of AI workers being displaced, it is necessary to modernize the support system, create basic income mechanisms, adaptation funds, and guarantees of decent work in new forms of employment. An important step will be cooperation with AI companies to predict staff releases, develop inclusion programs, train digital literacy, and create legislative norms to protect workers.

CONCLUSIONS

In the context of digital transformation, the economy dictates new rules for the functioning of the labor market, turning it into a highly dynamic system of socio-economic relations, where the exchange of labor for remuneration is increasingly carried out with the support of digital technologies and algorithmic mechanisms. The modern labor market is not just a space of interaction between employers, employees, the state and other institutions, but a complex socio-technical construct in which traditional forms of employment coexist with new ones - flexible, remote and platform.

Modern work processes are characterized by rapid digitalization and automation of workplaces, growing integration of generative artificial intelligence. The integration of generative artificial intelligence (GenAI) has an increasingly significant impact on the transformation of the labor market. In the corporate segment, GenAI is increasingly integrated into processes related to: employee search and adaptation, performance management, training and development, resource planning and job selection, remote work organization, engagement and retention, task automation, ensuring diversity, equality and inclusion, creating new professions.

The rapid development of artificial intelligence and its integration into the workplace brings with it both challenges and opportunities for the labour market. Opportunities of AI integration in labour markets: job creation and transformation, increased productivity and efficiency, economic growth and innovation, improved decision-making and resource allocation, improved quality of work and workplace experience, closing skills and education gaps, complementing human skills. Risks of AI integration in labour markets: job displacement and automation, polarization and skill inequality, disproportionate impact on vulnerable groups, ethical issues and biases, psychological impact on workers.

An analysis of current labor market trends in China, driven by the rapid adoption of AI in business processes, shows that the country's labor market is undergoing profound changes driven by digital transformation and the integration of

advanced technologies. The transition to a digital economy has a profound impact on the employment structure, with demand for specialists in artificial intelligence, big data, and cybersecurity growing, while traditional blue-collar jobs are gradually losing their relevance. At the same time, flexible employment is rapidly developing — freelancing, remote work, and short-term contracts supported by large platforms such as Meituan, Didi, and Alibaba — which is especially attractive to young people and IT specialists. In the context of increasing competition for skilled labor, digital HR services are becoming a key element of the employment ecosystem in China. Platforms such as BOSS Zhipin, Liepin, and Zhaopin demonstrate a high degree of integration of AI technologies into recruiting and HR management processes. Modern AI algorithms not only analyze the content of a resume and the professional trajectory of a job seeker, but also evaluate behavioral patterns, career motivations and preferences, which allows them to form the most relevant job offers. In addition, intelligent systems are able to predict the potential success of hiring, taking into account the candidate's communication style, their adaptability to the corporate environment and the expected duration of cooperation. This ensures a more accurate match between business needs and candidate capabilities, helps reduce recruitment costs and increases the sustainability of the workforce.

To determine the attitude of the Chinese business environment towards the integration of AI technologies into labor relations, a survey was conducted among 26 employers and 32 employees from various industries, including hotels and restaurants, education and training, financial services and capital markets, information and technology services, infrastructure, medical and healthcare services, consumer goods manufacturing, professional services, and real estate. The results of the employer survey showed that the majority of employers are confident in the positive impact of AI integration on the development of companies. 76% believe that AI will change the requirements for employee qualifications, and 96% note the importance of digital skills. At the same time, 64% are afraid of job losses, but 91% are sure that AI will create new jobs requiring additional skills. The majority of respondents support improved recruitment (93%), increased training efficiency

(95%), and improved competitiveness (94%). 97% perceive AI as a tool to support, rather than replace, employees, which reduces anxiety among employees. Almost all respondents (99%) say that companies are interested in attracting specialists with digital skills. The implementation of AI requires a review of the organizational structure (87%) and contributes to the growing interest in flexible forms of employment (86%). 93% believe that government initiatives in China have a positive impact on the development of AI in business, emphasizing the importance of continuing training, adapting structures and effective communication for the successful integration of AI. The results of the company's employee survey showed that the company's employees are aware of the impact of AI on labor relations, perceiving it as an important factor in changes in the organization and career. 87% believe that AI is already affecting forms of communication and task management, and 85% note changes in job responsibilities and interactions between the employer and employees. 83% confirm that AI is changing approaches to labor management, including automation and redistribution of roles. 96% of respondents are aware of the impact of AI on career prospects, and 98% feel the need to update skills. 86% acknowledge the risk of job automation, but 96% see AI as a resource for career growth. 94% believe that company management takes into account the impact of AI in employee development, and 87% note that the introduction of AI changes the balance of control and autonomy. Almost all respondents (96%) agree that digital transformation requires rethinking labor relations and creating new forms of interaction.

Achieving sustainable development in China’s labor market in the context of the spread of AI technologies requires active partnerships between the government, business, educational institutions, and AI companies. Such cooperation should include the creation of joint retraining and advanced training programs, the modernization of educational infrastructure with an emphasis on the development of digital and AI skills, and the expansion of flexible forms of employment through cross-sector interaction. Particular attention should be paid to supporting vulnerable groups through initiatives of the government, business, and digital platforms, as well

as the development of unified approaches to regulating labor relations under the influence of AI. In addition, it is important to develop partnerships in the field of educational standards, stimulate entrepreneurship in the AI sphere, form standard models of corporate AI implementation strategies, create social protection mechanisms for workers affected by automation, and strengthen international cooperation in the field of AI through the exchange of experience and the building of global alliances.

To increase the flexibility of the labour market and adapt to technological changes, it is necessary to implement comprehensive measures aimed at developing human capital and the sustainability of labour relations. The creation and implementation of retraining and advanced training programs in partnership between the state, business and educational institutions plays a key role in this process. Particular attention should be paid to the development of artificial intelligence systems aimed not at replacing, but at expanding human capabilities and supporting cooperation. At the same time, it is important to stimulate innovative initiatives and entrepreneurship by providing startups and technology projects with access to financial and organizational resources. To ensure the inclusiveness of the labour market, it is necessary to counter inequality and bias by guaranteeing equal access to technology, training and employment for all social groups. It is also critical to ensure consistency of ethical standards and regulation in the field of AI, including transparency, responsibility and protection of personal data. In the context of rapid change, psychological support systems for employees should be developed, helping them adapt to new working conditions, reduce stress levels and master a culture of continuous development. Only coordinated interaction between the state, business, educational institutions and AI companies will allow us to create a sustainable, flexible and fair labor ecosystem in the context of digital transformation.

To strengthen the social protection system and ensure the stability of the labor market in the context of workers being displaced by AI technologies, it is necessary to modernize the existing social support system, develop universal mechanisms of basic income, create funds for adaptation and employment assistance, and guarantee decent

working conditions in new employment formats. It is important to build partnerships with AI companies to predict risks and manage staff release processes, develop social inclusion programs for vulnerable groups, integrate digital literacy training into the basic and vocational education system, strengthen legislative mechanisms for protecting workers' rights in the context of automation, and create career counseling centers that facilitate professional transformation and adaptation.

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APPENDICES

Appendix A

Table A.1

China's main economic indicators

Indicators	Baseline scenario							
	2020	2021	2022	2023	2024	2025 (F)	2026 (F)	2027 (F)
GDP (%)	2,3	8.1	3	5.2	5.0	4.5	4.2	4
CPI (%)	2.6	0.9	2	0.2	0.24	0.6	1	1.3
PPI (%)	-1.8	8.1	4.2	-3	-2.2	-1	1	1
Interest rate (LPR, %)	3.85	3.8	3.6	3.45	3.1	2.5	2.5	2.5
RMB/USD exchange rate	6.5	6.36	6.9	7.1	7.3	7.4	7.3	7.2

Source: BBVL (2025)

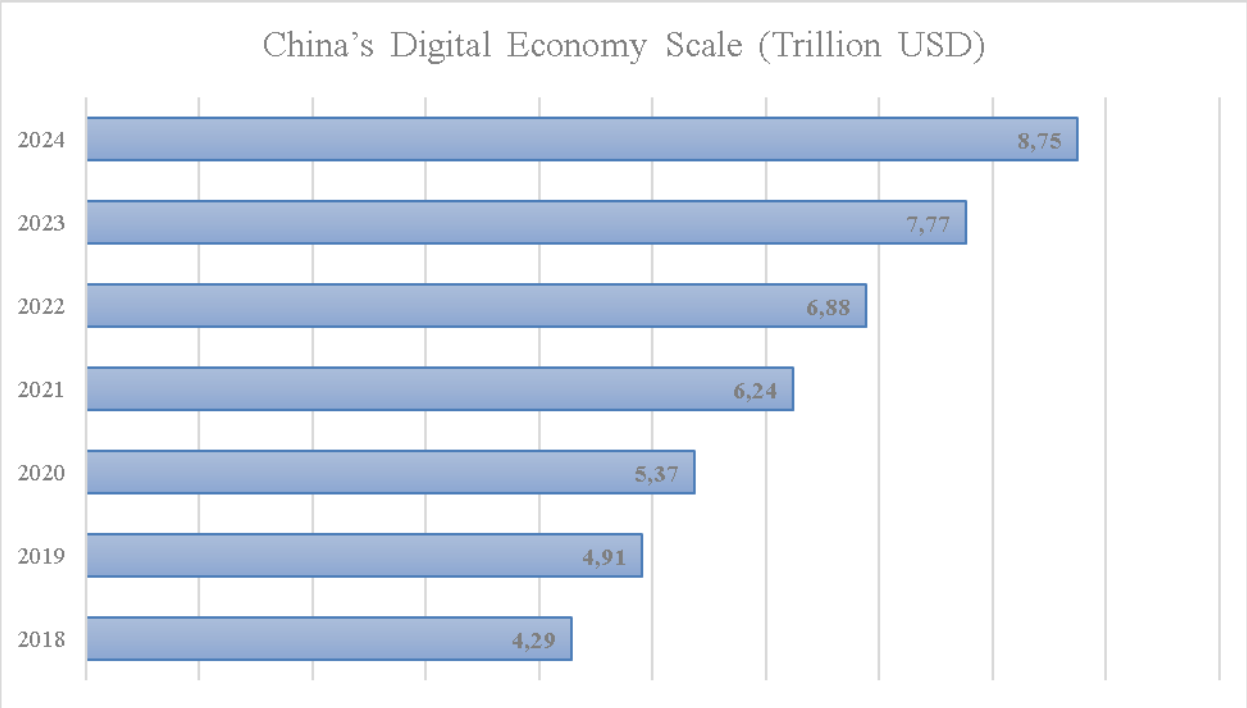

Fig. A.1. China's Digital Economy Scale (Trillion USD)

Source: compiled by the author based on ChoZan (2025).

Appendix B

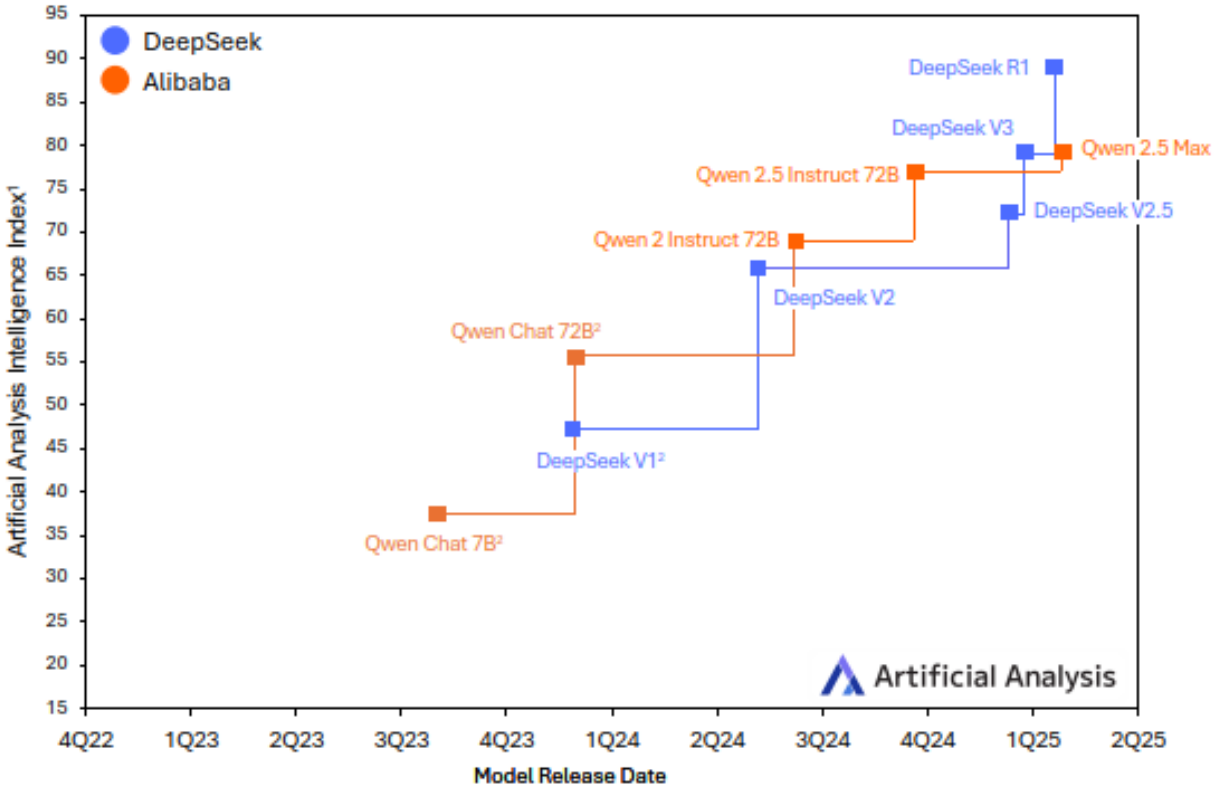

Fig. B.1. Leading Chinese AI Labs Language Model Intelligence

Source: Artificial Analysis (2025)

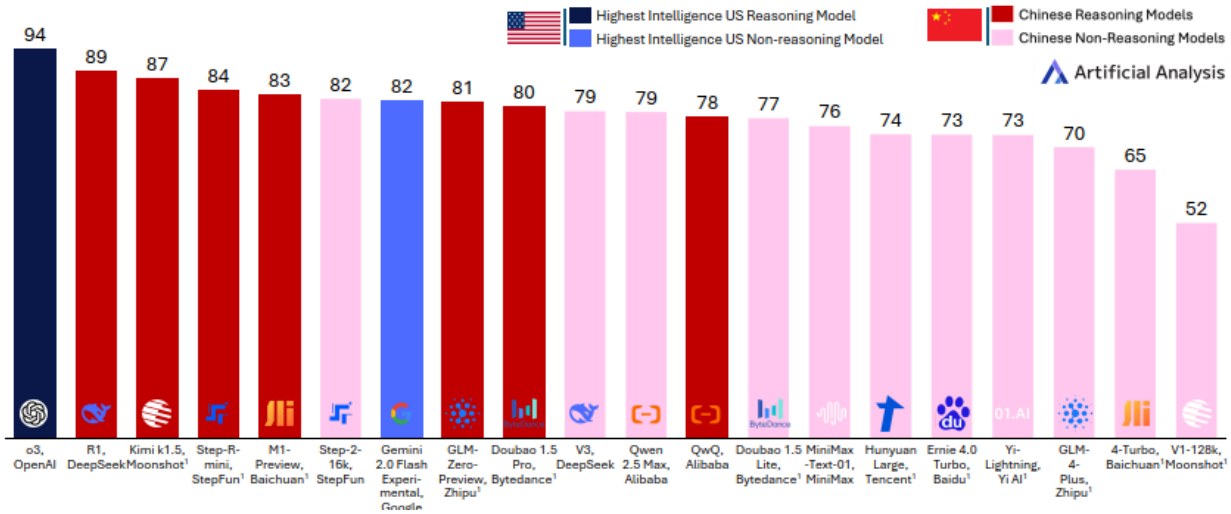

Fig. B.2. The Language Model Frontier: Models by Chinese AI Labs

Source: Artificial Analysis (2025)

		Alibaba.com	Baidu 百度	ByteDance	HUAWEI	Tencent 腾讯
	Description	Large ecommerce player and Hyperscaler (Alibaba Cloud), largest shareholder of Ant Group	China's largest search engine, and operator of Wenxin Yiyan, an AI chatbot with a reported ~300m users	Parent company of Douyin (TikTok) and Toutiao, one of China's leading news applications	Global telco leader and one of the world's largest smartphone manufacturers	Parent company of Riot Games and WeChat, the 'all-in-one 'super app' of China; Hyperscaler with their Tencent Cloud offering
	AI Strategy *(high-level)*	• Release open weights models • More recently launched proprietary models • Offer inference on Alibaba Cloud	• Actively integrating proprietary models into search platform • Long time leader in self-driving AI	• Develop proprietary models and integrate across their consumer platforms	• Develop proprietary, domain-specific models and offer on Huawei Cloud	• Release open weights models and offer proprietary models on Tencent Cloud
Best LLM[4]	Non-Reasoning	Qwen 2.5 Max **Intelligence: 79**	Ernie 4.0 Turbo **Intelligence: 76**[5]	Doubao 1.5 Lite **Intelligence: 77**[5]	Pangu 5.0 Large	Hunyuan Large **Intelligence: 74** </>
	Reasoning	QwQ **Intelligence: 78**[5] </>	–	Doubao 1.5 Pro **Intelligence: 80**[5]	–	–
Other Models	Text to Speech	✓	✓	✓	✓	✓
	Speech to Speech	–	–	✓	–	–
	Image Generation	✓	✓	✓	✓	✓
	Video Generation	✓	✓	✓	✓	✓
	3D Generation	–	–	✓	–	✓
	Primary Consumer Apps	Tongyi Qianwen	Wenxin Yiyan, Wenxin Yige	Doubao	Celia	Yuanbao, Yuanqi
	Valuation (US$)	235B[1]	32B[1]	300B[2]	128B[3]	469B[1]

Other Firms with AI Ambitions

Kunlun Tech
SHE: 300418 (Mkt Cap: $6B)[1]
Beijing-based internet group with >300m MAUs; owner of the Opera browser. Launched the SkyWork series of models and AI accelerators

360 Security (Qihoo 360)
SHA: 601360 (Mkt Cap: $11B)[1]
China's largest provider of Internet and mobile security products. Launched the Zhinao series of models under the 360 AI brand

iFlytek
SHE: 002230 (Mkt Cap: $16B)[1]
Leading voice AI company in China with >14,000 employees. Launched the Spark series of models

Meituan
HKG: 3690 (Mkt Cap: $115B)[1]
China's leading shopping platform with >600m DAUs. Cofounder Wang Huiwen returned to lead AI efforts. Investor in multiple frontier AI labs

Xiaomi
HKG: 1810 (Mkt Cap: $123B)[1]
China's leading consumer electronics brand. Launched the MiLM series of small models. Recently poached Luo Fuli, DeepSeek researcher, to run AI lab. Investor in multiple frontier AI labs

Fig. B.3. AI Models

Source: Artificial Analysis (2025)

		MINIMAX	Moonshot AI	零一万物 01.AI	deepseek	ZHIPU·AI	百川智能 BAICHUAN AI	阶跃星辰 Stepfun
	Description	China AI Tiger and publisher of Talkie AI app (4th most downloaded in US in 1H24)	China AI Tiger with 2M Chinese character context window model; China's most well-funded AI startup based on available information	Chinese AI startup focused on smaller language models founded by Lee Kai-Fu (author, former head of Google China)	Chinese AI lab originating out of an AI-focused quantitative trading firm	China AI Tiger with nearly ~700k enterprise and developer users	China AI Tiger with a focus on medical AI models founded by Wang Xiaochuan (ex-CEO, Sogou)	First Chinese AI startup to develop a trillion-parameter model; founded by Jiang Daxin (ex-Chief Scientist, Microsoft Research Asia)
Best LLM[1]	Non-Reasoning	MiniMax-Text-01 **Intelligence: 76** </>	V1-128k **Intelligence: 52**	Yi-Lightning **Intelligence: 73**	V3 **Intelligence: 79** </>	GLM-4-Plus **Intelligence: 70**	Baichuan 4-Turbo **Intelligence: 65**	Step-2-16k **Intelligence: 82**
	Reasoning	–	Kimi k1.5 **Intelligence: 87** </>	–	R1 **Intelligence: 89** </>	GLM-Zero-Preview **Intelligence: 81**	Baichuan M1-Preview **Intelligence: 83**	Step-R-mini **Intelligence: 84**
Other Models	Text to Speech	✓	–	–	–	–	–	✓
	Speech to Speech	–	–	–	–	✓	✓	–
	Image Generation	–	–	–	✓	✓	–	✓
	Video Generation	✓	–	–	–	✓	–	–
	3D Generation	–	–	–	–	–	–	–
	Primary Consumer Apps	Hailuo AI Chat, Hailuo AI Video	Kimi	YiChat	DeepSeek Chat	ChatGLM	Bai Xiaoying	Yuewen, PopDuck
	Funding Raised ($)	0.85B[2]	1.67B[3]	0.2B[4]	Unknown	1.12B[5]	1.04B[6]	Unknown
	Notable Investors *(non-exhaustive)*	Tencent 腾讯, Alibaba.com, HongShan, 高瓴	Tencent 腾讯, Alibaba.com, 小红书, Microsoft, HongShan, ZhenFund	Alibaba.com, 小米, 顺为, SINOVATION VENTURES	幻方量化 HIGH-FLYER QUANT	Alibaba.com, Tencent 腾讯, HongShan, Lightspeed, QIMING, Meituan, 清华控股	Alibaba.com, Tencent 腾讯, 清华控股, SOSV, 顺为, 小米	Tencent 腾讯, QIMING, 上海国有资本投资有限公司

Fig. B.4. Frontier Models by Chinese AI Tigers and Startups

Source: Artificial Analysis (2025)

Appendix C

Table C.1

Notable Chinese AI Governance Policy Documents

Document	Notes and Key Provisions
Provisions on the Management of Algorithmic Recommendations in Internet Information Services	The first major binding regulation on algorithms was driven by government concerns over the control algorithms might have over the dissemination of news and content online. The regulation includes numerous provisions for content control, as well as protections for workers impacted by algorithms, among other measures. It also established the "algorithm registry," which will be used in future regulations.
Opinions on Strengthening the Ethical Governance of Science and Technology	Based on a 2021 draft regulation from the Ministry of Science and Technology (MOST), the document emphasizes the internal ethics and governance frameworks that scientists and technology developers should implement. AI is highlighted as one of the three key areas of particular concern, alongside life sciences and medicine.
Provisions on the Administration of Deep Synthesis Internet Information Services	The regulation addresses numerous AI applications used for generating text, video, and audio. It bans the creation of "fake news" and mandates that synthetically generated content be clearly labeled. The primary motivation behind the regulation stems from concerns over the rise of deepfakes.
Measures for the Management of Generative Artificial Intelligence Services (Draft for Comment)	Drafted in response to the surge in popularity of AI chatbots like ChatGPT, the regulation largely mirrors the deep synthesis regulation but places greater emphasis on text generation and training data. It mandates that providers ensure both the training data and the generated content are "true and accurate."

Source: Sheehan, M. (2023).

Table C.2

Government Support Policies for the Digital Development

STATE COUNCIL (2022): 14TH FIVE-YEAR PLAN FOR DIGITAL ECONOMY DEVELOPMENT	• By 2025, the added value of core digital industries will account for 10% of GDP. • Promote the efficient layout of AI infrastructure and enhance the empowerment capabilities of "intelligent+" industry development. • Strengthen the competitiveness of key industrial supply chains, including 5G, integrated circuits, new energy vehicles, and AI, to improve supply chain ecosystems in critical sectors.
STATE COUNCIL (2024): GOVERNMENT WORK REPORT ON DIGITAL ECONOMY	• Formulate supporting policies for the high-quality development of the digital economy, actively promoting digital industrialization. • Launch the "AI+ Action Plan" to establish a globally competitive cluster of digital industries. • Accelerate the construction of digital infrastructure with advanced capabilities to create a unified national computing network system.

Source: compiled by the author based on ChoZan (2025)

Table C.3

China's City Specific Digital Support

	CHINA'S CITY-SPECIFIC DIGITAL SUPPORT	RELEASE DATE	OVERALL GOAL	MEASURES
SHENZHEN	ACTION PLAN FOR HIGH-QUALITY AI DEVELOPMENT AND ADVANCED APPLICATIONS	May 2024	Build a city-level computing platform to create a robust intelligent computing ecosystem in the Greater Bay Area.	Establish a ¥10 billion AI industrial fund and provide targeted support to high-potential startups.
HANGZHOU	POLICIES FOR PROMOTING AI INDUSTRIAL INNOVATION DEVELOPMENT	May 2024		Offer grants for new R&D projects, ranging from ¥2 million for provincial enterprises to ¥15 million for exceptional projects.

NANJING	ACTION PLAN TO PROMOTE INNOVATION AND DEVELOPMENT	May 2024	By 2026, scale the core AI industry to ¥60 billion, annually create 30+ benchmark AI application scenarios.	
BEIJING	ACCELERATING THE DEVELOPMENT OF GENERAL AI INDUSTRY POLICIES	April 2024		Up to ¥1 billion funding for large-scale key technology projects. • Center-level AI capacity scaled to over 1,000 PFLOPS, with a maximum funding support of ¥50 million.
SHANGHAI	ACTION PLAN FOR ADVANCED COMPUTING CAPACITY AND INTELLIGENT COMPUTING HUB	March 2024	By 2025, establish a regionally influential intelligent computing innovation and application demonstration zone	By 2025, Shanghai's computing capacity to exceed 30 PFLOPS, representing over 50% of the city's total computing capacity.
WUHAN	ACTION PLAN FOR ADVANCED COMPUTING INFRASTRUCTURE AND INDUSTRIAL APPLICATIONS	February 2024	By 2025, achieve 5 EFLOPS in computing capacity.	Enhance fundamental AI technology deployment and reduce new data center energy consumption to below 1.25 kWh per workload.

Source: compiled by the author based on ChoZan (2025)

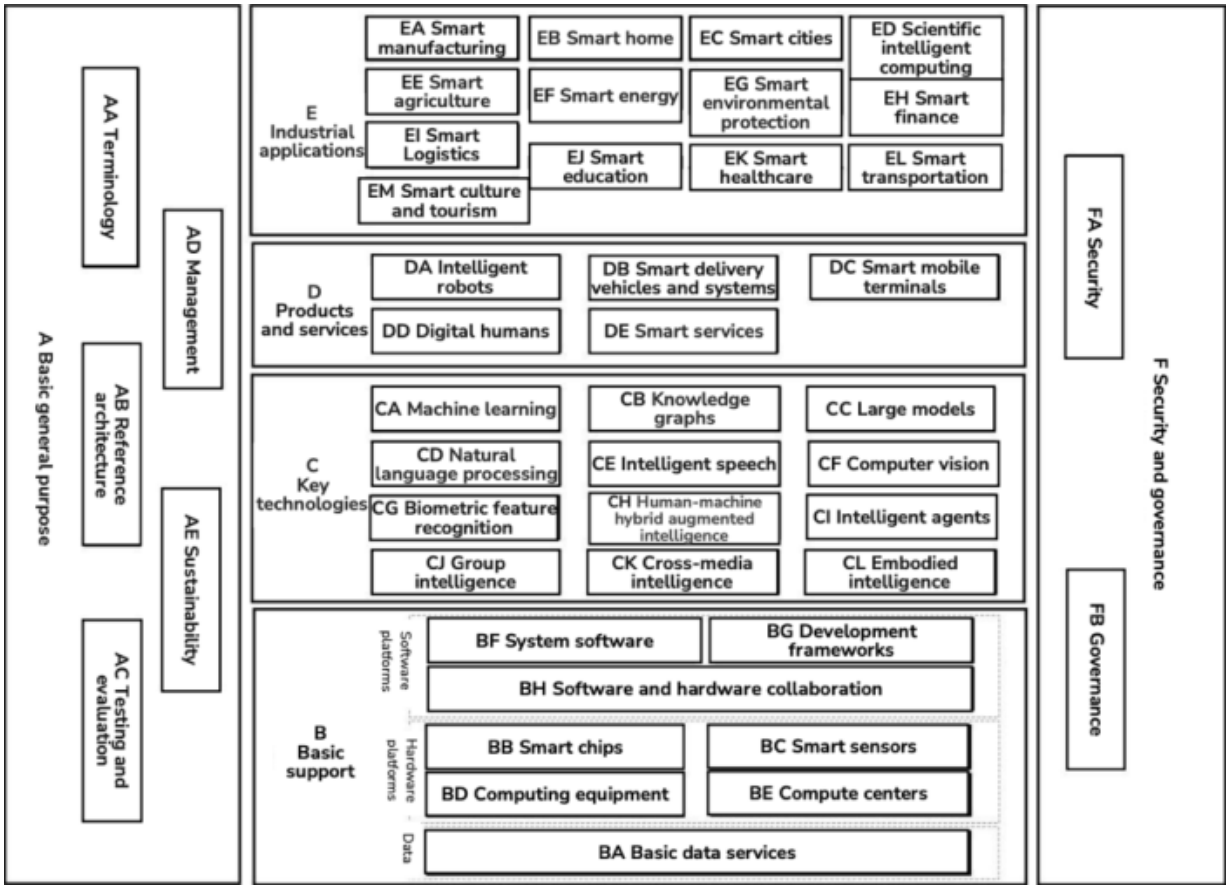

Fig. C.1. Structural diagram of the AI standardization system in China

Source: (Wang, et al., 2024).

Appendix D

Table D.1

Survey participants

Field of activity	Number of employers	Number of employees
Accommodation, food and leisure	2	4
Education and training	3	5
Financial services and capital markets	2	3
Information and technology services	4	4
Infrastructure	3	2
Medical and healthcare services	1	3
Production of consumer goods	5	4
Professional services	4	3
Real estate	2	3
Total	26	32

Table D.2

Questionnaire for employers

Statement	Likert scale (1 - Completely disagree, 2 - Somewhat disagree, 3 - Neutral/Difficult to answer, 4 – I rather agree,5 - I completely agree				
	1	2	3	4	5
1. The widespread adoption of AI will significantly change the skill requirements of employees in our industry in the next 3 years.					
2. The implementation of AI will lead to a reduction in the number of jobs in some divisions of our company.					
3. AI will create new jobs in our company that will require new skills and competencies from employees					
4. The introduction of AI changes the requirements for the qualifications of employees in our company, making it more important to have digital AI literacy skills					
5. AI improves the process of personnel selection and assessment through big data analysis.					
6. Training employees with AI tools increases their efficiency					
7. Due to automation and integration of AI into business processes, flexible forms of employment (remote work, project employment) will become more acceptable for our company.					
8. The implementation of AI requires a revision of the company's organizational structure and approaches to personnel management.					
9. Investments in AI will improve the company's competitiveness and labor potential					

10. AI is perceived in the company as a tool to support, rather than replace, employees.					
11. Our company is interested in attracting talented employees with digital AI skills					
12. China's government initiatives promote AI in business.					

Table D.3

Questionnaire for employees

Statement	Likert scale (1 - Completely disagree, 2 - Somewhat disagree, 3 - Neutral/Difficult to answer, 4 – I rather agree,5 - I completely agree				
	1	2	3	4	5
1. Artificial intelligence technologies are already having a noticeable impact on the nature of labor relations in my company, including forms of communication, task management, and distribution of responsibility.					
2. The integration of AI leads to changes in the job responsibilities of employees and also transforms the format of interaction between the employer and staff.					
3. With the advent of AI, there is a change in approaches to labor management, including performance evaluation, process automation, and redistribution of roles.					
4. The development and implementation of AI impacts my career prospects within the company, including potential opportunities for advancement or change in career path.					
5. I feel the need to update and develop my skills in line with new requirements related to digital and smart technologies.					
6. I understand that in the future my current position may undergo significant changes or be completely automated as a result of the implementation of AI.					
7. I perceive AI as a potential resource for career growth, advanced training and expansion of professional expertise.					
8. Our company's management demonstrates an understanding of the impact of AI on staff and takes these factors into account when planning employee development and training.					
9. The introduction of AI affects the balance between employer control and the degree of decision-making autonomy granted to employees.					
10. Digital transformation and the implementation of AI require a rethinking of labor relations and the development of new forms of interaction between employees and the organization.					