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AI-Driven Transformation and Innovation of the Philosophy and Social Sciences Research Paradigm in Shenyang

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Abstract: Against the backdrop of the rapid iteration of AI technology and the in-depth advancement of the "Artificial Intelligence+" initiative, the research paradigm of philosophy and social sciences is undergoing a digital-intelligent transformation from the traditional model. As a core city of the old industrial base in Northeast China, Shenyang's philosophy and social sciences research undertakes the important missions of serving the revitalization of Northeast China, inheriting industrial civilization, and improving urban governance. In response to the current practical dilemmas and combined with the construction project of "Liaoning AI Social Sciences" in Liaoning Province, this paper sorts out the current situation and challenges of social sciences research in Shenyang, analyzes the core mechanism of AI-driven transformation of scientific research paradigms, and puts forward the implementation paths for AI-driven innovation of Shenyang's social sciences research paradigm from four dimensions: platform construction, talent training, institutional innovation and characteristic field focusing. It provides theoretical support and practical guidance for promoting the high-quality development of philosophy and social sciences in Shenyang and assisting the all-round revitalization of Liaoning.

1. Introduction

AI technologies represented by large language models, machine learning and big data analytics are accelerating their penetration into all sectors of society, driving profound changes in production, lifestyles and governance. Empowering scientific research with AI has become a brand-new scientific research paradigm, featuring new characteristics such as interdisciplinary integration and human-machine collaborative co-creation [1]. The Opinions on Further Implementing the "Artificial Intelligence+" Initiative issued by the State Council clearly proposes to promote the transformation of research methods of philosophy and social sciences to a human-machine collaborative model, explore the establishment of new organizational forms of philosophy and social sciences research adapted to the AI era, and expand research horizons and observational perspectives. This marks that empowering philosophy and social sciences with AI has become an important national development direction. The intelligent scientific paradigm is pushing philosophy and social sciences into the fifth

paradigm stage of development, realizing a fundamental iteration of knowledge production methods.

As an important tool for understanding and transforming the world, the scientificity and innovation of the research paradigm of philosophy and social sciences are directly related to the quality and application value of research results. Traditional philosophy and social sciences research relies on researchers' personal experience and subjective judgment, suffering from limited data processing capacity, low research efficiency, insufficient interdisciplinary integration and lagging achievement transformation, which makes it difficult to meet the needs of research on complex social issues in the new era. AI technology boasts the advantages of massive data processing, intelligent analysis and judgment, and cross-domain collaborative linkage. It can break through the limitations of traditional research paradigms, achieve an all-round upgrade of research methods, organizational forms, achievement transformation and scientific research governance, and drive the transformation of philosophy and social sciences research from "experience-driven" to "data-driven" and "intelligence-driven".

As a core city of the old industrial base in Northeast China, Shenyang has a profound industrial heritage and unique regional culture. Its philosophy and social sciences research has provided important theoretical support and decision-making references for Shenyang's economic and social development. Currently, Shenyang is striving to build itself into a national central city based on the new development stage, implementing the new development philosophy and constructing a new development pattern [2]. The traditional research paradigm of philosophy and social sciences can no longer meet the needs of Shenyang's high-quality development in the new era. It is of great significance to deeply explore the AI-driven transformation and innovation of Shenyang's philosophy and social sciences research paradigm, solve the dilemmas of Shenyang's social sciences research, and actively contribute social sciences wisdom, exert social sciences roles and demonstrate social sciences strength in striving to promote the all-round revitalization of Shenyang in the new era [3].

2. Current Situation and Challenges of Philosophy and Social Sciences Research in Shenyang

2.1 Historical Context of Philosophy and Social Sciences Research in Shenyang

It can be roughly divided into three stages with distinct epochal characteristics and regional features, steadily advancing around the core orientation of "serving the local area and basing on industry". Firstly, the initial and exploratory stage: from the founding of the People's Republic of China to the reform and opening-up, a research tradition of emphasizing practice and serving production was formed. Secondly, the rapid development stage: from the reform and opening-up to the early 21st century, a diversified research pattern of "universities + research institutes + government research institutions" was established. Thirdly, the quality improvement and transformation stage: since the early 21st century, research has paid more attention to practicality, pertinence and innovation.

2.2 Analysis of the Current Situation of Philosophy and Social Sciences Research in Shenyang

Research forces are mainly concentrated in institutions of higher learning, social science academies and research institutions of government departments. The disciplinary layout is relatively complete, with certain advantages in applied economics, Marxist theory, history, sociology, political science and other fields. Research themes continue to focus on the revitalization of Northeast China/Liaoning, the protection and utilization of industrial heritage, and innovation in social governance. A large number of projects have been undertaken, and a batch of influential academic

achievements and think tank reports have been produced. However, research methods are still dominated by qualitative research, with limited data acquisition channels and traditional analysis techniques.

2.3 Practical Dilemmas Faced by Philosophy and Social Sciences Research in Shenyang

Firstly, the innovation bottleneck of research methods: quantitative research is often restricted by data availability, sample representativeness and model complexity. Secondly, disciplinary barriers and collaborative obstacles: interdisciplinary research mostly stays at conceptual borrowing or shallow cooperation, lacking a substantive collaborative innovation mechanism with in-depth technological integration. Thirdly, the transformation efficiency of research results needs to be improved: the "last mile" between knowledge supply and local decision-making demand has not been fully opened. Fourthly, resource dispersion and data barriers: data resources of various research institutions lack effective integration, sharing and standardization mechanisms.

2.4 Opportunities for the Development of Shenyang's Philosophy and Social Sciences in the AI Era

Firstly, the opportunity of methodological leap: AI technology provides an unprecedented powerful tool, expected to achieve a revolutionary breakthrough in research methods. Secondly, the opportunity of deepening and innovating characteristic fields: Shenyang's rich and unique research resources can achieve value multiplication with the help of AI. Thirdly, the opportunity of scientific decision-making support: AI-driven social situation perception and trend prediction greatly improve the efficiency of philosophy and social sciences in serving local development. Fourthly, the opportunity of reshaping academic ecology: it fosters new academic growth points and interdisciplinary disciplines, and reshapes the overall ecology of Shenyang's philosophy and social sciences research.

3. Core Mechanism of AI-Driven Scientific Research Paradigm Transformation

3.1 Data-Driven Knowledge Production Mechanism

In traditional philosophy and social sciences research, knowledge production mainly relies on researchers' personal experience, literature review and subjective judgment. Limited data sources and insufficient processing capacity lead to strong subjectivity and limitations in knowledge production. Data-driven is the core logic of AI-driven scientific research paradigm transformation. Taking data as the core production factor, it realizes data collection, integration, analysis and mining through AI technology, promotes the transformation of knowledge production from "experience-driven" to "data-driven", constructs a full-chain knowledge production model of "data – information – knowledge - wisdom", achieves the objectivity, scientificity and accuracy of knowledge production, and accelerates the overall advancement of philosophy and social sciences research and AI technology R&D and application [4].

3.2 Algorithm-Empowered Research Efficiency Improvement Mechanism

In traditional philosophy and social sciences research, researchers need to spend a lot of time and energy on repetitive work such as literature sorting, data collection, data calculation and text analysis, which is not only inefficient but also prone to errors. Algorithms are the core of AI technology. The core mechanism of algorithm empowerment lies in replacing repetitive and

mechanical work in traditional scientific research through the optimization and application of AI algorithms, improving scientific research efficiency and reducing research costs. Meanwhile, it breaks through the limitations of human cognition, expands the depth and breadth of research, enables researchers to focus on core research links, and enhances the quality and innovation of research results.

3.3 Human-Machine Collaborative Research Subject Reconstruction Mechanism

In traditional philosophy and social sciences research, human researchers are the sole research subjects, responsible for all links including research design, data collection, analysis and argumentation, and result summary, which are restricted by human cognitive ability, energy and knowledge reserve. Human-machine collaboration is an important feature of AI-driven scientific research paradigm transformation. It breaks the pattern of "single human subject" in traditional scientific research, constructs a collaborative research subject model of "human researchers + AI", realizes the complementary advantages of human wisdom and AI intelligence, promotes the reconstruction and upgrading of scientific research subjects, forms a new "human-machine symbiosis" scientific research pattern, and improves the innovation and practicality of scientific research.

3.4 Cross-Domain Integration Research Boundary Expansion Mechanism

Traditional philosophy and social sciences research has obvious disciplinary barriers, lacking effective communication and collaboration between different disciplines, with relatively narrow research fields and single research methods, making it difficult to cope with complex social reality problems. Cross-domain integration is an important trend of AI-driven scientific research paradigm transformation. Its core mechanism is to break down barriers between disciplines, fields and subjects through AI technology, promote the in-depth integration of philosophy and social sciences with natural sciences, engineering technology and other disciplines, expand scientific research fields and innovate research perspectives, realize a new scientific research pattern of "cross-domain collaboration and diversified integration", and enhance the ability to address complex social issues.

4. Core Dimensions of AI-Driven Transformation of Philosophy and Social Sciences Research Paradigm

4.1 Methodological Dimension

AI optimizes quantitative analysis methods and integrates intelligent analysis methods, forming an integrated methodology of "qualitative + quantitative + intelligent", moving from "intersection" to "integration" [5], and realizing the complementarity and upgrading of research methods. The core of this integrated methodology is: taking qualitative analysis as the basis to interpret the essence and connotation of social phenomena, clarify the direction and core issues of research, and grasp the value orientation of research; taking quantitative analysis as the support to process massive data through AI technology, conduct quantitative analysis of research issues, quantify the characteristics, correlations and trends of research objects, and make up for the deficiencies of qualitative analysis; taking intelligent analysis as the breakthrough to realize in-depth data mining, trend prediction and intelligent judgment through AI algorithms, break through the limitations of traditional quantitative analysis, and provide new perspectives and methods for research.

4.2 Organizational Form Dimension

AI provides technical support for the reform of scientific research organizational forms, promoting the formation of a "distributed intelligent network" scientific research organizational form. This organizational form connects different research subjects such as universities, research institutes, government research institutions and enterprises with AI technology as the link, constructing a cross-field and cross-subject collaborative research network; realizes the sharing of research resources, data resources and talent resources through intelligent platforms, breaks down barriers between research subjects, and achieves efficient utilization of resources; realizes the division of labor and collaboration of different research subjects through a distributed collaborative research model, gives full play to their respective advantages, breaks down barriers between research subjects, achieves resource sharing and collaborative linkage, improves the synergy and efficiency of scientific research, and forms a new pattern of diversified collaboration in scientific research.

4.3 Achievement Transformation Dimension

AI can promote the transformation of the achievement transformation dimension, realize the precise empowerment of research results, and solve the problems of achievement transformation. On the one hand, AI technology can accurately capture practical needs, use big data analysis to identify the needs of local governments, enterprises and the public for social science research results, clarify the key directions of research, make research more targeted, realize "demand-oriented" research, and avoid disconnection between research and practice. On the other hand, AI technology can promote the rapid transformation of research results, convert theoretical research results into operable and applicable policy recommendations, solutions, products and services, improve transformation efficiency, further amplify the value and effect of scientific research results [6], and make social science research truly serve local development.

4.4 Scientific Research Governance Dimension

AI can promote the digital-intelligent transformation of scientific research governance. In scientific research project management, AI technology realizes automatic processing of project application, review and acceptance, simplifies processes, improves management efficiency and reduces human errors. In scientific research fund management, AI technology realizes real-time monitoring and intelligent early warning of fund use, standardizes fund use and prevents fund abuse. In scientific research achievement management, AI technology realizes intelligent retrieval, classification and evaluation of achievements, establishes a scientific achievement evaluation system, and improves the utilization efficiency of achievements and the scientificity of evaluation. In scientific research talent management, AI technology realizes accurate evaluation, personalized training and efficient introduction of talents, meeting the talent needs of scientific research paradigm transformation.

5. Implementation Paths for AI-Driven Innovation of Shenyang’s Philosophy and Social Sciences Research Paradigm

Combined with the current situation and dilemmas of Shenyang’s philosophy and social sciences research, based on the core mechanism and dimensions of AI-driven scientific research paradigm transformation, and rooted in Shenyang’s regional characteristics, this paper puts forward implementation paths for AI-driven innovation of Shenyang’s philosophy and social sciences

research paradigm around the four cores of "platform construction, talent training, institutional innovation and characteristic focusing", so as to accelerate the overall advancement of philosophy and social sciences research and AI technology R&D and application, and promote the high-quality development of Shenyang's social sciences research.

5.1 Platform Construction Path

Intelligent platforms are the basic support for AI-driven transformation of Shenyang's social sciences research paradigm. The core is to build an integrated intelligent scientific research platform of "data + algorithm + computing power", connect with the requirements of "Liaoning AI Social Sciences" construction, and lower the threshold for AI technology application. Relying on the technological advantages of Shenyang's universities and research institutes, and cooperating with computer enterprises, build a special intelligent platform integrating data collection, integration, analysis and achievement transformation to provide "one-stop" scientific research services, and connect with provincial platforms to realize resource interconnection. Integrate social science-related data of various subjects such as governments, universities and enterprises, complete data cleaning and annotation according to unified standards, construct a standardized Shenyang social science database, focus on improving characteristic data resources such as industrial heritage and Northeast China revitalization, and break "data barriers". Integrate common AI algorithms such as natural language processing and data mining, develop special algorithm modules adapted to Shenyang's social sciences research for free use by researchers. Develop easy-to-operate AI scientific research tools, and provide supporting practical training to help researchers quickly master AI technology application, providing a solid platform support for the in-depth integration of AI and social sciences research.

5.2 Talent Training Path

Interdisciplinary talents are the core support for AI-driven innovation of social sciences research paradigm. It is necessary to build a trinity talent system of "training + introduction + incentive" in line with the talent construction requirements of "Liaoning AI Social Sciences". At the university level, adjust talent training programs, offer interdisciplinary majors such as "AI + Sociology" and "AI + History", establish interdisciplinary training bases, and carry out collaborative training with enterprises to enable students to improve the ability of integrating AI technology application and social sciences research in practice. For existing social science researchers, carry out hierarchical and classified AI special training, invite experts to explain basic AI knowledge and scientific research tool application, organize academic exchanges and seminars, and learn from the experience of advanced regions. Increase the introduction of interdisciplinary talents, issue targeted policies, give preferences in professional title evaluation and fund support, and attract high-end talents in the field of AI and social sciences integration. Establish a "mentorship" mechanism to drive the overall improvement of all staff by researchers proficient in AI technology, improve the talent incentive mechanism, stimulate the innovation vitality of researchers, and provide stable talent guarantee for paradigm transformation.

5.3 Institutional Innovation Path

Only through forward-looking design can academic institutions shape the boundary and development track of technology application [7]. Institutional innovation is an important guarantee to break through the bottleneck of scientific research paradigm. It is necessary to build a new management and evaluation mechanism around interdisciplinary integration, data sharing and

collaborative innovation, and connect with the construction requirements of "Liaoning AI Social Sciences". Establish an interdisciplinary collaborative innovation mechanism, encourage researchers of different disciplines to jointly apply for special projects of AI and social sciences integration, give fund preference and priority project approval support, build an interdisciplinary exchange platform, and promote disciplinary integration. Improve the data sharing management system, clarify the responsibilities, scope and process of data sharing of each subject, establish a hierarchical and classified data management system, balance data security and utilization efficiency, improve the data property right protection mechanism, and stimulate the enthusiasm for data sharing. Innovate the scientific research evaluation system, break the tendency of "only papers, only quantity", incorporate AI technology application ability, interdisciplinary research effectiveness and achievement transformation value into evaluation indicators, combine AI-assisted evaluation and peer review, and improve the scientificity of evaluation. Establish a fault tolerance and correction mechanism and fund guarantee mechanism, encourage researchers to boldly carry out AI integration exploration, optimize scientific research management processes, and provide institutional support for paradigm innovation.

5.4 Characteristic Field Focusing Path

Based on Shenyang's positioning as a core city of the old industrial base in Northeast China, concentrate scientific research advantages, focus on the two characteristic fields of industrial heritage and Northeast China revitalization, achieve breakthroughs in the integration of AI and social sciences research, and build a characteristic brand of Shenyang's social sciences research. Relying on Shenyang's rich industrial heritage resources, integrate interdisciplinary forces, use AI technologies such as image recognition and 3D modeling to build a digital database of industrial heritage, realize precise protection and intelligent display of heritage, explore the historical and cultural value of industrial heritage, and explore the activation and utilization path of "AI + industrial heritage". Closely follow the Northeast China revitalization strategy, use AI technologies such as big data analysis and machine learning to integrate Shenyang's industrial development data, analyze industrial upgrading bottlenecks and regional collaboration potential, and provide decision-making references for the intelligent transformation of equipment manufacturing industry and optimization of business environment. Integrate resources of universities, research institutes and enterprises, form characteristic research teams, apply for special projects of "Liaoning AI Social Sciences", learn from advanced experience to optimize research paths, promote the transformation of research results, drive the overall upgrading of Shenyang's social sciences research paradigm through breakthroughs in characteristic fields, and assist the all-round revitalization of Liaoning.

6. Conclusions

AI-driven innovation of Shenyang's social sciences research paradigm is not only an inevitable requirement to comply with the national "Artificial Intelligence+" strategy, but also a practical choice for Shenyang to serve the revitalization of Northeast China and highlight regional characteristics. By building an intelligent scientific research platform, cultivating interdisciplinary talents, improving collaborative innovation systems and focusing on breakthroughs in characteristic fields, Shenyang can promote the high-quality development of social sciences research and build a social sciences research brand with regional recognition. Due to the limitations of research perspective and data acquisition, there is still room for improvement in the discussion of specific application scenarios of the in-depth integration of AI and social sciences research. In the future, we can further focus on the practical application of AI technology in various sub-fields of Shenyang's social sciences, track the iteration trend of AI technology, optimize implementation paths, promote

the better transformation and implementation of research results, help realize the fundamental transformation of Shenyang's philosophy and social sciences research paradigm, and provide stronger intellectual support for the all-round revitalization of Liaoning.

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References

[1] *S. G. Deng. Empowering Philosophy and Social Sciences Research with Large Language Models: A Preliminary Exploration of Paradigms andApproaches[J]. Zhejiang Social Sciences, 2025, 41(09): 4-13+155.*

[2] *X. H. Fang. The Main Countermeasures and Suggestions for The Prosperity and Development of Shenyang Philosophy and Social Science in The New Era[J]. Journal of Liaoning Provincial College of Communications, 2021, 23(02): 46-49.*

[3] *Y. C. Zhang. Striving to Serve as the "Think Tank" for Shenyang's Comprehensive Revitalization[N]. Shenyang Daily, 2023-10-15(001).*

[4] *F. Lou. Exploration and Application of Artifi cial Intelligence in Enhancing Social Science Research [J]. Financial Minds, 2025, 10(03): 121-139+151-152.*

[5] *J. H. Xing, J. Xu. Bidirectional Empowerment between the Philosophical-SocialSciences and Artificial Intelligence: Theoretical Logic,Practical Pathways and Future Horizons[J]. Nanjing Journal of Social Sciences, 2025, (08): 1-10.*

[6] *Y. C. Zhang. Forging a New Chapter in the Work of Philosophy and Social Sciences in Shenyang[N]. Shenyang Daily, 2023-10-17(003).*

[7] *J. Gu, W. Liu. Paradigm Transformation of Philosophy and Social Sciences Driven by Generative AI[J]. Journal of Social Sciences, 2025, 47(06): 165-176.*