

**THE IMPORTANCE OF ARTIFICIAL INTELLIGENCE
IN THE DEVELOPMENT OF DIGITAL FINANCE ON THE EXAMPLE OF
THE «ONE BELT, ONE ROAD» PROJECT**

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Annotation. This article examines the application of artificial intelligence (AI) in the development of digital finance of the ‘One Belt, One Road’ project, and proposes new digital finance initiatives for the development of this project.

Keywords: digital finance, artificial intelligence, risk control, finance, “One Belt, One Road”.

As the “One Belt, One Road” project continues to advance, trade cooperation and economic ties between countries along the route and China are becoming closer. As of March 2024, the People's Republic of China has signed more than 200 documents on cooperation with 152 countries and 32 international organizations [1]. Meanwhile, bilateral financial cooperation has become increasingly close. In terms of bilateral monetary cooperation, China has entered into bilateral local currency swap agreements with five countries, including Indonesia, Malaysia, Singapore, Laos, and Thailand, and has signed local currency settlement agreements with Indonesia, Cambodia, Laos, and many other countries [2].

Against this background, this paper aims to explore the innovative development, problems and future prospects of digital finance in the “One Belt, One Road” project, so as to promote the further implementation of the “One Belt, One Road” project and explore the construction of a community of human destiny [3].

1. Overview of Digital Finance and Artificial Intelligence

Digital finance refers to financial services utilizing modern information technology such as the Internet, blockchain, and big data, covering a wide range of areas such as payment, investment, and lending [4]. Under the framework of the “One Belt, One Road” project (BRI), digital finance is a key tool for promoting economic growth, facilitating trade and strengthening financial cooperation.

Artificial intelligence, on the other hand, refers to technologies that can simulate human intelligence, including machine learning, natural language processing and deep learning. As AI technology continues to evolve, financial practitioners are finding that AI provides powerful support in a variety of areas such as risk management, transaction processing, and regulatory compliance, thereby improving the efficiency and security of financial services. The following four main application areas are particularly important in the convergence of artificial intelligence (AI) and digital finance:

Payment system optimization and anti-fraud technology. The application of AI in the payment system greatly improves the efficiency and security of transactions, especially in the field of cross-border payments. through data analysis and intelligent algorithms, AI is able to optimize the payment path and reduce intermediate links and delays, thus accelerating the process of cross-border payments and lowering the cost of the transaction.

Risk Management and Intelligent Credit Assessment. The application of AI in risk management and credit assessment enables financial institutions to more accurately assess loan risks and customer credit. Through big data analysis, AI can quickly process large amounts of financial and non-financial data to generate real-time risk models that predict market fluctuations and potential default risks. AI can also provide personalized credit assessment by analyzing a customer's consumption behavior, repayment history and so on.

Robo-advisors and intelligent wealth management. Robo-advisors have become an important tool in wealth management, with AI providing personalized financial planning and portfolio advice to individual and institutional investors through automated investment strategies and real-time market analysis. These advisors are able to dynamically adjust portfolios to maximize returns based on the user's risk appetite, market trends and investment objectives. This technology provides intelligent investment tools

for ordinary traders in the capital markets related to the Belt and Road, and promotes the development of financial inclusion.

Financial Regulatory Technology (RegTech). Financial regulatory technology (RegTech) is another important application of AI in the financial industry, especially in the areas of anti-money laundering (AML), counter-terrorism financing (CTF) and other financial compliance. Through AI's real-time data analysis and automated processing, financial institutions are able to quickly identify unusual transactions and generate compliance reports to ensure compliance with global and regional regulatory requirements. AI can also automate the parsing of changes in regulatory documents and policies through Natural Language Processing (NLP) technology, helping institutions to adapt to new regulations in a timely manner. In the context of the "One Belt, One Road" project, AI-driven RegTech technologies can promote transparency and compliance in the financial system and reduce the risk of cross-border financial transactions.

The AI applications in these four areas demonstrate the central role of AI technology in driving digital financial change, which not only improves the efficiency and security of financial services, but also promotes digital financial innovation and cooperation under the "One Belt, One Road" framework.

2. The Strategic Significance of Artificial Intelligence in Digital Finance in the Context of the "One Belt, One Road" project.

The emergence of AI has not only changed the mode of traditional financial services, but also promoted cross-border cooperation and enhanced the degree of economic interconnection between regions, so AI in the financial field of the "One Belt, One Road" project has a variety of strategic significance.

Enhancing cross-border financial efficiency and security. In cross-border finance, trade and investment, countries along the "One Belt, One Road" usually face high transaction costs and complex cross-border payment systems, and AI technology can significantly reduce transaction costs and improve the transparency and security of payments through smart contracts, blockchain and automated payment systems. At the same time, AI can also help financial institutions better identify and prevent risks in cross-border transactions, thereby reducing fraud.

Promote Financial Inclusion. There are many developing countries and regions along the "One Belt, One Road" where the penetration of financial services is relatively low, and AI technology can provide financial services to remote areas and low-income people that are difficult to be covered by traditional financial institutions through big data analysis and intelligent decision support. For example, through AI technology-supported digital financial service platforms, people can access more convenient loans, payments and other financial services, thus promoting the economic development of these regions.

Promote Innovation and Economic Growth. AI technology can accelerate the innovation capacity building of the countries related to the "One Belt, One Road", especially in key areas such as finance, logistics and energy. Through AI-driven data analysis, market forecasting and automated decision-making, enterprises and governments can optimize resource allocation, improve productivity and accelerate economic growth. In addition, AI provides these countries with more opportunities for cooperation and promotes the upgrading of science and technology and industrial chains [5].

Strengthening international cooperation and technology exchange. The "One Belt, One Road" project itself advocates cross-border cooperation, and AI, as an emerging technology field, is an important catalyst for international scientific and technological

exchanges. Countries along the route can share data and collaborate on R&D through AI technology, and jointly promote technological progress and standardization in areas such as smart finance and smart manufacturing, thereby enhancing overall international competitiveness. This not only promotes scientific and technological progress within the region, but also promotes synergistic economic and social development on a global scale [6].

After discussing the strategic significance of AI in digital finance in the context of the Belt and Road Initiative, we should also recognize that the widespread application of these technologies is not without obstacles. Although AI technology has shown great potential in optimizing payment systems, improving risk management, promoting the intelligence of wealth management and strengthening financial regulation, it faces a series of challenges in the process of its actual promotion and application. These challenges come not only from the limitations of the technology itself, but also involve external factors such as laws and regulations, market environment and social acceptance. Only by effectively addressing these issues can the full potential of AI in the development of digital finance be truly unleashed. Therefore, these challenges and their impact on the further development of AI technology will be discussed in detail next.

3. Challenges of Artificial Intelligence in the Development of Digital Finance.

Although artificial intelligence (AI) shows great potential in promoting the development of digital finance in the Belt and Road Initiative, it also faces a series of challenges. The following are some of the main challenges it will face:

Technical limitations. Its own technological limitations continue to be a major issue preventing its wider adoption. AI's algorithms, especially deep learning models, often rely on large amounts of high-quality data. However, insufficient data quality, incomplete data collection, and the complexity of financial data can directly affect the performance of AI models. For example, the heterogeneity, volatility, and uncertainty of financial data make models prone to misjudgment when dealing with changes in financial markets [7].

In addition, the “black box” problem of AI models, i.e., unexplained complexity, makes them difficult in areas involving regulatory and legal compliance [8]. Financial institutions need to be able to explain and predict the results of the model's decisions, especially in the areas of risk management and compliance, or they will face compliance risks and trust crises.

Legal and regulatory barriers. The application of AI in the financial industry usually involves highly sensitive personal and institutional data, which poses challenges to privacy and data security issues. Laws and regulations in many countries and regions have yet to fully catch up with the rapid development of AI and digital finance, leading to regulatory inconsistencies in cross-border data transfer and processing. Especially in the context of the “One Belt, One Road” project, different countries have different regulations on data privacy, financial transaction security, etc., which exacerbates the complexity of AI implementation in digital finance [9].

Market and Social Implications. While the introduction of AI has improved financial efficiency, it has also brought about job losses and distrust of technology among market participants. The automation and intelligence of financial services may reduce the number of jobs for certain traditional financial practitioners, especially in labor-dependent positions such as bank tellers and financial advisors.

Social ethics and fairness issues. The widespread use of AI technology also raises social ethics issues, especially in the financial industry, where AI may exacerbate social

inequality. For example, the application of AI in scenarios such as credit scoring and loan approval may result in discriminatory decisions against certain groups due to model design or data bias [10].

As seen above, although AI shows great potential in promoting the development of digital finance, the challenges it faces cannot be ignored. From technological limitations, legal and regulatory barriers, to market impacts and social and ethical issues, it is necessary for academics, financial institutions and regulators to work closely together to find the best path to balance innovation and regulation.

In summary, AI has significant potential to contribute to the development of digital finance in the “One Belt, One Road” project, but the challenges it faces should not be ignored. With the continuous progress of technology and the gradual improvement of the legal framework, countries along the “One Belt, One Road” project are expected to realize smarter and deeper cooperation and development through AI.

Список использованных источников

1. Hua Guihong and Huang Yi, 2019, “Evaluation of Economic and Financial Risks in “Belt and Road” Countries, *Modern Economic Exploration*, No. 1, 55-60.

2. Li Hongquan, Tang Chun and Gan Shunshun, “The economic growth effect of China's foreign financial cooperation: a study from the countries along the “Belt and Road”, *Financial Theory Exploration*, No. 2, 3-12.

3. Jiang Feng, Lan Qingxin . Research on Opportunities, Challenges and Paths of Digital “Belt and Road” Construction [J] . *Contemporary Economic Management*, 2021, 43 (5): 1-6.

4. Wang Xu., Kievich A.V. Big data analysis and models as a unique opportunity for solving business problems / Wang Xu., A.V. Kievich // *Устойчивое развитие экономики: состояние, проблемы, перспективы: сборник трудов XVIII международной научно-практической конференции, Пинск, 26 апреля 2024 г. / Министерство образования Республики Беларусь [и др.]; редкол.: В.И. Дунай [и др.]. – Пинск : ПолесГУ, 2024. – С. 192-194.*

5. Zhang, L., & Liu, W. (2021). International cooperation in AI and digital finance under the Belt and Road Initiative. *Global Journal of Economics and Business*, 9(4), 45-58.

6. Zhu, Q. (2020). Financial inclusion in the age of AI: Opportunities and challenges for Belt and Road countries. *International Finance Review*, 18(3), 102-115.

7. Goodfellow, I., Bengio, Y., & Courville, A. (2016). *Deep Learning*. Mit Press.

8. Lipton, Z. C. (2016). The mythos of model interpretability. *Communications of the ACM*, 16(3), 31-36. <https://doi.org/10.1145/2957746>

9. Wang Xu., Kievich A.V. The main trends in the digital economy and finance that shape the current landscape and vector of development of industries / Wang Xu., A.V. Kievich // *Economy and Banks*. 2024. № 1. С. 42-51.

10. Eubanks, V. (2018). *Automating inequality: how high-tech tools profile, police, and punish the poor*. st. martin's Press.