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DIGITAL ECONOMY AND IMPROVEMENTS FOR THE INDUSTRIAL TRANSFORMATION AND UPGRADING:BASED ON CHINA'S EVIDENCE

Resume. *This paper delves into the dynamics of China's digital economy, explores the challenges and opportunities it presents, and outlines a comprehensive improvements for industrial transformation and upgrading. Drawing on international experiences and case studies, the paper proposes strategic recommendations for China to harness the full potential of its digital economy and achieve sustainable economic development.*

Key words. *Digital Economy, Industrial Transformation and Upgrading, Sustainable Economic Development, China.*

Introduction. The digital economy, characterized by the integration of information and communication technologies (ICTs) into all sectors of the economy, has become a global phenomenon transforming economies and societies. China, as the world's second-largest economy, has witnessed remarkable growth in its digital economy, which has significantly contributed to economic development and industrial upgrading. This paper aims to analyze the current state of China's digital economy, identify key challenges and opportunities, and propose a strategic framework for promoting industrial transformation and upgrading.

The Development of China's Digital Economy. In 2024, at the main forum of the 2024 Global Digital Economy Conference, the ***White Paper on the Global Digital Economy (2024)*** was released. The White Paper illustrates the digital economy of major countries continues to develop and the proportion of industrial digitalization in the digital economy has increased rapidly. In 2023, the total digital economy of five countries, including United States, China, Germany, Japan and Korea, has exceeded 33 trillion US dollars and achieved a year-on-year increase of more than 8%. The digital economy in these five countries accounted for 60% of GDP and increase about 8% from 2019 to 2023.

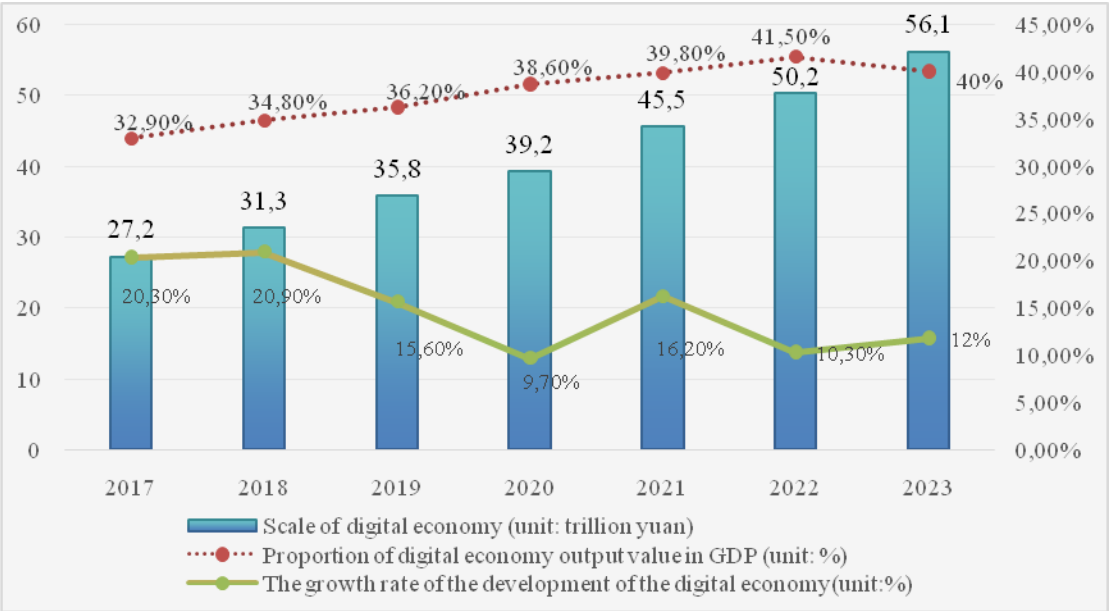

Figure one - The development of China's digital economy from 2017 to 2023
(figure data from " The Analysis of Development Trend of China Digital Economy Industry from 2023 to 2030", https://www.sohu.com/a/791832975_121222943)

It can be seen from the figure one that China's digital economy has undergone rapid expansion in recent years, encompassing various sectors such as e-commerce, digital finance, cloud computing, big data, and artificial intelligence (AI). China's digital economy has experienced remarkable growth in recent years. The size of China's digital economy is projected to reach 56.1 trillion yuan in 2023, accounting for nearly 40% of GDP, with an annual growth rate of approximately 12%. Several factors have contributed to the rapid growth of China's digital economy:

Investment in Digital Infrastructure**.** China has invested heavily in digital infrastructure, including 5G networks, data centers, and high-speed internet, laying a solid foundation for digital development.

Innovative Enterprises**.** Leading tech companies like Alibaba, Tencent, and Baidu have driven innovation in e-commerce, digital payments, and other digital services.

Government Support. The Chinese government has implemented policies to encourage digital innovation and entrepreneurship, creating a favorable environment for digital enterprises.

Consumer Demand**.** The rapid adoption of digital services by Chinese consumers has fueled the growth of digital platforms and services.

Although China's digital economy has achieved remarkable success, it also faces several challenges, including data privacy and security concerns, digital

divides, and a lack of core technologies in areas such as semiconductors. However, these challenges also present opportunities for further development and innovation.

Improvements for China's Industrial Transformation and Upgrading in the Digital Age. In the digital age, traditional industries are undergoing profound transformations to remain competitive. Industrial transformation and upgrading involve adopting digital technologies to improve production efficiency, optimize resource allocation, and create new business models.

Several improvements can be pursued to achieve industrial transformation and upgrading in China:

Digitalization of Production Processe**s**. Adopting advanced manufacturing technologies such as automation, robotics, and AI to enhance production efficiency and quality.

Integration of Digital Platforms**.** Leveraging digital platforms to connect suppliers, manufacturers, and consumers, enabling data-driven decision-making and personalized services.

Development of Smart Supply Chains. Building intelligent supply chain systems that integrate real-time data and analytics to optimize logistics, reduce costs, and improve resilience.

Fostering Innovation Ecosystems. Creating innovation hubs and incubators to support startups and SMEs in developing cutting-edge digital technologies and applications.

The two examples below can well demonstrates how China develops digital industry to promote industrial transformation and upgrading.

*Alibaba's Digital Ecosystem***.** Alibaba has built a comprehensive digital ecosystem that connects buyers and sellers globally, driving e-commerce growth and fostering innovation in logistics, finance, and other sectors.

Smart Manufacturing in China. Many Chinese manufacturers have adopted smart manufacturing technologies, such as automated production lines and predictive. maintenance systems, to improve productivity and reduce costs.

Conclusion. Nowadays digital economy become the main point for numbers of global countries to develop. In China, the development of digital economy is still increasing in its scale and also promote industrial transformation and upgrading, although there are some challenges to face in the whole process. There fore, some improvements can be taken to develop digital economy to better help industrial transformation and upgrading based on China's factual practices, like digitalization of production process, integration of digital platforms, development of smart supply chains and fostering innovation ecosystems, which can be into practices in China's enterprises and smart manufacturing.

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RESEARCH ON TEACHING OPTIMIZATIONOF FINANCIAL MEASUREMENT SOFTWAREAPPLICATION COMBINED WITH TRADITIONAL FINANCIAL COURSES

Resume. *In the context of the development of digital finance and financial technology, the requirements for financial professionals in the financial industry have changed, and quantitative analysis has changed from manual data collection to quantitative analysis software. Therefore, the traditional professional courses of finance majors have also embedded the teaching of measurement software application. This paper takes the teaching of professional courses in undergraduate teaching classes of finance majors as an example. This paper studies the teaching process of the combination of financial measurement software application and traditional professional courses, and finds that the combination degree is low and the teaching effect is poor. The paper studies the factors that affect the teaching effect, and then puts forward the teaching optimization plan such as the construction of measurement laboratory, online and offline teaching and cooperation with financial enterprises.*

Keywords. *Traditional finance, Financial measurement software, Teaching optimization.*

Introduction. With the rapid development of financial technology and big data technology, the quantitative analysis needs of financial enterprises are increasingly dependent on machine computing and financial measurement software, and traditional financial professional courses can no longer meet the job needs of enterprises. Therefore, combining traditional financial knowledge with the application of financial measurement software, and using financial measurement software to quantify and analyze data on the basis of traditional financial theory is the innovation point and core of current teaching. At present, the combined teaching is still in the exploratory stage, and it is urgent to optimize the teaching.

Research content and Methods. Main research contents. 1. Teaching status and problems in the combination of financial risk management and measurement