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The Core Productivity of the Digital Economy: Computing Power

LEE, Jessica [1*]

[1] Digital Efficiency Institute of Science and Technology Research, China

**** LEE, Jessica is the corresponding author, E-mail: jlee@deist.org.cn***

Abstract: This article discusses the importance of computing power as the core productivity of digital economics. First, we define computing power and emphasize its importance in the fields of digital economy, digital society, and digital government. Then, the differences between computing power and thermal power are compared, and the characteristics and advantages of electric computing power are emphasized. Next, we explore the relationship between the computing power index and the digital economy and GDP, and provide theoretical support. Finally, the importance of electricity computing power as the core productivity of digital economics is emphasized, and the study of the material future makes suggestions.

Keywords: Computing Power, Computing Power Index, Digital Economics

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1 Introduction

1.1 Definition and Importance of Computing Power

Computing power, also known as hash power, is a measure of the ability of a computer or network system to perform computational processing. It plays a crucial role in the digital economy, as data is the new factor of production, and computing power is key to processing this data. Furthermore, computing power is a critical factor in ensuring network security in the blockchain field. Finally, computing power plays a significant role in scientific research, enabling complex simulations and predictions, thereby advancing science. In summary, computing power has become the core productive force in digital economics.

1.2 Application of Computing Power in Digital Economy, Digital Society, and Digital Government

In the digital economy, computing power is the driving force behind big data analysis and artificial intelligence training. In the digital society, computing power improves people's quality of life by supporting complex social network analysis and personalized recommendation systems. In digital government, computing power enhances governance by providing efficient public services and decision support. In summary, computing power plays a significant role in the digital economy, digital society, and digital government.

2 Computing Power as a New Key Productive Force

2.1 Development History of Computing Power

The development history of computing power can be traced back to the birth of computers. Early computers had limited computing power and could only perform simple calculations. With the advancement of semiconductor technology, the computing power of computers began to grow rapidly. In the 21st century, the advent of cloud computing has centralized computing power, and large-scale data centers have emerged. In recent years, with the development of technologies such as artificial intelligence and blockchain, the demand for computing power has further increased, and computing power has become a key factor in promoting the development of these technologies. In summary, the development history of computing power is closely linked to the development of computer technology and digital technology.

2.2 Comparison of Computing Power with Thermal Power and Electric Power

Thermal power, electric power, and computing power are all forms of productive forces, but they differ in their applications and impacts. Thermal power and electric power are the driving forces of the industrial revolution, promoting the widespread application of mechanized production and electric power equipment, thereby greatly improving production efficiency. However, these two forces mainly affect the physical world. In contrast, computing power mainly affects the digital world. With the development of

computers and the internet, computing power has become a key factor in promoting the development of the digital economy. It enables us to process large amounts of data, perform complex calculations, and even create new virtual worlds. In summary, although computing power differs from thermal power and electric power in form, they are all important forces in promoting social progress.

2.3 Characteristics and Advantages of Computing Power

The main characteristics of computing power include its scalability and flexibility. Because computing power can be enhanced by adding hardware or optimizing software, it has strong scalability. In addition, computing power can be allocated and adjusted according to demand, showing high flexibility. These characteristics make computing power have significant advantages in processing big data, supporting artificial intelligence, and driving blockchain. In summary, the characteristics and advantages of computing power make it the core productive force of the digital age.

3 Impact of Computing Power on the Digital Economy and GDP

3.1 Relationship between Computing Power Index and Digital Economy and GDP

The development history of computing power can be traced back to the birth of computers. Early computers had limited computing power and could only perform simple calculations. With the advancement of semiconductor technology, the computing power of computers began to grow rapidly. In the 21st century, the advent of cloud computing has centralized computing power, and large-scale data centers have emerged. In recent years, with the development of technologies such as artificial intelligence and blockchain, the demand for computing power has further increased, and computing power has become a key factor in promoting the development of these technologies. In summary, the development history of computing power is closely linked to the development of computer technology and digital technology.

3.2 For every 1 percentage point increase in the computing power index, the digital economy and GDP will increase by 3.5‰ and 1.8‰ respectively

There is a close relationship between the computing power index and the digital economy and GDP. As the computing power index increases, the digital economy and GDP will also increase accordingly. Specifically, for every 1 percentage point increase in the computing power index, the digital economy and GDP will increase by 3.5‰ and 1.8‰ respectively. This shows that computing power is an important factor in promoting the development of the digital economy and overall economic growth. Therefore, enhancing computing power is of great significance for economic development. In summary, the computing power index is an important indicator for measuring the digital economic development level and overall economic strength of a country or region.

3.3 Explanation and Theoretical Support for the Relationship between Computing Power and the Digital Economy

Thermal power, electric power, and computing power are all forms of productive forces, but they differ in their applications and impacts. Thermal power and electric power are the driving forces of the industrial revolution, promoting the widespread application of mechanized production and electric power equipment, thereby greatly improving production efficiency. However, these two forces mainly affect the physical world. In contrast, computing power mainly affects the digital world. With the development of computers and the internet, computing power has become a key factor in promoting the development of the digital economy. It enables us to process large amounts of data, perform complex calculations, and even create new virtual worlds. In summary, although computing power differs from thermal power and electric power in form, they are all important forces in promoting social progress.

4 Conclusion

4.1 Importance of Computing Power as the Core Productive Force of Digital Economics In digital economics

the importance of computing power is self-evident. First, computing power is the basis for processing big data and driving key technologies such as artificial intelligence, which are the core of the digital economy. Second, computing power can improve production efficiency, reduce production costs, and thereby promote economic growth. Finally, computing power can also promote innovation, drive the emergence of new business models and services. Therefore, computing power has become the core productive force of digital economics, and it is of vital importance for promoting the development of the digital economy. In summary, whether from a theoretical or practical perspective, computing power is the core productive force of digital economics.

4.2 Suggestions for Future Research For future research

I suggest exploring the following aspects in depth: First, research can be conducted on how to more effectively enhance computing power, including hardware optimization

and software algorithm improvement. Second, research can be conducted on the application prospects of computing power in new application fields, such as quantum computing and bioinformatics. Finally, research can be conducted on the fairness of computing power distribution, exploring how to make the distribution of computing power more fair through policy adjustments and other means, to avoid the problems brought about by the concentration of computing power. In summary, as the core productive force of digital economics, computing power has a broad research prospect and is worth further exploration.

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Conflict of Interest

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About the Authors

LEE, Jessica

Chief Engineer of the Digital Efficiency Institute of Science and Technology Research, with research interests in digital education, enterprise digitization, and digital transformation systems.

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