ISSN: 2288-7709 © 2018 ICMA. http://www.icma.or.kr
doi: http://dx.doi.org/10.20482/jemm.2018.6.3.10.

[Shot Communication]

Analysis on the Increasing Marginal Revenue of the Network Economy

[1] Yang Jian

1. *Corresponding Author*, School of Business, Shandong School of Political Science and Law, China, Tel: +86-156- 6582-3837, E-mail: 741973115@qq.com

Received: August 23, 2018., Revised: September 23, 2018., Accepted: September 27, 2018.

Abstract

Purpose - On the basis of discussing the network economy concept and the commentary of the marginal revenue decreasing of traditional economic theory, The concept of network economy has just been put forward in recent years. The reason why such a concept appears is that the information technology, marked by computer network, plays an increasingly important role in economic activities. Some people define network economy as an economic form based on network technology and human capital. this paper points out network economy existing the marginal revenue increasing and analyzes the reasons that influencing the marginal revenue increasing.
Research design, data, methodology – The network economy has fundamentally changed the traditional economic laws. The economic basis of industrial society is the law of incremental marginal cost, which reflects the socialization of high cost in industrial society.
Results – As the number of network members increases, the value of the network increases explosively, and the value increases attract more members to join, resulting in more returns.
Conclusion – In conclusion, network economy has changed many aspects of traditional economy, resulting in decreasing marginal cost, decreasing transaction cost in and out of enterprise organizations, and making the effect of increasing scale compensation more prominent. This is of great significance to the information construction in China.

Keywords: Network economy, marginal revenue increasing, marginal income decreasing, transaction cost

1. Introduction

The concept of network economy has just been put forward in recent years. The reason why such a concept appears is that the information technology, marked by computer network, plays an increasingly important role in economic activities. Some people define network economy as an economic form based on network technology and human capital. Mr. Wu Jiapei, author of China's economic science, thinks that there is a narrow and broad understanding of the network economy. The narrow sense of network economy refers to the economic activities based on Internet, such as network enterprise, electronic commerce, and other online economic activities such as network investment and network consumption. This is the Internet has developed vigorously since it was used in business activities since 1993.

Broadly defined network economy refers to the economic activities characterized by the application of information technology and information resources based on computer networks or platforms(including the Internet, Intranet, extranet, etc.) in which information and knowledge play a major role. Thus, it also includes non-Internet network economic activities, particularly traditional economic activities that are changing as a result of the impact of the information revolution, such as those of traditional enterprises in electronic transition. People usually understand and understand the concept of the information economy in the broad network economy, which sometimes appears in the media.

Network economy can also be understood from different levels of economic form. At the macroscopic level, it is a new economic form which is different from nomad economy, agricultural economy and industrial economy. Different from the previous economic form, it is or will be to use intelligent information network as the most important production tool, and make information a resource that is equal to matter and energy or even more important. Viewed from the medium view level, the network economy refers to the information industry that develops to the Internet stage, namely the network industry. It is divided into four levels: infrastructure, application base, intermediate service and business application. From the micro level, the network economy is a new network enterprise, network market, including the residents of the network investment, network consumption and other micro economic activities

2. The law of increasing marginal income of network economy

The law of increasing marginal income in the network economy is a very important law in traditional economics. The main idea is that, under the condition of constant technological level, in the process of increasing one variable factor of production to one or several other constant factors of production in a continuous and equal amount, when such variable factor of production is less than a certain value, The marginal yield resulting from an increase in the input of this element is incremental; When the input of this factor of production increases continuously and exceeds this particular value, the marginal yield resulting from the increase in the input of that factor is decreasing. However, when we enter the network economy, this law does not seem to be very effective. Microsoft, for example, invested nearly $200 million in Windows 95, but after its successful development, the cost of producing the second CD started at 50 cents, and its prices in the market are falling. That is to say, the law of diminishing marginal returns no longer exists in this new economy. Many scholars and experts have studied this phenomenon. They proposed a law of incremental marginal gains. The main idea of this rule is that, as the equivalent of a variable factor of production increases, the resulting marginal yield increases without diminishing. This rule is common in the network economy. Of course, we can not deny that the law of diminishing marginal returns still plays a role in the network economy, after all, the network economy is not built in the air, it should be based on the traditional economy. What we say is, in the network economy, the law of diminishing marginal income is no longer the "Golden Rule", it also has the failure time. The reason for the failure is because there is a law of increasing marginal returns.

3. The Reasons for Increasing Marginal Returns to the Network Economy.

3.1. Three Laws in Internet Economy

The network economy has the "Matthew effect" that is, strong and weak. This will eventually strengthen the monopoly until the winner eats it all. In addition, there are three laws in network economy, Jimeiteqiafu law, Moore law, Daweiduo law.

3.1.1. Metcalfe law

The value of a network increases at the rate of the number of users squared. This law tells us that if there are N individuals in a network, then the value of the network to everyone is proportional to the number of others in the network, so that the total value of the network to everyone is proportional to n ×(n-1) = n2-n. If a network is worth $1 per person in the network, the total value of a network of 10 times its size is $100. The total value of a network 100 times its size is equivalent to 10,000 yuan. A tenfold increase in the size of the network increases its value by a factor of 100.

3.1.2. Metcalfe law

Moore's Law was first published by Moore on April 19, 1965 in the journal Electronics. He summarized the pace of information technology progress, i.e., the integration of transistors doubled every 18 months and prices halved.

3.1.3. Metcalfe law

The emphasis is on the importance of innovation in the fierce survival and development of enterprises, which means that if an enterprise wants to occupy a dominant position in the market, it must be the first to eliminate its own products in the industry, the first to develop a new generation of products. In the end it is actually an application of the "Matthew effect", even if the stronger the stronger the weaker the weaker. Strong enterprises have more human and financial resources to invest in initial development and research, thus more likely to succeed; On the contrary, the weak enterprises can only face a more disadvantaged situation, even be eliminated. Intel's microprocessors aren't always the best and fastest, but they're almost always the first to launch a new generation of products. In the same way, Microsoft's W is not the best microcomputer operating system at the time, but it through the continuous introduction of new products, finally become the mainstream products, no one can compete with it.

The three theorems explain the increasing benefits of the network economy: Meiteqiafufa, for example, is based on the fact that every new user gets more information from others. It points out that the network has a strong "externality" and positive feedback: the more users, the greater the value of the network, the greater the need for networking. In this way, we can see that the Metcalfe rule points to the increasing utility of consumption in general -- the original demand creates new demand. And for Moore's law, there's actually a learning curve behind it. The learning curve shows that as the output increases, the manufacturer continues to improve its production, resulting in lower production costs for a single product.

This is the real reason for the increase in returns because it shows a declining marginal cost curve. Daweiduo's law explains the mainstreaming phenomenon in network economy. Because of the influence of the synergistic value and locking effect, consumers have habitual use of some network products, and their consumption behavior shows great stickiness. It is difficult for these consumers to switch to other similar products of the same kind, thus giving manufacturers a growing(or at least not decreasing) number of consumers.

3.2. Other factors of incremental remuneration in the network economy

The network economy has fundamentally changed the traditional economic laws. The economic basis of industrial society is the law of incremental marginal cost, which reflects the socialization of high cost in industrial society. The economic basis of the network economy is the opposite law of diminishing marginal cost, which reflects the low cost socialization of the information society. For example, the cost of IP telephony does not have the concept of proximity to space, and international distance is the same as the cost of local calls. Microsoft's costs don't go down with market share; on the contrary, the first copy costs the most and the last copy costs the least when the market is 100 %.

This fundamental change in economics is due to the shift in the basis of practice on which it is based. For the industrial economy with circuitous mode of production, the cost of socialization is the cost of circuitous, and the increase of marginal cost reflects the essential characteristics of the industrial economy: its value creation and value consumption are both in the circuitous path or the expansion of the scope of socialization. Beyond certain limits, the wider the scope, the less marginal benefits it creates and the higher the marginal costs. For the information economy of direct production mode, due to the disappearance of space-time distance and the substitution of "bit" for material capital, the material cost of socialization is almost negligible. Thus, the key to the shift from incremental marginal cost to diminishing marginal cost is that the cost of the two civilizations 'economy on the circuitous path has the opposite characteristics.

Because all economics in the industrial age was based on circuitous paths, it cost a lot of material money, and it was impossible to consider the low-cost phenomena of knowledge substitution and zero-cost copying, which caused the collapse of the whole traditional economics. In the era of the Internet economy, the subject of economics is reversed. In the industrial age, what is scarce are not products and resources. What is scarce is the socialization of production and consumption itself, because it is the most costly. In the information age, material capital is abundant, and the satisfaction of consumers and the direct proximity of producers to consumers become scarce resources.

3.2.1. Reduction in transaction costs

According to Coase, the enterprise organization is a substitute for the price mechanism. The existence of the enterprise is to save transaction cost, that is, to replace the higher market transaction with the lower internal transaction. The optimal size of an enterprise is determined by the fact that the marginal cost of intra-firm transactions equals the marginal cost of market transactions or the marginal cost of other intra-firm transactions. The network is reducing transaction costs in many ways.

The various operating costs within the enterprise have decreased. As modern enterprises rely more and more on computer network to manage, the enterprise's self-organization ability is stronger and the management cost is lower. From MIS to MRP, from MRP II to ERP, enterprises constantly recombine their strategic resources under the network environment. In the early 1990s, Dr. Hammer even proposed BPR based on modern IT technology. After successful enterprise process reengineering, the operating cost of the enterprise will generally be reduced.

The cost of enterprise diplomacy is reduced. Corporate diplomacy refers to business and business-to-business, business-to-consumer transactions. Prior to the network economy, market efficiency was difficult to produce due to adverse selection and moral hazard caused by information asymmetry and price dispersion caused by high search costs. A computer network can not solve the problem of adverse selection and moral hazard in essence(in a network economy, rational people do not want to reveal information that is bad for them), but it can solve the search problem well. The cost of information near zero cost in the network greatly reduces the subjective uncertainty and the cost of error decision.

High entry costs. High entry costs cause firms to have a downward average cost curve that is spread down to lower costs per product as output increases, resulting in increased returns. At this point in the network economy, however, it has its own characteristics: most of the cost of access to digitized products or services is the cost of knowledge. This block is not sunk costs, and in some cases can be converted into inputs for other digitized products.

3.2.2. The Performance of Scale Pay Increase in Network Economy

As the number of network members increases, the value of the network increases explosively, and the value increases attract more members to join, resulting in more returns. Now the law of incremental scale returns far exceeds the scale of the increased returns previously described in economics textbooks. Now the new economy's law of scale pay increase and the old law of scale pay increase are both positive feedback chains, the former driven by the power of the network, the latter are not. First of all, the scale compensation increase of industrial economy is linear growth, and the scale compensation increase of network economy is exponential growth. Second, the economies of scale of the industrial age come from the painstaking efforts of companies to outperform their competitors. The experience created by the leading company is its own. In contrast, the incremental scale of the network is created by the entire network and shared by all network members.

In conclusion, network economy has changed many aspects of traditional economy, resulting in decreasing marginal cost, decreasing transaction cost in and out of enterprise organizations, and making the effect of increasing scale compensation more prominent. This is of great significance to the information construction in China.

References

Guo, Z. (2013). Experience and Practice of Korea's Promotion of Performance Budget Reform, *China Finance, 15,* 23-41.

Kim, J. M. (2010). Korea’s Four Major Budgetary Reforms: Catching up with A Big Bang. In J. Wanna, L. Jensen & J. de. Vries (eds.), *The Reality of Budgetary Reform in OECD Nations: Trajectories and Consequences*, UK: Edward Elgar Publishing Limitied.

Ma, J. (2013). The Biggest Challenge Faced by the Budget of China's Public Budget: Financial Sustainability. *Journal of the State Administration College,* 5, 19-30.

Newfarmer, R., & Nubkery, B. (2000). Medium-term pressure to promote the role of government: East Asia after the crisis. in HP Brixi & Ma Jun(eds.), *Financial Risk Management: New Concepts and International Experiences* , Mei Hongyi, Beijing: China Finance Economic Press.

Ye, J. (2006). National Assembly in South Korea's Budget Process. *Journal of Wuhan University (Philosophy and Social Sciences), 6.*11-21.