

Thinking of the Coordinated Development of E-Commerce Economy Entity and the Internet of Things Economy

Lihua

Zibo Vocational Institute, Zibo 255314, China
anglelihua@sina.com

Abstract

The Internet of things economy is useful to upgrade the E-Commerce economy entity in payment links, logistics and product quality traceability and other aspects. The measures of their Coordinated development include: to encouraging the coordinated development of technology progress; push the standardization of The Internet of things; building e-commerce economy entity with digital dividend advantage; increasing the support of the broadband network construction; developing the O2O mobile e-commerce model based on LBS positioning system.

Keywords: E-Commerce economy entity, The Internet of things economy

1. The Connotation of the Internet of Things Economy

The Internet of things connects various objects scientifically and reasonable, economically and effectively by using the modern information technology to form intelligence complex links between various objects, so to be more effective and more convenient to meet the needs of the people. The essence of the Internet of things is the IT technology will be fully applied to various industries, that is the information to the end. The Internet of things owns the industry's most complete professional complex series of products, covering a variety of applications from the sensor, the controller to cloud computing, with the comprehensive advantages of "good quality, excellent technology, strong professional and low cost" to meet the demands of customer. It can provide competitive products and services to customers constantly, the application will effectively promote "the integration of industrialization and informatization" and promote the transformation and upgrading of traditional industries, so in this context, The Internet of things emerges as the times require.

In general, the development of the Internet of things economy has just started. As a new concept, The Internet of things economics is a independent economic system which fuses across the economics, network economics, industrial economics, information economics, technology economics, merchandising, management and other disciplines [1]. From the development trend, The Internet of things economy can form a new independent economic plate, and constantly infiltrates to the traditional industries by relying on its own advantages.

In economics, it makes the technology of the Internet of things has become an important part of the production factors, so as to improve the level of productivity, and play its role in the whole economic operation process. The Internet of things economy structure is shown in Figure 1.

2. The Connotation of e-commerce Economy Entity

May 10, 2013, The ten anniversary of the establishment of Taobao, Alibaba Group Research Center released the Research Report No.1 of the prospect of the information Economic "growth pole: from the emerging market countries to the Internet economy", in

this report, the concept of “E-Commerce economy entity” [2] is putted forward for the first time.

The e-commerce economy entity is a economic activities set of the enterprise or individual developing around the electronic commerce. It mainly contains the application of e-commerce, e-commerce services, Internet operators/infrastructure and equipment manufacturing. It has the advantages of high growth, high overflow, high performance and low consumption, it plays a significant role in promoting the domestic demand growth, entrepreneurship and employment, the change of economic development mode, economy structural adjustment and industrial upgrading. The e-commerce economy entity structure is shown in Figure 2.

E-commerce applications including all kinds of applications of enterprises, consumers and the government. e-commerce services include 7 kinds of e-commerce services industry, that are the e-commerce trading platform services industry, e-commerce logistics services industry, e-commerce education and training services industry, e-commerce consulting services industry, e-commerce financial services industry, e-commerce credit service industry, e-commerce business service industry.

The operation of the Internet/infrastructure includes cloud computing, broadband and IDC operation. Equipment manufacturing includes computer, server, router, mobile phone and other hardware. The four parts of e-commerce economy entity ecobolic new business ecological and commercial landscape in the course of development, and to accelerate the traditional industry “electronic commerce”, expanded the influence on economy and society.

It is not only release and meet the consumer potential, but also enhance the overall consumption of residents. In 2012, the scale of the e-commerce economy entity is 8.2 trillion yuan, of which the scale of the e-commerce application is 7.95 trillion yuan, the scale of e-commerce service industry is 2463 billion yuan. It is expected that in 2020, the scale of e-commerce economy entity will reach 47.8 trillion yuan, about 5.8 times in 2012, 10 times more than in 2010. Among them, the B2B transaction scale will reach 33.7 trillion yuan, the network retail transaction volume will exceed 10 trillion yuan, it will account for about 16.3% of total retail sales of social consumer goods, the e-commerce service industry scale will reach 4 trillion yuan, which support the electronic commerce applicationing more than 30 trillion yuan, see Figure 3.

3. Effect of the Internet of Things Economy on the Development of the e-Commerce Economy Entity

The Internet of things is widely used in various fields, such as intelligent transportation, intelligent logistics, environmental protection, government, public security management, intelligent home furnishing, intelligent fire, intelligent agriculture, industry monitoring, traceability management, personal health and so on.

In the era of e-commerce, The problems of payment, logistics distribution, product quality management and others have become the main bottleneck of the development of electronic commerce, but cloud computing and the Internet of things can be fully applied in electronic commerce based on the technical features, they will help upgrade E-commerce economy entity.

First of all, in the payment link, Based on the mobile phone of mobile payment mode, the Internet of things application and E-commerce are closely linked. The Internet of things, the Internet and mobile payment convergence each other. Mobile phone in the Internet of things undertake three big functions, that is sensing information, processing and forwarding information, confirm the payment, increasing the convenience of payment operation, reducing the use threshold of user. At the same time, mobile payment based on mobile phone depend on widely distributed recharge channels of the elecom operators improve the safety and convenience of payment to some extent.

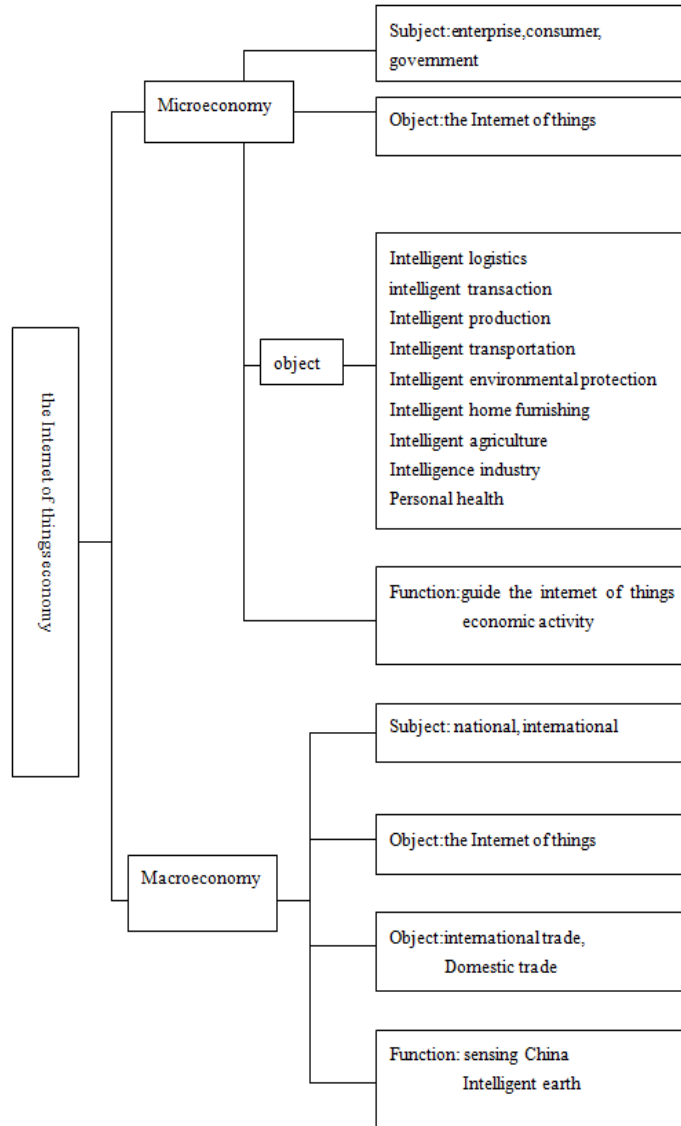


Figure 1. The Internet of Things Economy Structure

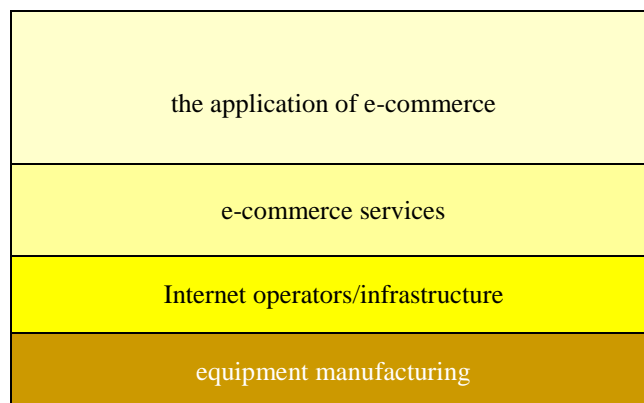


Figure 2. E-commerce Economy Entity Structure

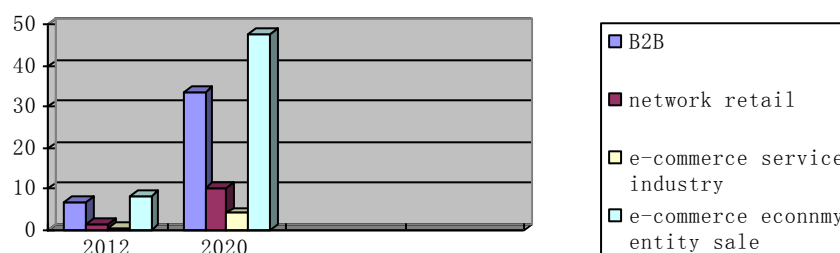


Figure 3. In 2012 and 2020 the Scale of e-commerce Economy Entity
Source: Ministry of Commerce "on the e-commerce development report", 2013

Secondly, in the field of logistics. Using the combined mode of Internet and GPS technology, so that consumers, online retailers and logistics company was informed the real-time state of the delivery vehicle and the routes of the distributed goods. And can take targeted measures on the product based on current information, that can greatly improve the E-commerce enterprise's ability to respond to the market and accelerate the reaction speed of enterprise.

Finally, in the quality of the products. Through the establishment of product traceability system and product unique identification mark, by the RFID chip, consumers not only can really understand the quality of the goods and the specific sources, but also eliminate the information asymmetry phenomena between the manufacturer and the consumer, greatly reduce the risk of users being cheated, that greatly eliminate the concerns of consumer about the product quality and raise the consumption enthusiasm of consumer [3]. At the same time, that creates a good faith network marketing environment, so it is harmony between consumers and businesses, and the same time it effectively promote the development of E-commerce.

In the released prospect of information economic research report No.1 Alibaba Group Research Center pointed out that "e-commerce entity is the economic engine of China's economic development", But its development is a process in which the ecology of Commerce continued evolution.

With the network retail for example, firstly from symbiotic evolution between business and consumers to e-commerce platform (such as Taobao and tmall) symbiosis evolution, and then to the symbiotic evolution between e-commerce service providers, and then to the symbiotic evolution between the whole electronic commerce application and service and the whole society, finally we can see a sustainable growth, dynamic evolution life course of a vibrant business ecological [4]. In this course, the coming of the "Internet of things" era not only greatly promote the four parts of the E-commerce economy entity, but also makes the development of a thousand li a day of network economy.

According to the predicting of Ali research center, by 2020, the scale of China's E-Commerce (including the B2B online trading) will reach to 30 trillion yuan, it will become the world's largest e-commerce economy entity. Among them, the network retail transaction volume will reach to 10 trillion, China e-commerce service industry scale will exceed to 3 trillion yuan. China e-commerce economy entity will create new added value of 1000 billion yuan for manufacturing, pulling the economic chain of "marketing, circulation and production" to the value network of network collaboration. The C2B model as the core of electronic commerce will solve the problem of existence for ten million small micro enterprises, promote the employment of 100 million people, and support the "China dream" of the information economy society which has the Chinese characteristics [5].

4. Measures of the Coordinated Development about E-Commerce Economy Entity and the Internet of Things Economy

4.1. Encouraging the technology advancement, pushing the standardization of the Internet of things

In the policy support of the government, the passion of developing the Internet of things economy fly. However, a complete network has not formed, the Internet of things industry scale is far from forming. The standard of the Internet of things is not perfect and not unity are the only obstacles to the economic development and application of the Internet of things. In the process of the standards formulation, the national standards game with the international standards, at the same time, the game between each industry and the game between each enterprise make things difficult to reach a unified standard. These standards include: common and key technology standard, industry application standard, application standard for the key industry and information security standards.

In the process of the standards formulation, we should consider the technical problem for the first. Those technologies are likely to become the national standard, which has the space for future development and higher independent intellectual property rights, this technique. Only enough authority, the technology can own more widely application fields, then it can be possible to become the international standard. So in the process of the standards formulation we should deal with the game problem of all parties interests [6].

Therefore, we must encourage the technological progress, promote the innovation of the key technologies, break through the research and development of the core technologies. Those core technologies includes: information sensing technology, information transmission technology, information processing technology and information security technology. Only break through these core technologies, it is possible to catch up with the international advanced level in the fields of the information perception and information processing technology, it is possible to reached the international advanced level in the field of information transmission, it is possible to enhance the information security capability, it is possible to form the complete system of the Internet of things technology and realize the industrialization, thus we can really realize independence from independent technology to the independent standard, thus truly dominant the discourse power of the Internet of things industry, and to nurture and grow a new generation of the Internet of things industry and e-commerce economy.

4.2. To Build e-commerce Economy Entity with Digital Dividend Advantage

The development of cloud computing, Internet of things and the development of interrelated data depend on together. They have formed an impetus way to the development of Chinese information technology. However, the current development of the three is not mature and not systematic in which data integration, cross sectoral coordination and the industry organic integration. Therefore, the development of the electronic commerce entity must give full play to the digital dividend advantages and regard the Internet as a strategic infrastructure to promote the economic development of the electronic commerce entity from the aspects such as the network technology, data integration, cross sectoral coordination, the industry integration, mobile Internet, a new C2B model, upgrading of the manufacturing industry and so on.

4.3. Increasing the Support of the Broadband Network Construction

Three networks integration, the integration of Industrialization and informatization, the Internet of things, cloud computing has greatly promoted the development of modern service industry. The electronic commerce entity as a part of the modern service industry make the development mode based on broadband network has become a trend. The

broadband network is everywhere and seamless connection can make the development of the Internet of things play a multiplier effects on the e-commerce economy entity. At the same time, we can use the broadband network to provide all kinds of modern service industry, and will eventually make the adjustment of economic structure and transformation has the chance beyond the corner.

Therefore, safe and reliable broadband network is self-evident meaning for the development of modern service industry. Today that industrialization and informatization are integrated, we need to continue to increase the support of the broadband network construction. Fortunately, broadband will account for 80% in the 2 trillion investment of the telecommunications during the 12th Five Year Plan, So broadband strategy not only promotes the integration of the processes of the integration of Industrialization and informatization, but also has become an important means to boost the economy, enhance the core competitiveness of the country.

4.4. Developing the O2O Mobile e-commerce Model based on LBS Positioning System

The Internet of things provides 8 innovative and dynamic payment new formats for the e-commerce economy entity, including: payment of dynamic service according to standard monitoring require, dynamic supervision payment according to effect, service outsourcing monitoring payment, payment of dynamic no parking, the Internet of things confirm the payment right according to the service process integration, payment of the food inspection pre verification, payment of dynamic detection and verification, payment of fast Consumable transaction code scanning [7], these new formats produced tremendous effect and role in promoting the development and increase in value of mobile payment and e-commerce economy entity.

Payment of dynamic no parking can recognise vehicle automatically and complete the exchange of the toll data automatically. The work efficiency is 5 to 10 times the artificial charge. This model greatly reduces the vehicle stranded, accelerate the release speed, and improve the transportation efficiency.

Payment of dynamic service according to standard monitoring require is a model which provide monitoring services in accordance with the standard monitoring require, and pay the remuneration in accordance with the monitoring service content. This model can ensure the freshness of the transit goods, reduce the loss of products.

The Internet of things confirm the payment right according to the service process integration is a model which use the location technology of the Internet of things to strictly determine the right of the subject, it realize dynamic payment in the course of service process integration. The model can prevent the sacrifice oneself for another person to happen, for example, prevent be replaced and the loss occurred after bearing in the hospital.

Dynamic supervision payment according to effect is accomplished according to the control target and the length of time. The model can be used for the whole process of tracking and monitoring of the products and services, it can ensure the authenticity and the safety of the product. For example, the production of precision watches, jewelry production, *etc.*

Service outsourcing monitoring payment is a model of using the electronic label to pay for product and service. The payment is used to monitor the full outsourcing service on the port, dock, and yard etc, it has the advantage of little time and high efficiency.

Payment of fast Consumable transaction code scanning is a model which is the integration of internet of things technology and two-dimensional code technology, it uses two-dimensional code scanner to pay for the fast Consumable safely.

Looking forward to the future, in the face of the next step development of mobile payment, we need to further promote the integration and innovation of the Internet of things technology and mobile e-commerce model.

Firstly, we should depend on the TSM (trusted service management) platform to provide better service for people.

Secondly, we should develop the O2O mobile e-commerce model based on LBS positioning system.

At present, O2O mobile e-commerce model is just unfolding, it is still in the initial stage, so it has not formed mature business operation. However, the LBS (services based on location) is hot which has infinite potential in the future. In 2013 July, at the thirteenth China (Shenzhen) international brand clothing fair, "O2O+LBS" became a mode of high-profile appearance, consumers use the positioning service software, they can search the clothing in the clothing store which is near the shopping mall, and they can immediately retrieve and view various online product information, thus this model can make the consumption of clothing and others which need experience really implement O2O model.

Therefore, in the face of the e-commerce economy entity's trend of the integration of online and offline, manufacturers, telecom operators, terminal manufacturers, system integrators and professional software providers need to work together. They should transform the e-commerce platform and innovate technology to open a new era of mobile consumption for the development of e-commerce and the Internet of things economy.

5. Conclusion

In June 6, 2013, IPv6 officially launched, this solves the basic problem about "addressing" (identification) for the outbreak and application of the Internet of things industry, this means that the Internet of things really entered from the local application to the scale application officially, it releases energetic technical power for the Internet of things economy and e-commerce economy entity driving into the fast lane of development.

Winter will be gone, spring will come. Believe that with the development of technology and network environment gradual maturing, the coordinated development of E-Commerce economy entity and the Internet of things economy will open a new economy era for the development of human society.

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Author



Li hua, received the Master degree in Business Administration from Xi'an Jiao Tong University in 2005. She is currently researching on E-Commerce and working in the Chinese College of Business Administration at Zibo Vocational Institute, her professional title is a lecturer.
E-mail:anglelihua@sina.com