

Research on Business Model Innovation of E-Commerce Era

Yaqi Guo

School of Management
Shanghai University of Engineering Science
Shanghai, China.

HU Jun

School of Management
Shanghai University of Engineering Science
Shanghai, China.

Abstract

E-commerce is a new business model in the world; it has triggered a major change in the mode of production of the whole world. With the rapid development of enterprise information technology and Internet technology, e-commerce has become a key means of modern enterprise competition. Faced with increasingly severe limit of resource and increasingly prosperous environment of e-commerce, a variety of business model innovation which spawned out by E-commerce has become a hot market competition. Currently the idea of SMEs to reduce costs and improve efficiency awareness through business model innovation increased significantly. Entrepreneurs are the main promoters of e-commerce and business model innovation, the government's encouragement and support are the political guarantees of e-commerce and business model innovation. E-commerce and business model innovation are important for enterprise development and promoting economic restructuring and upgrading. Based on this, the paper analyzes the impact of e-commerce environment for enterprise traditional business model .The economic basis of business model innovation, the dynamic mechanism and the thought of business model innovation.

Keywords: e-commerce; business model; Innovation

1. Introduction

The construction of support platform for economic development, not only should pay attention to build a physical platform, but more attention should be paid to build innovation platform and virtual platform, to go the way of connotative platform construction. Electronic commerce and business model innovation are the specific forms of innovation platform and virtual platform. The new commercial innovation is based on E-commerce, to realize the value-added through designing inner processes and basic structure in order to segment the market ,creative demands. Business model innovation is the new innovation of enterprise after enterprises' technology innovation, product innovation, market innovation and organizational innovation.

At the time of economic downturn, the consciousness of using e-commerce of small and medium-sized is significantly increased. It is more need to reduce costs and improve efficiency through business model innovation. Under the electronic environment, E-commerce as a new economic industry attracts the most attention, it can break the boundaries of time and space, reduce transaction costs, expand two-way communication, the most greatly reduce product inventory, promoted the innovation of business model. Electronic commerce and business model innovation has greatly narrowed the growth dependence on land, energy and raw materials, reduce the waste emissions, the construction of ecological civilization, and promote economic transformation and upgrading. Under the condition of network economy, the great challenge which enterprises face is how to have keen awareness, to use e-commerce business innovation, long-term profits, analyzing the business model is to let the value of enterprise concentrated thinking in business activities of the various elements of how to effectively organize together, how to integrate internal and external resources.

2. The Influence of E-Commerce on the Traditional Business Model

In the face of increasingly serious resources and environment constraints and booming e-commerce environment, enterprise use e-commerce means to produce all kinds of business model innovation has become a hot market competition.

(1) Technological progress to accelerate the generation of new industries.

The popular way of information exchange in the *Internet has a direct impact* on the traditional business model. For example, the traditional exchange of letters was gradually replaced by e-mail, the traditional telecom industry is likely to be replaced by the instant messaging tools, network communication gradually replaced print media and has a more far-reaching influence and spread of surface. These will directly lead to the change, even replacement of traditional business model. Faced with this reality, commercial enterprises in order to maintain its competitive edge, we must adapt to the times, actively adjust business operating strategy.

(2) Reduce the cost of the buyer.

In the traditional business mode, the steps that consumers buy goods are as following: collect goods information → choose goods → goods delivery. Its acquisition cost includes not only the retail price of the goods itself; also include time, energy cost of transportation and trade. But under the e-commerce environment, consumers purchase cost only includes cost of goods (mostly provide delivery business e-commerce, reduce the transportation cost), the cost of the Internet and the time, energy and so on, this will greatly reduce the purchase cost of consumers. Customers can timely control the price advantage between different areas, so as to enhance the customer's bargaining power. The end result is a decline in business operator's profit space. Only by continuously in the product, the difference of the personalized demand from different degree and the level of stimulation mode can expand the profit space and channels.

(3) Speed up enterprise development cycle of new products.

In the period of E-commerce, the supply and demand still exist, therefore, in the above discussion, consumers purchase cost reduction will promote the enterprise to develop new kinds of products in order to maintain profitability. At the same time, because the Internet is becoming more and more important in people's life, it has changed people's life and work habits. Network provides convenience and randomness, make consumers get stuck here, especially the urban workers, whether financial, or shopping, leisure, with the help of the Internet, instant messaging software changed people's way of communication, can be in front of the computer over the Internet to see a movie, and don't have to go to the cinema, these also make enterprises must continuously provide a unique service, to ensure the normal development of the enterprise.

Above all, e-commerce impact in different directions and changing the traditional business model of competitive structure. For the change and impact, enterprises in our country must adjust the strategic direction and timely innovation business model can make the enterprise maintain its competitive advantage in the era of e-commerce, and finally realize sustainable development.

3. The Economics Basis of Business Model Innovation

(a) the costs and benefits of business model innovation

In competitive industries, the earnings of new commercial mode come from the fees which all manufacturers in the industry by unit of output charging royalties. In monopoly industry, create a new business model yields a monopoly from creating new business model of profit potential. Kenneth Arrow (Arrow, 1962) defined invention that can lead to the unit cost curve move down the technology innovation. D represents the market demand curve, C represents the creating new business model of the cost per unit, price level for C, competitive industries monopoly industry will make is equal to the marginal benefit MR C, the price is P, at the same time form area CYXP profit U, $U = CYXP$ area (figure 1)

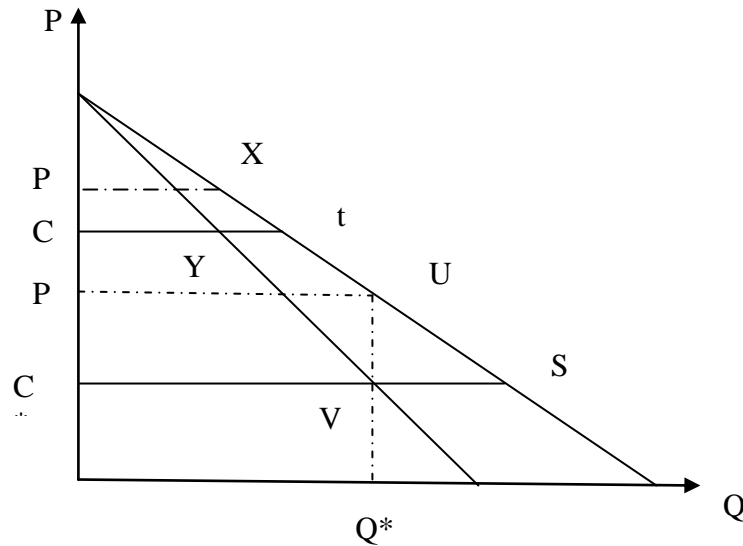


Figure 1: The New Business Model

After adopting a new business model, the manufacturer's unit costs decline from C to C*.

(1) In the competitive industry , a balanced output of Q*, the equilibrium price is P*, the creation of new business models for manufacturers to maximize profits , to determine the technical unit fee of P* C*, so you can get to the area P* profit UVC* indicated that

$$U^* = \text{area } P^* UVC^*$$

(2) In a monopoly industry, adopt new business models, the prices and profits are also P* and U*. However , thanks to a new business model before monopolist has received a total of U of monopoly profits , therefore , the creation of new business models to bring the actual monopoly profits increment $\Delta U = U^* - U$. Obviously, if given the demand and cost curves , then profits in a competitive industry, the invention of new business models that can be obtained vendors , will be greater than the creation of a monopoly industry monopoly profits incremental after adopting new business model .

It can be thought that, competitive e-commerce market incentives for the creation of a new level of business model than monopolistic e-commerce market. In addition, the decline in unit cost manufacturers a new business model leads to smaller, Competitive industry ratio of new business models for the creation of incentives degree of monopoly industries to create new business models encourage greater extent between the two.

(2) network effects and externalities of network

The network effect refers to the market price reflects the positive and negative effects of network market. In the area of E-commerce, positive feedback can increase the number of customers through the network to create more revenue. Low cost and the relationship between the number of fast extension can make business model a faster increase in earnings (usually in the number of customers in network exceeds a certain limit). In general, the user does not need to pay for the profits in the Internet, so the E-commerce model shows some network externalities. Katz, Shapiro (Katz&Shapiro, 1985) to study the early network externality, network externalities can be divided into direct network externalities and indirect network externalities. Network Externalities (Externalities) refers to the parties when the market income increases, the price will not change.

(3) to save transaction cost

E-commerce has a two-way communication compared with the traditional business, breaking the boundaries of time and space, personalized service, fast speed, reducing transaction cost, etc. Coase (Coase, 1937) thought that the transaction cost is needed to obtain accurate market information costs, and the cost of negotiation and regular contract, one reason that the company exists is that if it wants to obtain some price information, it will provide certain cost.

Oliver Williamson (Williamson, 1985, 1986) got a further development of the transaction cost theory, and make it structured, it includes: (1) the frequency of the trading (frequency of transaction) from regular trading to immediately; (2) trade uncertainty (uncertainty); (3) supplier investment degree of concrete, including from the concrete to the very special investment. Williamson further elaborated the transaction cost theory in the form of chart., as a part of the new institutional economics, Transaction cost economics thinks economic organization is the contract issues, economic organization with the purpose of saving, and economic system has the pursuit of the purpose and effect of transaction cost saving, consider economic organization management structure, pay attention to the continuity of the trading relationship. The biggest characteristic of e-commerce is to reduce transaction costs; it is beneficial to control the risk of uncertainty in the process of trading.

(4) The competitive strategy of e-commerce industry

According to Porter's competitive model: internal competition, power supplier and customer power, the threat of new market entrants and the threat of the replacement, we did some analysis on electronic commerce and business model. The president of European information commission, Paul h. Timothy Morse (2001) believed that successful e-commerce companies will typically have three competitive strategies as follow: (1) cost leadership: maintain the lowest price through economies of scale, benefit from the experience curve effect to establish and increase market share; (2) personalized services: to provide a unique product or service, charging higher prices, higher profit; (3) areas of focus: their own services focused on specific market segments, and have a lasting competitive advantage. Omaha, Mahadevan, (2004) the business model innovation main body is divided into the current leader, trends, creator, new entrants, imitators and follower, and emphatically discusses the innovation of former three strategies. He believes that the current industry leader should try to do "obstructive" business model innovation, which is held by implementing scope economy, monopoly resources and control the supply chain to improve the existing customer switching costs; New entrants should be "war" business model innovation, which reduce the existing customer switching costs, improve the efficiency of transactions, and to new customers special value proposition; While trends creator should highlight their own innovative business model, to seek sustainable revenue model, and make up for the lack of knowledge and ability in new fields.

4. The Dynamic Mechanism of Business Model Innovation

(a) the inner motive power of electronic commerce and business model innovation

First, the basic power of electronic commerce and business model innovation is the idea of pursuing excess profit. Excess profits refers to the other conditions keep the social average level and get more than the market average normal profit portion of the profits, also known as pure profit or economic profits. The ultimate goal of enterprise management is the pursuit of profit maximization, in order to obtain excess profit, entrepreneurs face the market risk and uncertainty, to adopt new technology or new ways to reduce the enterprise cost, production, marketing, make the enterprise gain a competitive advantage over a period of time.

Second, entrepreneurs are the main drivers of e-commerce and business model innovation. Facing the intense market competition and the pressure on the performance, corporate executives have to business model innovation. Electronic commerce and business model innovation is entrepreneurs keen foreseen to market opportunities, it reflects the entrepreneurs' cognitive level of business model. First of all, corporate executives must change ideas, cultivate the consciousness of innovation, in order to focus on a specific direction. Second, the management of enterprise should do analysis on business model, choose the enterprise electronic commerce strategy according to the current situation, and the design of the business model, enterprise management must first give clear expression and the enterprise should develop a new business model. Finally, entrepreneurs will be responsible for introducing the employees and conveying the enterprise the new business model, to ensure that they clear their how to contribute to it. Only every staff clearly understand the business models of enterprises, and make sure you know what we can make a contribution, enterprise business model to perform. Business model innovation involves all aspects of the business, must be carried out with the support of entrepreneurs, so entrepreneurs are the main drivers of e-commerce and business model innovation.

(2) The outside motive of electronic commerce and business model innovation

First, consumer demand is the source of the electronic commerce and business model innovation. Social demand has prompted a new e-commerce mode, without fully considering the aspects of customer service, the business model doesn't work.

E-commerce is not just a website, online trading, greater part is the internal process of electronic, reduce costs and expand sales. Actually every appearance of a new model is at some aspects of the consumer demand and meets the needs of the potential consumers.

Second, technological progress is the technical support of e-commerce and business model innovation. Technology driven business model changes the first one refers to "creative" technology, new inventions, create new demand, so as to create new business models, such as network economy rise to inspire new Internet profit model; The second refers to the scientific and technological progress for the improvement of the traditional business model, so as to produce a new business model, a lot of this kind of business model case, typically e-commerce, network marketing on the basis of the corresponding technology to improve.

Third, the encouragement and support of the government is the guarantee of electronic commerce and business model innovation policy. Strong organization and government intervention in the electronic commerce and business model innovation plays an extremely important role. Electronic commerce is a new industry, maturity is not high, so the healthy development of electronic commerce needs the government's policies, rules and regulations to support. Business model in the United States is classed as a Business Method patent (Business Method) patent Class (Class of 705), and to encourage Business model innovation (Qiao Weiguo, 2009). Local government to make relevant policy to protect, support, business model innovation, business model innovation and development of the enterprise will play a guiding and exemplary role, for the electronic commerce and business model innovation to create a strong atmosphere.

Fourth, the market competition is the power of e-commerce and sustainable business model innovation. Patterns for e-business are not static, under the fierce competition in the business market, with the passage of time, the competition of follow up, followers have imitated, industry new entrants to the business model "war" innovation will make the business model innovation advantage difficult to keep for a long time. No matter how suitable e-commerce mode with customer demand, market conditions, and the change of the competitive threat lost existence, market competition mechanism forced companies only ongoing business model innovation can be in an impregnable position in the fierce competition.

5. The Innovation Thinking of Business Model in E-Commerce Environment

(a) Setting up enterprise innovation main body status. Enterprise is the main part of the business model innovation; business model determines the success or failure. Although it has confirmed the important role of business model innovation in the era of electronic commerce, it still need to further guide the innovative factors to the enterprise cluster, guidance to the enterprises by the gradual extension of product innovation to break through the type of business model innovation. Another point it is worth noting that should pay attention to the enterprise with the integration development of information technology, according to statistics, in the United States, 40% of the innovation is technology innovation, 60% of the innovation is the business model innovation. Business model innovation must with the aid of information technology in our country at present stage, so as to upgrade traditional industries, develop new markets. As a result, the new business model does not reject the traditional industry, it is the traditional industry by information technology to develop new market space, build new advantages.

(2) Adhere to market-oriented innovation. Pay attention to the market development of new technology, actively guide enterprise limited market into infinite market via the Internet. Science and technology is the first productive force, and innovation of traditional business model to further liberate productive forces. Long-term since, our country scientific research achievements are difficult to succeed in the market, but no market technical words. Business model innovation relies on the innovation of new technology, but it is more realistic than technology innovation. Pay attention to the combination of technology and market, the key lies in the innovation business model, and let the market accept technology research and development, promoting the industrialization and commercialization of scientific and technological achievements.

(3) Improve the government service. In addition to their own subjective dynamic role, local governments should improve the examination and approval for coordination mechanism, promoting DaiBanZhi of administrative examination and approval. Government for business model innovation should actively cultivate, caress attentively, and be good at through incubator to foster new business model, rational planning, guide the investment.

For enterprise business model innovation, set up corresponding appraisal, at the same time enjoy the corresponding preferential policies, to fully enjoy the policy support. And government departments should also strengthen the construction of informationization, further the government's public service outsourcing enterprise products, so that on the one hand, promote the reform of the government service mechanism, and provide space for the development of new business models.

(4) Redefine the customer value. The past innovation mainly concentrated in the field of technological innovation and product innovation, today, business model innovation is more important than the technology innovation, business model battle has become the key for enterprises to win market competition. New business models can be subdivided market restructuring circulation channels, with new technology as the means to create new markets, the potential demand of the people into the realistic demand. Procter & Gamble company creatively change the path of the products and services, let Vichy skincare products sales channels are limited to a pharmacy, to achieve success; By redefining the customer value, Apple has successfully developed the iPod products and make the enterprise with renewed vigor. Wu Liangye changed the pattern of income by cooperating with Jin Liufu.

(5) Stick to the concept of entrepreneurship. Talent agglomeration is the foundation of business model innovation. Successful business model is not always copy. But talent is the key to enterprises to gain market competitive advantage. Business model innovation relies on the good ideas created by talents. Many enterprises are now thinking it is the most scarce, the most precious is "understand technology, understand management, and understand the market" "SanDong talents". Now, most of the growth-type companies have practice experience in training and collection of talent, so as to adapt to the needs of the business model innovation.

6. The Conclusion

When entrepreneurs put application of e-commerce into use as to realize business model innovation can have different path to select. There are four main routes: (1) mining type, i.e. without changing the nature of the business model to dig up the potential of the enterprise existing business model. (2) Adjusting type, i.e., by changing the product/service platform, brand, cost structure and technical basis to adjust the core skills of the enterprise, improve enterprise's position in the price/value curve. (3) Extension type, namely the enterprise existing business logic to expand into new areas. (4) All new type, that is, the introduction of new business logic for the enterprise.

The different characteristics of each enterprise choose e-commerce applications for business model innovation mode is also different. Through the case study, can be divided into stock of the innovative ways of innovation, incremental innovation and whole new three categories: (1) when the access to new resources, core competence or distribution channels can use type stock of innovative ways to supply similar products or services in the past. (2) in some ways lag of the enterprise, can use the incremental approach to innovation, adding new elements in the current business model in order to strengthen the competitive advantage, such as the value chain is the key part of the change. (3) With new technology, and can grasp the opportunity of enterprise can be in the process of new markets for business model innovation.

References

- Linder, J, and Cantrell, S. Changing businessmodels: Surveying the landscape [R]. Accenture Institute for Strategic Change, 2000.
- Osterwalder, A .The business model ontology- A proposition in a design science approach [D], Université de Lausanne , 2004.
- Mahadevan.B.A. framework for business model innovation[R].IMRC 2004 Conference, Bangalore, India December 16- 18, 2004.
- Kenneth J. Arrow, The economic implications of learning by. Review of Economic Studies, 1962,28:155- 173.
- Katz Michael, Carl Shapiro. Technology adoption in thepresence of network externalities[J]. Journal of Political Economy, 1985,9 (4) : 822- 841.