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The Systematic Thinking on the Development of Chinese E-Business

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Abstract

This thesis systematically analyses the concept of e-business, its components, e-business technology environment and society environment. It especially lays emphasis on the importance of the combination of e-business and the internal informationization of enterprises and e-business society environment. Based on them, the thesis further makes systematic analysis on the main problems existing inside enterprises and the problems of its environment during the development of e-business. Next it points out that e-business has been prevented from developing mainly by inner informationization and society environment. At last the thesis proposes the countermeasures for the development of e-business.

1. Introduction

E-business (EB) embodies the close combination of the latest science and technology and production and management. It means not only their continual and wide combination, but also the market's return to technology and its impetus to it. As a result of it, the efficiency of production and management must be raised and resources must be distributed reasonably. E-business embodies many scientific new ideas, which represent the most advanced ideas of the human development.

What's more, the essential idea and value lie in its overcoming the limit to the freedom, to the district, to the time, to the communication and to the cooperation. In addition to these advantages, e-business is also the advanced form of business, which embodies the inevitable tendency of its development in that such characteristics as unlimited areas, low cost, personalized product and service, high efficiency, sufficient information, manpower and material resources distributing all over the world are just the requirements of e-business itself. Therefore, e-business is the business form with a broad prospect.

To china, e-business is only in the initial stage and there lies much difference whether in scale, management model, coverage and ideas compared with the developed countries. In addition, the special Chinese market environment also brings about the special e-business activities. Chinese economic system innovation is in the crucial period : the traditional means of planning is fading and the market mechanism is not yet sound. When enterprises enter market, they also must enter the market of e-business. E-business is a complicated systematic project, involving the systematic management of computer information, finance settlement and the enactment of law

regulations, etc.

It needs organizing and harmonizing by the powerful institution with cross-department and cross-district. And the thesis makes a systematic analysis on Chinese e-business in order to reach some beneficial conclusions, which presents the following sections. The second section discusses the concept of e-business. The third section analyzes e-business systematically. While the fourth one presents the problems and its reasons for them in the development of e-business. On the basis of the research, countermeasures make the fifth section. At last, the thesis draws some conclusions.

2.   The Signification of E-business

2. 1 The Process of E-business Development

So far e-business has experienced two stages. The first stage was during the late 1960s and the early 1980s, whose core was e-trade based on EDI. And we call this stage **traditional e-commerce**. However, the system of EDI was deficient in flexibility and the components of the system were expensive and its usage was only limited to customer-merchant, while the end-customer was exclusive from it.

When e-business was based on EDI, Intranet and web sites came into being; it was immediately widely identified and was performed with surprising speed. Thus it came into the second stage of e-business and we call it **modern e-business stage**. During this stage, e-business developed quickly with such characteristics it possesses as its openness, cheapness and globalization.

But recently the development of e-business has been covered by the shadow of a tendency of web-sites breaking down. So we think the present e-business is not perfect and needs to be further studied. The future e-business is a complete e-business with enterprises centered, containing all the management activities and we call it **mature e-business**. And then is the third stage of e-business.

2.2 The Concept of E-business

There are many concepts concerned e-business, such as e-commerce, Internet marketing and e-business, etc. All these concepts refer to the bargaining on the Internet. That is to say, the core of e-business is "business" and "electron" is the means of e-business. But at the same time, e-business not only simply refers to the transaction on Internet, but also contains internal informationization of enterprises. The informationization is the background

support of e-business and is also the very important part of e-business. Thus, e-business is not only the patent of such new Internet companies as Sohu and Sina. What is more, it is combined with traditional industries. Traditional industries have accumulated advantages of all aspects for a long time and it has laid a solid foundation for e-business and it is the main fied where e-business is applicated. Only all various industries involves in it will e-business have a broad prospect. To say exactly, e-business has two meanings from two aspects. In the narrow sense, e-business is business and transaction through Internet or what we call electronic commerce (EC). While in the wide sense, e-business refers to the whole business activities that have been electronized by the technology of IT. The latter will take advantage of various forms of network, among which there are Internet, Intranet and local area network and so on.. The comparison between e-business and e-commerce sees the following table 1.[1]

Table 1 The comparison between EB and EC

	EB	EC
Technology	Web	Web + IT
E-business activities	Internet trade	Internet trade + business

3.   The Systematic Analysis of E-business

3. 1 The Structure of E-business System

E-business is a complicated system, having systematic traits. System that is made up of numerous interrelated elements is an organic entirety having special functions and it has many characteristics, such as collectiveness, stratification, relativity, entirety and environmental adaptability, etc. E-Business as a system also has such characteristics. So the research on e-business must be led by the systematic thought to study its factors and its interrelation. And according to it, we in the end establish the systematic model. See figure.1.

From the figure, we can see e-business, as a system, on one hand, contains downstage e-trade system for external, which we call e-shop. On the other hand, e-business, as a system, can't exist without the support of every department and every tache of enterprises, which we call background support system. The informationization and efficiency of all these departments and taches have direct influence on the normal course of e-shop. Among the background support system, there are MIS, CMIS, ERP, CAD, and CRM etc. Only under high degree of internal informationization of enterprises does high quality e-commerce exist.

Therefore, The e-business system is reasonably divided into three function modules: content management, collaboration, commerce service is reasonable.[1]

3.1.1 Content Management

Content management means the management of issuing various information on Internet. It mainly contains managing and classifying the information of enterprises;

issuing and updating information on Web; providing with the information concerned products and service; helping
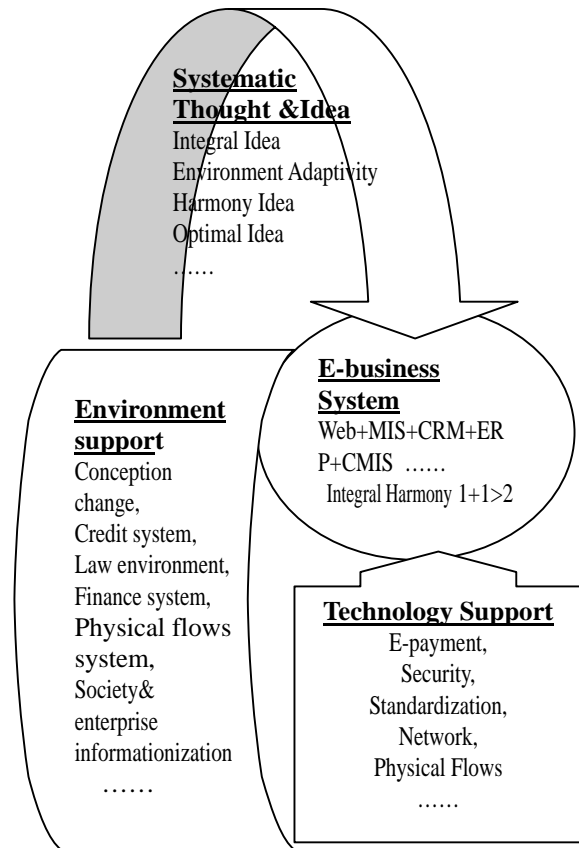

Fig. 1 E-business system and its environment

transmit internal information of enterprises. To say exactly, by Internet, the policies and notices of enterprises are transmitted to staff, customers and business partners. Thus by such management, information is used fully to increase the value of brand names and enlarge the influence of enterprises.

3.1.2 Collaboration

Collaboration helps to cooperate departments and operation taches. By the automatically operated flow, the cost of operation is lowered and the period of product exploitation is shortened. Concretely it includes the collaboration of intranet and the collaboration of extranet. The latter refers to collaborating inner resources of enterprises, among which there are manpower resources, capital, equipment and material, etc. Intranet connects all departments and operation taches. Extranet connects providers and business partners and so on.

3.1.3 Commerce Service

Commerce service is mainly used to perform

transaction on Internet and provide services of pretransaction, of during transaction and of posttransaction. It can mainly serve the following functions: provide products and service lists; deal with order form; sign transaction contract; perform e-payment and provide after service.

3. 2 The Harmony in E-business System

As a system, the coordination of inner elements is the key to producing the best effect on the whole. If the elements have good interrelations, the good system structure will be established and then the good function will be able to be performed. ERP, CRM etc are the most important parts of the informationization inside enterprises, which support e-business. It is hard to imagine that an enterprise with lagging manual management can perform e-business well. In the meanwhile, e-payment system, e-authentication system and safety guard system are also very important parts of e-business. The optimal integration of these subsystems is the key to making the best e-business operation.

3.2.1 The Integration of ERP and EC

ERP mainly focuses on the internal flow of enterprises, while the focus of EC is external transaction. The management model of enterprises before their integration is as follows: receiving order form on website, but goods stocking and collocating and delivering are performed in a traditional way. What we call purchase online is a simple form of EC. The efficiency of its background function is still very low. The process of transaction on the whole is broken and out of joint. By virtue of the technology of Intranet, Extranet and Internet, enterprises fulfill the integration of ERP and EC. In addition, they realize the integration from customers to providers and that of internal flow of enterprises.

3.2.2 The Integration of ERP and CRM Based on EC

CRM is a suit of management ideas and also a suit of practical ideas based on Internet By recombining operation flow of enterprises, CRM integrates user information resources in order to manage client resources in the effective way and provide clients with more economic, shortcut and circumspect products and service and finally to maximize the profit of enterprises. On the base of modern information technology, CRM can furthest satisfy the individual needs of clients so as to retain old clients and attract new clients, which is enterprises' magic weapon to win. Now enterprises attach more and more importance to CRM.

In the competing environment of EC, enterprises, on one hand need quick and flexible production model and take advantage of ERP to fulfill it. On the other hand, they need to realize the market model of individuation service and CRM serves this purpose. CRM and ERP support each other and depend each other and their relationship is that of transmitting of data information. First of all, ERP

provides CRM with rich data. Next, CRM provides ERP with decision-making data by analyzing and forecasting market development. Only if ERP and CRM are integrated with EC is the transaction model on line realized. And it is the modern EC model. In this model, internal flow of enterprises integrates with external transaction. CRM makes a mutual marketing with clients and ERP makes the data flow on the supply chain fluent. CRM and ERP make enterprises powerful and gain more profit in different ways. The former is used to ease the relationship between customers and clients, while the latter is used to optimize the production flow of enterprises. EC is the reflection of the achievements of ERP and CRM. Consequently it is an integral "end to end" EC with "customer centered"

3. 3 The Environment Analysis of E-business

Environment consciousness or environment idea is also very important content of systematic thought. Environment analysis is an essential link in systematic analysis. And environment is also systematic, which we call environment super-system. Environment plays two reverse roles in system. On one hand, it supplies such favorable conditions with the space of survival and development, sustentation of resources and infrastructure and so on. On the other hand, it will exert a passive influence on system development, like exerting restriction, disturbance and pressure, etc. Thus environment plays an important part in e-business development.

From the figure, we can see that the environment of e-business mainly consists of two parts: **technology -support environment** and **social environment.** EB cannot develop without the support of technology. The development of related technology is the precondition and the safeguard of successful EC development. Only perfect technology can be the safeguard for transaction. The technology mainly concludes Internet technology, safety technology, payment technology, and standardization technology, physical flow technology, etc. These technologies provide technology support for e-business.

To say exactly, there is no e-business without corresponding technology safeguard. Among these technologies, we attach importance to the security of safeguard, authentication technology, e-payment technology and standardization technology, etc Security technology is centered among them, concerning data signature technology, identity authentication technology and encryption techniques, etc. Payment technology relating to capital transfer and settlement, is also concerned by people. It means the problem of capital security and the convenience of payment. The standardization of the related technology of EC is a key problem. Criteria can make the products and service provided by manufacturers interchange and mutually operate. Furthermore, they can normalize market participants' behavior and encourage competition and decrease the risk. By the way, standardization involves the standardization of contract text, that of EC technology, that of e-payment and that of ECM, etc.

E-business is in a complicated social environment. And the environment concerns many aspects, such as law, the construction of credit system, the level of society informationization and that of enterprise informationization and the informationization of finance system and that of physical flows, etc. The appropriate social environment is an important support for EC success. Social environment is the soil on which e-business develops

4. The Chinese Problems Existing in the Development of E-business

The development of e-business exists great difference between China and developed countries. In,contrast, Chinese e-business has its own specialties. Generally speaking, the following problems have to be solved in the development of e-business.

4.1 The Inner Problems of Enterprises

Inside enterprises, the degree of informationization is low. The degree of informationization of large enterprises on the whole is very low. According to the research on 638 key enterprises of our country, there are 48 and 7.5% enterprises that have completely realized the information system of basic management, containing OA, MIS systems and so on; there are a half and 59.9% enterprises that have partly realized it; there are 208 and 32.6% enterprises that have not realized it. While there are 30 and 4.7% enterprises that have completely realized the comprehensive information system of management, containing CIMS and ERP, etc; there are 30.7% enterprises that have partly realized it; there are 412 and 64.6% enterprises that haven't set about it. Besides, there are 8 and 1.2% enterprises that have basically used e-business; there are 482 and 75.5% enterprises that haven't started. Though there are 435 and 68.2% enterprises have established websites, only 117 (18.3%) enterprises change information per week and only 139 (21.8%) ones operate e-business and their total sales are 0.1%, which are the business income of 638 enterprises in the year of 2000. [2]

Such low informationization has greatly restrained e-business from developing. Next, because e-business has not been combined with the strategy of enterprise development and the strategy cannot adapt to the development of e-business well, traditional business model of enterprises cannot obviously adapt to e-business. These are the main factors that prevent e-business from developing. In addition, the factors that ideas hang behind, sincerity and credit widely lack, the means of management fall behind and the groundwork is weak have influenced the performance of e-business in some degree.

4.2 The Social Environmental Problems

First of all, the degree of informationization in the whole society is low and Internet doesn't widely spread.

Secondly, the credit system of socialization is not perfect and the credit degree of society is low. At present, our credit institutions of enterprises have not yet established and that no credit exists in enterprises is in fashion. Thus the problem of enterprise credit has prevented e-business from developing.

The third is the problem of system. The present system of management is basically the offspring of planning economy period, which is stick-block division, the setup is not reasonable, the cooperation is not enough, the rate of work is low and the adaptability to the new economy is weak. To start with the finance system, the e-business needs such means of finance as payment and settlement to support. So e-business is in great need of the service of finance with hi-quality and hi-efficiency and the cooperation of its electronization. Next is the safe authentication system. Now the system is in disorder and it is hard for authentication to be uniform, which keeps e-business from developing.

Fourthly, the modern degree of physical flows is very low and there are short of commerce automatization, informationization, transfer of physical flows and supply chain system to match with. The development of Chinese physical flows starts late and its degree is very low. Thus the present physical flows system restricts e-business in large degree. For instance, our understanding of e-business is limited to the electronization of information flow, commerce flow and capital flow and we ignore the process of physical flows automatization; the infrastructure of physical flows is not perfect; the technology of physical flows management falls behind; the traditional storage and convey system and its means prevent modern physical flows from developing; the third-party service lags; the physical flows system adaptive to e-business has not been established.

The fifth is the problem of law. The legislation of e-business has a long way to go. Now the law environment cannot meet the needs of e-business. Especially, the legislation of electron signature, the protect of knowledge right and the construction of safe authentication system, etc. seriously falls behind, which keep e-business from developing.

5. The countermeasures of Chinese EB Development

E-business development is a systematic engineering. It cannot ensure e-business to develop soundly by solving only one aspect of problems. E-business system in all directions must be established, which is web-based, business-centered and is supported by good environment and reliable technology.

5.1 Update the Concepts of Enterprises and Strengthen the Construction of Information System of Enterprises to Improve the Informationization of Enterprises

Try to reinforce the policy-makers' sense of urgency and responsibility, to establish the information work system with the chief information officer (CIO)-centered,

to set up the integral project and technology scheme, and to make preparation for capital, technology and manpower. Besides, try to sort out the inner resources of enterprises and realize the informationization of basic management, research and exploitation according to the requirements of inner resources management of enterprises.

To connect the following links, such as research and exploitation, production, supply, marketing and service, etc. in virtue of ERP, CRM. And try to optimize the resources of manpower, financial resources, material resources and technology, etc. Try to set up the proper e-business model and to make strategies for the development of e-business actively according to different enterprises, in order to put e-business into enterprise system, to make the components of enterprises to collaborate and finally to exert the predominance of integrity.

5.2 Strengthen the Environmental Construction to Create the Feasible E-business Environment

First of all, energetically raise the level of society informationization, quicken the construction of network infrastructure, extend the coverage of network and widen the capacity of e-business marketing.

Then, hasten the construction of credit system and law environment. Credit is the key to the development of e-business. It concerns three aspects: government credit, enterprise credit and personal credit, among which government credit is a guarantee and personal credit is base and enterprise credit is the emphasis. If we want to make the construction of credit better, we must make a medium agency play its role and make credit system perfect as fast as possible.[3][6] At last, perfect the corresponding standard system, security technology and payment technology to provide e-business with technology.[4]

In the meanwhile, the good law environment can ensure e-business to develop continuously and will make e-trade uniform and confirmative in law, no matter the trade is done in the same country or in the trans-nations. Try to issue law regulations that are explicit, collective and recognizable by local, country and international law authorities. At present, what is most important is to make early the rules of law involved the activities of e-business.

The law and rules of law contains the following items: the first is the law concerning time, place and signature of signing contracts and the contract original and the law position of e-bill and the acceptability as lawsuit.

The second is the effectiveness system of e-signature which refers to the applicable scope and the ascription of e-signature and also the usage and effectiveness of e-signature, etc.

The third is about the supervision system of e-business. The finance supervision department must strengthen the supervision of e-transaction to establish the branches of issuing e-money, to make certain of the limits of its power and responsibility and to make corresponding crackdown measures and to make law of preventing cybercrimes.

The fourth is to establish the uniform principle of taxation and the jurisdiction. In addition, the construction of Chinese legal system of EB attends actively International interlocution and tries to make Chinese code accepted by International. By applying the code, Chinese e-business will be provided with strong legal safeguard and be made to further develop. [5]

5.3 Actively Push the Construction of Physical Flows System

Physical flow is the main bottleneck of EB. The problem can be solved in the following ways:

5.3.1 Socialize Physical Flows

The socialization of physical flow can make the disperse physical flows uniform by distributing physical flows reasonably, which can make physical flows become industry and can produce the scale efficiency. The key to realizing the socialization of physical flows is to build physical flow center adaptive to e-business.

5.3.2 The Informationization of Physical Flows

It means the informationization of collecting, processing, transferring and storing of physical flows information. Such technology as that of bar code, of database, of e-order system, and EDI, etc, will be applied widely in physical flows.

5.3.3 The Automatization of Physical Flows

The automatization adopts such system of physical flow automatization as automatic identity system, automatic choice system and automatic storing and taking system and so on. It can save manpower, strengthen the capability of physical flow operation and enhance the efficiency of it.

5.3.4 The Network of Physical Flows

It refers to the uniform layout of physical flow system. When making a plan designing the amount, the place and the scale of physical flow center in a certain field, we must consider the plan of transaction, the range of accommodating and its scale. Besides, we must actively adopt the advanced transportation means and tools, scientific dispatching technology of physical flow to reduce overstocking in transportation.

5.4 Hasten to Produce Talents of EB

The operation of EB is a complicated system engineering, which involves all aspects of society. For instance, it concerns the construction of information infrastructure and that of standardization. In addition, it is concerned with trade, customers, bank, revenue, traffic and transportation, etc. Thus EB needs not only a great number of talents of technology, and talents with all kinds of application, but also talents of management in all layers.

Consequently, we should train the persons concerned in the respect of the consciousness of EB, the knowledge and theory of layout and decision-making. For the development of Chinese EB, we should cultivate numbers of the persons not only knowing the management, but also applying the technology of EB, who can engage in the building, applying and managing EB system.

5.5 Reform Finance System, Promote Finance Informationization to Solve the Bottleneck of E-payment

Finance system is the key factor to e-payment. First of all, in order to create an appropriate finance environment, we must strive to hasten the finance system reform and strengthen the cooperation of banks. Secondly, we must take an active part in financial innovation, improve the financial service and produce continually financial products adaptive to e-payment Thirdly, promote the informationization of finance system, solve the problems of security and payment and encourage to construct the network banks. At last, we must establish the financial credit system and improve the credit degree of banks, enterprises and persons to reduce the financial risk.

6. Conclusion

With the globalization of economy and the quick development of information technology and information industry, e-business will become the most popular and most active information trade activities and will become the most focused field that every country and every department of industry will strive to be the first to develop.

Chinese e-business is still in the initial stage, faced with many problems from system, technology and management, etc. But China has moved the first delightful step. E-business is a complicated system. So the research on e-business must be led by the systematic thought and we must perform research on soft environment and inner informationization of enterprises. Try to get each element in line according to the principle of integral optimization and at the same time to improve the quality of each element to put e-business practically into enterprises' strategy.

In addition, we must regard environment as a systematic engineering in the construction of environment to create favorable environment support in all aspects for e-business development.

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