

Research on the E-business Model and Enterprise Financial Management based on Cloud Computing

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Abstract

The rapid development of E-commerce has brought new opportunities for the enterprises, and the new information technology also affects the financial management mode of enterprises. In this paper, the authors research on the E-business model and financial management based on cloud computing. Because e-commerce has some new characteristics different from traditional business, the overall goal of the financial strategy of e-commerce enterprises is to assemble, allocation and utilization of resources. In order to achieve the balance of enterprise funds, build the core competitiveness of enterprises, and ultimately achieve the maximization of enterprise value. At the same time, we also analyze the function of the network financial system, and puts forward related suggestions.

Keywords: *E-business model, Cloud computing, Financial management, Network financial software*

1. Introduction

Internet to promote enterprise management digital, the Internet enables enterprises to become a global network node in the supply chain, enterprise management and information management are run by electronic means, enterprise management object and management process can become digital, management activities can be calculated [1-2]. Management can promote the automation of management, so as to realize digital management. Internet brings changes in the form of enterprises. Driven by the Internet, the new enterprise system began to emerge, such as online enterprises, Internet companies, virtual enterprises [3]. The ecological environment of enterprises has changed, that is, from the original suppliers, vendors, vendors to the customer's hierarchical pattern into a nonhierarchical network based parallel mode [4-5]. Internet also further promotes the internationalization of enterprises, while promoting the integration of the global economy at the same time, and the formation of a new economic formation, namely: direct economy, network economy. Internet to promote business to electronic business, the Internet is the second industry wave in the global field after PC, it brings the industry as well as the global economy and the society's great change. It is the most direct and profound influence on the enterprise [6]. Whether large enterprises or small businesses, the Internet cannot be avoided, it is to promote business to electronic commerce. Electronic commerce will become one of the important ways of business and the way of life in the network age.

After 80s, the enterprise financial management has entered a new stage of deepening development, and toward internationalization, precision, computerized, network direction [7]. With the rapid development of modern communication technology and communication tools, electronic commerce has provided a new space for the development of the international capital market, such as the cooperation of many enterprises, the international security market and so on [8]. The rise of e-commerce will bring new

opportunities for the development of enterprises, enterprises will pay more attention to international business activities through the Internet, the financial business will no longer confined to a country or a region, not only large multinational business involves a number of countries [9]. The company need to through the network directly from the distribution of data collection, a branch in different countries through the preparation of the statements, statements from different outlets on the access system, and general enterprise will also carry out international procurement and product sales activities through the network [10]. With the advent of the era of electronic commerce, the network of financial management will be more attention and development day. Under such background, the research of financial management based on e-commerce has a very important practical significance.

2. Electronic Commerce and Cloud Computing

Cloud computing is based on open standards and services, with the Internet as the center, providing a safe, fast and convenient data storage and network computing services, and users are using the service or storage network. The interconnection of the cloud makes more terminals. Cloud computing provides virtual computing resources can be self-maintenance and management for electronic commerce, which is a large server cluster, computing capability of e-commerce enterprises can use cloud computing to supplement or replace the internal resources and don't need to worry about the problem of peak. This makes the electronic commerce enterprise saves resources and reduces the cost.

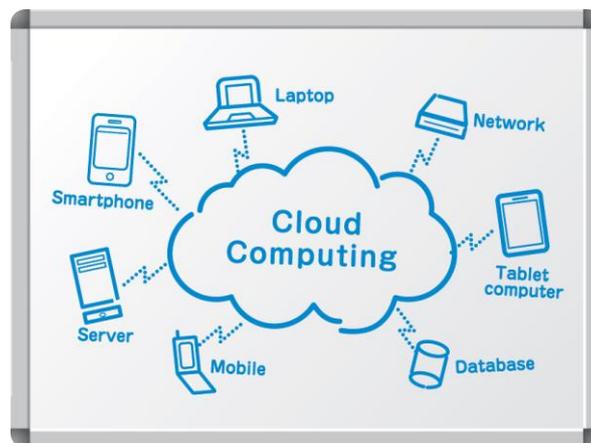


Figure 1. Cloud computing

Cloud computing is not only required to lower the cost of the hardware and software of the cloud client, but also bring a higher performance, e-commerce companies do not need to invest a lot of money to buy high-performance computers. Because the application is in the cloud rather than on a desktop operation, and provide almost unlimited storage capacity of cloud, so that the cloud client hardware requirements is very low, the client has a small hard disk, less memory, do not even need to drive CD or DVD. In addition, companies are not required to buy a separate application for each computer, because all of the software can be obtained from the cloud and can be used free of charge. Without a lot of tedious running tasks to occupy the local memory, the client gets the more computing power, faster running speed and better performance. Third, cloud computing can easily realize the sharing and collaboration between e-commerce enterprises and enterprises. Cooperation in the project of the enterprises using cloud computing can achieve close cooperation, even in different geographical locations, enterprises can also use cloud based on

project management, project members can master file, check at any time and place the project tasks and progress. Because the project is hosted on the cloud, when any member of the content of the project, the list of accounts and other changes made, the other members can see the immediate update project information. This implements the data and application sharing of different enterprises.

This kind of service can be IT and software, Internet related, also can be any other service. At present, including the software as a service (SaaS), the platform that services (PaaS), infrastructure services (IaaS) three mainstream formats, as shown in Figure 2. Cloud computing devices have been rated as the most influential ten IT technology portfolios in 25 years.

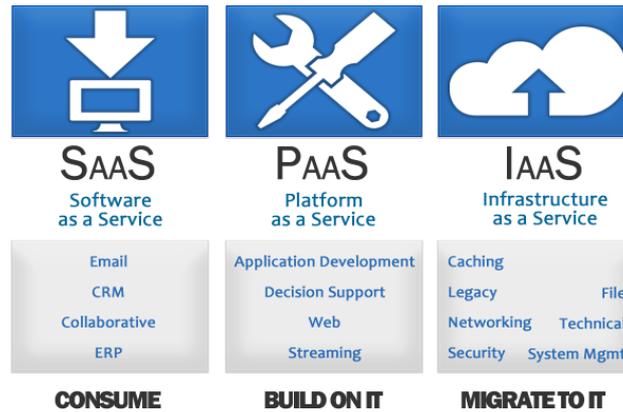


Figure 2. Mainstream formats cloud computing

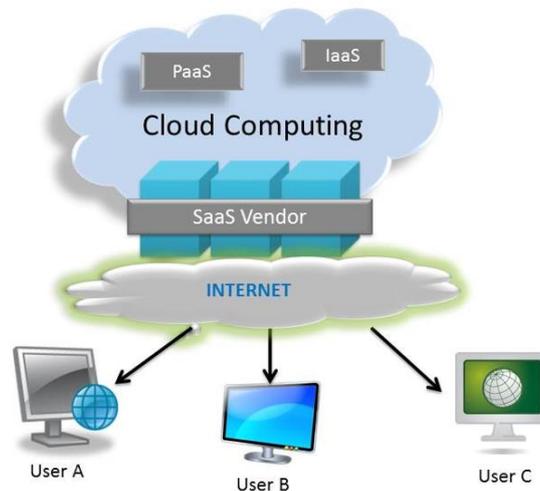


Figure 3. Cloud computing framework

Currently, Google, IBM, Amazon, Microsoft, Alibaba have joined the ranks of the development of cloud computing. Google, IBM and Amazon are the first companies to introduce cloud computing into the public eye. Google allows third parties to run large parallel applications in Google's cloud computing; IBM has launched a blue cloud program that allows people to create new applications that can access large shared computing nodes grid. The emergence of cloud computing provides a service model of software service, resource virtualization, and transparent system for the high speed development of information society.

Application of cloud computing technology development of the online service platform to achieve online processing of accounting information, on-demand pay, high share of resources, so that the financial outsourcing business to a professional, focused.

3. E-business Enterprise Financial Management Strategy

3.1. E-commerce enterprise financial strategy environment

E-commerce provides a trading platform for cross-border or inters regional trade, so that global resources and information can be shared to the greatest extent in the shortest time. Compared with traditional enterprises, electronic commerce enterprises generally have certain comparative advantages in terms of cost, efficiency and so on. Specifically reflected in the following aspects:

- Greatly improves the speed of communication and information acquisition. Especially in the international communication and information acquisition speed, so that customers can easily grasp the global information.
- Potential cost savings. Such as e-mail communication saves postage, electronic data interchange, saves the cost of management and staff links. According to statistics, through electronic commerce delivery, complete billing and invoicing costs are only 1/10 of the traditional model, and the cost of customer service and support is also greatly reduced.
- The customer and supplier contact more convenient fully. Such as e-commerce system network site allows customers and suppliers are able to understand each other's latest data, so as to increase the coefficient of transaction security.
- Improve the service quality and service speed. Can provide the information of the enterprise and its products and the service that the customer needs in a quick and convenient way.
- Interactive sales channels are provided. Enable businesses to get market feedback in a timely manner, improve their work. At the same time, but also enable businesses to see the market, the market supply and demand to lay a basic point.



Figure 4. E-commerce environment

The disadvantage of electronic commerce enterprise at present:

- Lack of enterprise information construction: Enterprise as the main body of e-commerce, the degree of information is the basis of the operation of e-commerce. At present, most of the enterprises in our country are in the stage

of transformation, the modern enterprise system has not been widely established, and the progress of enterprise informatization is not satisfactory. At present our country has the Internet enterprise is less than 1% of the total number of enterprises.

- Lack of technological innovation: Innovation is the soul and core of the electronic commerce and it is also the embodiment of the vitality of the electronic commerce. At present, although the domestic e-commerce software vendors continue efforts to develop suitable for China, but still cannot change behind the developed countries the gap between the United States and especially the fact that at the present stage of e-commerce software services market, foreign mature e-commerce solutions to occupy the dominant position

3.2. Enterprise financial management strategy

The electronic commerce enterprise financial strategy refers to the enterprise in order to seek long-term development, according to the company's overall strategic requirements and capital movement, based on the analysis of the trend of changes in the internal and external environmental factors and its influence on financial activities on the global convergence for the firm liquidity, long-term planning, systematic and decisive. The focus of financial strategy of electronic business enterprise is the development direction, goal and the basic way and strategy of the enterprise's financial activities in the future. Of course, but also to consider the new feature of e-commerce is different from the traditional business. The overall objective of the financial strategy of e-commerce enterprises is to mobilize, configure and use resources, to seek the balance of enterprise funds, effective flow, to build the core competitiveness of enterprises, and ultimately to achieve the maximization of enterprise value. Several aspects of this goal are interrelated. From a long-term perspective on the performance of sustainable growth for the enterprise financial resources and ability, realize the capital increment and the financial ability of enterprises sustained, rapid and healthy growth, maintain and develop the competitive advantage of enterprises.

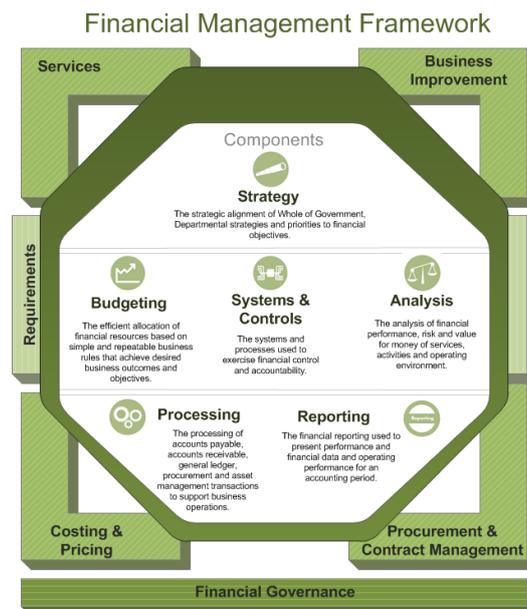


Figure 5. Enterprise financial strategy

The financing strategy is mainly used to plan the enterprise financing scale, a period of time in the future financing channels, financing mode, financing time, and realize the optimization of enterprise capital structure and the implementation of the strategic goal to provide financial security. Generally speaking, corporate financing is mainly about the demand for funds. However, the financing of e-commerce and traditional financial management financing is different, not simply to raise and application of corporate funds, e-commerce business capital, including material capital and intellectual capital.

Investment strategy mainly solves the problem of investment target, scale, and investment mode and investment opportunity of the enterprise during the period of the strategy. Investment decision-making is the most fundamental and most important decision, because the enterprise to obtain development, can only be achieved through investment income, only through financing cannot make the enterprise to obtain the development of the. The use of e-commerce enterprise investment strategy on enterprise resources with guidance, its purpose is to comprehensive and effective utilization of resources of enterprises, the allocation of enterprise productivity reasonably, so as to maximize the overall investment benefit of enterprises. It includes all the economic activities of the enterprise, in addition, it is not only concerned about the current use of funds, but also pay attention to the reasonable allocation of funds in the future

The most important production materials in the era of electronic commerce are no longer suitable for funds, equipment and raw materials, but knowledge. Knowledge is becoming the real capital and the first wealth. Investment direction is reversed; the intangible assets have become the focus of investment enterprises, investment in tangible assets to take second place. Knowledge input can be partly replaced by material input, so as to achieve the purpose of saving material resources and improving economic efficiency. The direct impact of knowledge economy on enterprise management is the core of economic development, which is embodied in human resources and science and technology. The proportion of intangible assets in total assets of enterprises is increasing. They are generally the result of intellectual labor. Compared with the traditional capital, they play a more important role in the production and operation of the capital.



Figure 6. Investment strategy

Asset management is the management of fixed assets and intangible assets. Fixed assets management of e-commerce enterprises and traditional financial in no major distinction, the management of intangible assets is made of knowledge assets, and use of knowledge assets owner enterprise surplus. Intangible assets are mainly based on knowledge of the patent right, trademark, goodwill, computer software, talent quality, product innovation, and so on, its acquisition and reasonable use will become an important part of asset management. In the age of electronic commerce,

human capital is the most important resource to the enterprise and even the entire social and economic development, as knowledge asset owners will also participate in the distribution of the enterprise surplus, the owner of human capital and material capital owner would like to share the risk of the enterprise, but also should share the enterprise profit after tax.

The procedure of the implementation of the financial strategy of the electronic commerce enterprise is: the formulation of the financial strategy, the implementation of the financial strategy, the evaluation and control of the financial strategy. The electronic commerce enterprise similar to the traditional enterprise, financial strategy management is less than the analysis of the external environment as a starting point, with the total financial strategic objectives as the basis to determine the specific objectives of financial strategy, strategy design, and implementation plan. In the implementation process, to evaluate the effectiveness of the implementation and the specific objectives of the planning phase contrast, in a timely manner to correct the deviation.

4. Financial Management Model

4.1. Network financial management model

Based on the characteristics and requirements of electronic commerce, enterprise financial management should change the management mode, from the current and future development trend, the network finance is the main mode of enterprise financial management. Network finance is based on the Intranet technology, with financial management as the core, the integration of business management and financial management, e-commerce, can realize remote operation (such as remote entry /remote report/ audit) and in dynamic accounting and online financial management, a new financial the management model can deal with electronic documents and electronic currency, is an important part of electronic commerce.

The definition of network finance includes the following aspects: firstly, it refers to self-contained LAN or WAN network concept is neither traditional enterprise, nor pure Internet, but the Internet/Intranet cooperative open network formation; secondly, the financial system is not a simple financial network, but financial management as the core a comprehensive system of collaborative business management and financial management; third, network finance is the financial enterprise application; fourth, Internet financial should fully support the electronic commerce; fifth, the network of financial functions based on management, rather than accounting. Network finance is based on network technology, help enterprises to achieve financial and business collaboration. It supports electronic documents and electronic currency, changes the way of obtaining and using financial information, financial information will also be from the traditional paper page data, the development of disk information to web data. As the combination of network technology and financial management, a new model of financial management is the future of financial accounting.

The core power of the Internet is network computing, that is, from the PC era of desktop computing to the network era of network computing. From desktop finance to network finance is mainly reflected in the three aspects of the financial management of space, time and efficiency changes. Space makes the financial management more from the corporate headquarters to the enterprise, from the enterprise internal to the enterprise external, the time makes the accounting work in real time, the financial management from the static to dynamic. The coordination of financial and business has always been an important proposition in the enterprise management. In the Internet before the financial management system, there are

many difficulties. As an important part of enterprise e-commerce, network finance promotes the coordination of financial and business, including the coordination of the internal departments and the coordination of the supply chain and the coordination of the social sector. Internal collaborative business includes the coordination of enterprise business, from the online procurement, to online sales, online services, and online attendance.

4.2. Function of network financial system

Network financial system based on financial management as the core, the integration of business management and financial management, the network computing technology, a kind of management system can realize remote operation and management in dynamic online financial management function. The main functions of the network financial system are:

(1) To achieve the supply and marketing of business and financial integration management: Implementation of the procurement business, the automatic generation of the corresponding single warehousing, inventory management module, storage and other processing and automatic inventory cost accounting, and accounting vouchers into the general ledger module. According to the tracing of the source of the integration of the source function, can achieve full penetration of the query, and fully realize the financial management and business processing synchronization.

(2) The effectiveness of cost control: The network financial software in the cost of data collection, the design of automatic comprehensive data source. The cost management module from the inventory accounting, payroll management, cost management and general ledger data automatic extraction of fixed assets. Data will be automatically generated during each cost. In the cost plan, you can prepare a comprehensive cost plan, cost accounting work after the end of the cost difference analysis of the results of this program will be automatically generated. In terms of cost forecast and analysis, department cost estimate and product cost forecast can be made.

(3) Effective control of the risk of financial operations: Through the network financial software to achieve the integration of financial services so that any business will happen immediately reflected in the financial account, so as to reflect the amount of inventory and inventory costs, and reflect the inventory information and sales information is distributed in the distribution channel, so as to control the business risk more effectively.

4.3. Network financial management model

According to the function of the offer and the market demand, the network can be divided into financial software, financial accounting, financial management, decision support module three, for investigation and analysis of the satisfaction of the financial system is limited to the construction of e-commerce platform for the enterprise, the contents of the survey relates to the enterprise management status, enterprise financial system, financial software status use of financial software and financial staff feel the working function of four aspects, in these have full use of accounting software in the enterprise, there are 20% through a wide area network, the remaining 80% is through the enterprise. Although the financial software is widely used, but by the SPSS analysis of the data, that the ratio of the software function of general accounting for 58% of the questionnaire, accounting this piece is satisfactory, but for the management and decision-making of these two aspects reflect generally do is not very good, therefore, the satisfaction of financial software is not too high. Specific satisfaction degree survey see Table 1.

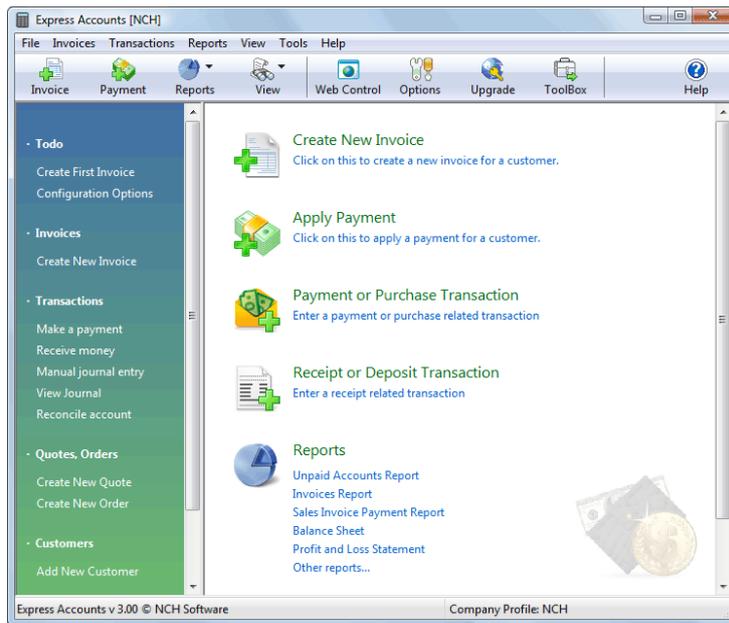


Figure 7. Network financial software

The fuzzy analytic hierarchy process is an effective method to solve the complex problem which is abstracted or difficult to be analyzed completely by the quantitative method. The main idea is: first the complex problem into several components, forming orderly hierarchical structure according to the corresponding relation; and then through 22 comparisons, to determine the relative importance of various factors; finally, the degree of importance of each factor, obtain the comprehensive evaluation value, the fuzzy comparison matrix, decision making. The key is to establish a fuzzy AHP hierarchy structure model, the main factors affecting the financial function of the software is divided into the following three aspects: financial accounting financial management function X1 function satisfaction; satisfaction X2; financial decision support function satisfaction X3. According to the statistical results of the questionnaire, the 22 comparison judgment matrix is given by using the 1-9 scaling method:

Table 1. Satisfaction degree

Result	Frequency Percent	Percent	Valid Percent	Cumulative Percent
Satisfied	10	10	10	10
commonly	58	58	58	68
Dissatisfied	27	27	27	95
Very unsatisfied	5	5	5	5
Total	100	100	100	

Table 2. Criterion layer comparison judgment matrix

	X1	X2	X3
X1	1	3	5
X2	1/3	1	3/2
X3	1/5	2/3	1

With the help of Excel and computer, the model of hierarchical order and consistency checking is carried out in Excel. Based on this model, the related data are changed. Finally, the consistency check of the hierarchical order and the matrix is determined. The final evaluation result is 75.12, which concluded that China's financial software functional satisfaction is general, and not to make enterprises generally satisfied. According to the three modules of financial decision-making of financial accounting, the financial software system of financial management, financial support, accounting module is satisfactory, and the financial management module and financial decision support modules rarely satisfactory, and this conclusion is consistent with our initial expectations.

Table 3. Functional satisfaction

index	Financial accounting	financial management	Financial decision support
Financial accounting	0.61	0.55	0.67
financial management	0.34	0.29	0.23
Financial decision support	0.20	0.16	0.11
Hierarchical single ranking	Weighted vector	λ_{max}	CR
0.52	1.87	3.00	0.001
0.30	0.54	CI	
.015	0.42	0.001	CR<0.1

5. Conclusion

The rise of e-commerce has brought new opportunities for the development of enterprises, financial services will no longer be confined to a country or a region, and will be moving towards internationalization, precision, computerization, network direction. In the new environment, the research of financial management will be more attention and development. So, the research of financial management based on e-commerce has a very important practical significance. At present, the domestic and foreign study on key financial management under the electronic commerce on the Internet financial, the network technology is introduced to the original financial system, mainly on the need to use the network to solve the financial problems of the financial system, from the network applications, especially financial network application function to study such as merger the report, the financial situation analysis, remote data processing, analysis and data storage function, solve the problem of network security. In this paper, we study the strategic environment, strategic objectives, strategic content and implementation procedure of the electronic commerce financial management.

References

- [1] R. Aghion, "Incomplete contracts and the theory of the firm: What have we learned over the past 25 years?", *The Journal of Economic Perspectives*, vol. 25, (2011), pp. 181-197.
- [2] V. Acharya, "Corporate governance and value creation: Evidence from private equity", *Review of Financial Studies*, vol. 26, (2013), pp. 368-402.
- [3] T. Jenkinson and C. Mayer, "The assessment: corporate governance and corporate control", *Oxford Review of Economic Policy*, vol. 8, (2012), pp. 1-10.
- [4] V. Bebchuk, "The state of corporate governance research", *Review of Financial Studies*, vol. 23, (2010), pp. 939-961.

- [5] G. Nini and C. Smith, "Creditor control rights, corporate governance, and firm value", *Review of Financial Studies*, vol. 25, (2012), pp. 1713-1761.
- [6] R. Kaplan, "Using the balanced scorecard as a strategic management system", *Harvard business review*, vol. 74, (1996), pp. 75-85.
- [7] A. Shleifer and R. W. Vishny, "A survey of corporate governance", *The journal of finance*, vol. 52, (1997), pp. 737-783.
- [8] A. Edmans, "Governance through trading and intervention: A theory of multiple blockholders", *Review of Financial Studies*, vol. 7, (2011), pp. 2395-2428.
- [9] F. Johannes, "The Costs of Urbanization in Developing Countries", *Economic Development and Cultural Change*, vol.30, (1982), pp. 625-648.
- [10] C. James and J. Davis, "Vernon Henderson. Evidence on the political economy of the urbanization process", *Journal of Urban Economics*, vol.53, (2003), pp. 98-125.

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