

- (i) conduct outbound promotion.
- (ii) SMS blasts.
- (iii) Product Trial Promotion.
- (iv) bund the new service and the service users currently in use.

### Conclusion

This paper analyzes some basic concepts of data mining and precise marketing, Then put the precise marketing model, Deathly analysis the specific application of data mining in precise Marketing with the case of Mobile communications service. This paper argues that the precise marketing based on data mining is a very important tool to enhance the core competitiveness of enterprises [7-8]; it will play an important role in corporate marketing.

### References

1. Giudici P. Applied data mining: statistical methods for business and industry[M]. New York: John Wiley & Sons, 2003, pp. 273-314.
2. Berson A, Smith S, Tearling K, Building data mining applications for CRM[M]. New York: McGraw-Hill Companies, 1999, pp. 32-70.
3. A few sample applications show the sorts of results achievable with See5/C5.0.
4. www.rulequest.com/see5-info.html, 2007, pp. 20-75.
5. Wind, Y and Cardoza, R Industrial market segmentation [J]. Industrial Of Physical, 2014, pp.34-36.
6. Distribution&Logistics Management, 2005, pp. 390-408.
7. Chung, K.Y et al. Three representative market segmentation methodologies for hotel gIlestroomcustomers [J]. Tourism Management,2004, pp.429-441
8. Hruschka, H.&Natter,M. “Comparing performance of feed forward neural nets and k-mean-sofcluster-based market segmentation”[J]. European Journal of Operational Research, 1999, pp. 346-353.



## Research on the Big Data Model of E-Commerce in Cloud Networking Based on Consumer Behavior

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### Abstract

In this paper, the author researches on the big data model of E-Commerce in cloud networking based on consumer behavior. The emergence of the electronic commerce has its specific historical background, the economic weakness of the western developed countries and growth worry in developing countries is the internal demand of the electronic commerce. The paper aims to value all characteristics of e-business model, thus, E-commerce initiatives will be highlighted through inspirational case studies. Nevertheless, before conducting E-business model, we may consider an array of international economic, technological, social, and legal issues and then suggest solutions.

Keywords: BIG DATA MODEL, E-COMMERCE, CLOUD NETWORKING, CONSUMER BEHAVIOR

## 1. Introduction

With stepping into the 21st century, more and more enterprises hope to improve the own competitive capacity through carrying out electronic commerce, and get more profits. Electronic Commerce is important for the development of enterprises as the great creations of the 20th century being important for the advancement of society. So, as the core of electronic commerce, electronic negotiation and negotiation system are regarded, and become the hot topic of the research. It is great significance about the research of negotiation system. So far, in China and even worldwide, research of negotiation system is in the stage of formal model research, and put forward some models, such as negotiation support system (NSS), automatic negotiation, and so on. They will become the base of the future research. But some models are simplified and supposed, and they can't support several kinds of negotiation forms, such as automatic bargain, one-to-many negotiation, and so on. Otherwise, some successful applications are the results of researching the particular part of negotiation system, such as NSS, auction, and so on. Thus, negotiation system needs to be further researched. Based on the R&D of "cooperating commerce system" of the National High-Tech.

Talor's [1] paper mainly studies the vertical relationship management. He analyzed the characteristics of e-commerce and the services providers, concluded the elements of the industry chain vertical relationship management, and build six different models of e-commerce industry leading ownership chain governance model on this basis; Then he separately proposed the vertical coordination mechanisms and bilateral market competition point of view, to study the differences between e-commerce vertical relationship with governance models. Neja [2] did the comparative analysis through mathematical model to analyze the way, given the corresponding optimal decision-making and competitive strategy. Leidner's [3] paper did the theoretical studies from transaction costs, market forces and global value chains perspective, and intend to determine the mode of governance in the industry chain theory based on the value chain as a research framework. Domestic and international research in the field of e-commerce platform were summarized based on the dimensional business model, platform ownership, consumer behavior and pricing mechanisms, such as the platform to do a thorough analysis of the current situation and the lack of a clear platform for e-commerce-related research. In-depth interpretation of the research status of two-sided market theory, research scholars at home and abroad in the platform pricing strategy and platform for competitive differ-

entiation and other aspects of the summary evaluation of this theory are to extract from the direction of innovation. It also described the application of the specific markets in the areas of two-sided market trade intermediary, bank card organizations, the media industry and operating system platforms, etc. Under the SCP paradigm, he systematically analyzed the characteristics of e-commerce industry and its associated industries express industry and the online payment industry, based on this analysis the David's [4] paper extracted the elements of e-commerce industry chain vertical relationship management, and then combined with the global value chain governance vertical relationships model and actual cases to build e-commerce platform Taobao (on behalf of third-party open platform mode), Jingdong e-commerce platform (on behalf of proprietary and open platform coexistence mode), SF e-commerce platform (on behalf of the leading logistics service provider model), business Bank e-commerce platform (on behalf of the dominant mode of payment service providers), COFCO e-commerce platform (on behalf of the whole industry chain model), Yintai Store e-commerce platform (on behalf of self-platform model), and made a comparative analysis of these models and evaluation.

## 2. The Basic Frame of E-Commerce in Cloud Networking Based on Consumer Behavior

Over the past decade, the development of e-commerce industry catches the attention. According to released data from the China Electronic Commerce Research Center, in 2013, Chinese online retail market scale reached 1.8851 trillion Yuan, accounting for 8.04% of total consumption of consumer goods; Particularly, Alibaba's Taobao electronic business platform sales exceeded 19.1 billion Yuan in one day, which had surprised the public. After one decade of tempered, e-commerce has been accepted by consumers, and integrated into people's daily lives. Today, online shopping is not just fashion, and is increasingly becoming a fundamental part of the new economic growth point and the people's livelihood. When being sought after and acclaimed, e-commerce has attracted the attention from the government, and Premier Li Keqiang in two sessions this year's government work report had proposed to create a favorable environment that encourages innovation and development of e-commerce. In the context of a large e-commerce development, platform operators have become a common choice of many commercial enterprises. The e-commerce platform is also regarded as combined model, which is generally operated by the middleman, and includes the function of logistic, payment, security etc. For example, TaoBao, JingDong

and Amazon has grown up to big platform firms. The development of e-commerce also led to the rapid growth of related support services industry. Logistic and payment industry developed rapidly. But we can see, for the difference of industrial characteristics, the e-commerce firms are not completely synchronized with their assistant industries. For example, the logistics bottle as well as payment of traps and other phenomena, reflects the e-commerce industry chain imperfect and immature. In order to solve the cooperated problems with the service provider industry, some e-commerce firms do a lot of changes and improvements. For example, Alibaba build a third-party payment platform named Alipay, which aimed to ensure the safety of the customer's payment; Jing-Dong and Amazon build logistics system to ensure that the product is safe and timely delivered. On the contrary, S.F. Express and ICBC are involved in the field of electronic business. Thus, vertical integration in the e-commerce industry is increasingly distinct. Currently, e-commerce activities mainly include two types: one is based on B2C (Business-to-Consumer) and C2C (Consumer-to-Consumer) types of shopping sites as a representative to meet consumer demand for network-oriented product line retail activity; Another to B2B (Business-to-Business) website, which represented the relationship between enterprises based on supply and demand, in order to meet the needs of enterprise business-oriented online transactions. Unless otherwise noted, the main object of this study generally refers to narrow-based online retail e-commerce activities. Although the electronic commerce industry appears platform and vertical integration trend, but, if these models and strategies are suitable for the current industrial real? E-commerce business model increasingly diverse face of these division change, complex business practices, how to explain the terms of economics? Most conventional economic theory is based on the industry's focus on traditional industries, and proposed to adapt to different industrial environments vertical relationship governance model, or vertical integration model for the next internal hierarchical coordination or portrait mode split market transactions, or living in networked governance model between the two. In recent years, e-commerce integration and restructuring practice within the industry, and industry trends of traditional industries vary widely, even opposite. For example, most of the traditional industries move towards the emergence of modular longitudinal split or control type and other governance model, but the current trend of e-commerce industry is vertically integrated. Reflections on the e-commerce platform by vertical governance model, we will further find

that the following issues for the leading manufacturers of electronic commerce industry chain, which the chain the vertical relationship governance model should be chosen in order to achieve synergy chain vertical relationship? How to deal with the relationship between the upstream and downstream service providers and customers for platform vendors? What factors do platform vendors and pricing gains mainly affected by? These questions need to be answered through theoretical studies; the study of this paper is on the basis of these problems unfolded.

Applying of the manufacturing sector supply chain contract theory, combined with newsboy model, he builds the supply chain model to describe a service e-commerce platform. In the model, the logistics service products based on the assumption that the introduction of variable order logistics and logistics services prices, analyzing the material supplier, electronic business platform synergy and logistics service provider between the three. On this basis, Aldin's [5] paper analyzed the e-commerce platform to market, network and vertical integration mode vertical coordination mechanisms, and three modes of coordination mechanism under the numerical analysis showed that networking and vertical integration governance model is superior to the market model. Based on multilateral market characteristics of e-commerce platform, utilizing the two-sided market theory to study the relationship between the monopoly of a single longitudinal platform. They build an open platform for third-party (Taobao mode), self-oriented and semi-open platform (Jingdong mode), the leading platform for logistics service providers (SF mode), a leading payment service provider platform (ICBC mode) and other four chain form bilateral market model. In the platform revenue model, combined with the actual operations of the e-commerce platform, the introduction of overlay network effects, some new variable sales revenue, logistics revenue, advertising revenue and other income, so as to expand the platform revenue model is established by current bilateral market theory. Then, on this basis, Xu's [6] paper analyzed their optimal pricing strategy and platform effectiveness of operational strategies such platforms and give constructive comments.(5) On the basis of the aforementioned studies, further study of the relationship between the two competing vertical electric business platform has been completed. On the bias of industrial organization theory Hotelling model, Jiao [7] build revenue model with differences (Taobao and Jingdong) and quality of service differentiation (Taobao ICBC) two dimensions, constructed the corresponding competition model, passing between

them comparative analysis of earnings functions, the results show that, whatever the mode of competition, the platform can increase revenue differentiated competitive platform; revenue model in the case of differences, the introduction of other revenue model can increase profits competing platforms; differences in the quality of service, the platform profits and is directly proportional to its own network externalities [8].

**3. The Consumer Behavior Algorithm in the View of Cloud Networking**

Information and communication technologies (ICT), particularly e-commerce, are considered very important to Chinese economy; as a result, China is seeking to enact legislation to enable and encourage the adoption of e-commerce. In addition, there has been proliferation of telecommunication companies in China providing Internet services as a way of encouraging businesses, especially SMEs, to adopt e-commerce. Yet, little is known about SMEs e-commerce activities. In addition, there has been number of studies on the adoption of e-commerce solutions by SMES, these studies identified several of the barriers experienced by SMEs in implementing e-commerce in advance economies. There is therefore the need for a study that will look at Asia situation in general and China context in particular.

The principle of contextualize requires critical reflection of the social and historical background of the research setting so that the intended audience can see how the current situation under investigation emerged. The application of contextualize in this study was performed in three ways: the individual case of e-commerce adoption, the local China environment context, and the developing country context. In each of the individual cases, the understanding of the social and historical background of the SME was undertaken to construct meaning of how these e-commerce environments emerged. Thus it was necessary that key informants were knowledgeable of the SME and its objectives as well as e-commerce developments in the organization. The process of understanding the two phenomena, SME and e-commerce developments required continuous evaluation during the period of the research. Thus specific times were sought to enter the organization for purposes of understanding 'what e-commerce means' in their natural and historic contexts. Further, the nature and characteristic of an SME dictates the type of e-commerce that they can adopt. Each SME in the study adopted a particular position based on contextual circumstances, regarding the scope, magnitude and breadth of e-commerce. Another dimension of contextualize involved the local China environment as a whole and

how the social and economic issues in the country impact on local SMEs.

We may get the calculating method for the main index in the following equation (1)-(2)

$$M_{ij} = \exp\left(-\frac{\|x_i - x_j\|^2}{\sigma^2}\right) \tag{1}$$

$$L = \begin{bmatrix} L_1 & & \\ & \ddots & \\ & & L_k \end{bmatrix} \tag{2}$$

Their matching eigenvectors matrix are shown in the following equation (3):

$$H = [h_1, h_2, \dots, h_k] = A^{1/2}E \tag{3}$$

So, we can get:

$$U_{ij} = \frac{H_{ij}}{\sqrt{\sum_{t=1}^k H_{it}^2}}, i = 1, \dots, n, j = 1, \dots, k \tag{4}$$

$$P = I - A^{-1/2}MA^{-1/2} \tag{5}$$

According to the equation (6), the calculating formula can be obtained in equation (7)-(10).

$$g(x, \omega) = \frac{1}{(2\pi)^3} \int g(k, \omega) \exp(-ik \cdot x) dk \tag{6}$$

$$g(k, \omega) = \begin{bmatrix} G_{ik}(k, \omega) & \gamma_i(k, \omega) \\ \gamma_k^T(k, \omega) & g(k, \omega) \end{bmatrix} \tag{7}$$

$$G_{ik} = (\Lambda_{ik} + \frac{1}{\lambda} h_i h_k^T)^{-1}, g = -(\lambda + h_i^T \Lambda_{ij}^{-1} h_j)^{-1}, \gamma_i = \frac{1}{\lambda} h_k^T G_{ki} \tag{8}$$

$$\Lambda_{ik}(k, \omega) = k_j C_{ijkl}^0 k_k - \rho_0 \omega^2 \delta_{il}, h_i(k) = e_{kil}^0 k_k k_l, h_l^T = e_{ikl}^{0T} k_i k_k, \lambda(k) = \eta_{ik}^0 k_i k_k \tag{9}$$

$$\frac{1}{2\pi} \int_{-\infty}^{\infty} e^{-ik_3 x'_3} dx'_3 = \delta(k_3) \tag{10}$$

This principle requires a critical reflection on how the data was socially constructed between the researcher and the research subjects. Interactions were achieved in several ways, such as; face-to-face semi-structured interviews between the researcher, the SME managers and staffs, informal meetings with managers and staffs to plan for further meetings, lunch-hour discussions and follow-up telephone conversations. These interactions occurred in a her-

meneutic circle to allow the researcher and the participants to be part of the historic perspective of the SME and e-commerce developments. Thus the social interactions enabled the researcher and the subjects to see themselves as interpreters and analysts even as data or 'shared meanings' were being generated in the discourse.

#### 4. The Consumer Behavior Algorithm in the View of Cloud Networking

A feature that is common in the small firms such as tourism firms, and food products and packing firms is the lack of ICT support for maintenance of e-commerce applications from within the firm. Tourism firm's business objectives define it as a small firm that desires to operate safari tour and tourist reservations, conference center and restaurants to local and international customers. This gives it a drive despite the challenge of lack of funding to maintain ICT applications and a corporate website. Food products and packing firms prefers to focus on its core business, and like other small firms discussed above, the firm obtains assistance from external firm for ICT support and maintenance. This finding corroborates previous findings in developed and developing countries.

However, the impact of this factor has been offset by outsourcing some of the ICT tasks to ICT compa-

nies. Meanwhile, the medium firms (electronics and electric Firms and service and maintenance Firms) have had adequate ICT resources and they managed to develop their websites using internal ICT staff. Woods and its Products firms also obtained assistance from an ICT firm to develop their website. Later, their position improved by obtaining financial assistance through a CEDA loan.

The availability and the slow-speed of Internet were cited by managers in seven SMEs; Electronics and electric Firms, electricity and power firms, service and maintenance firms, woods and its products firms, tourism firms, paper products and printing firms, and food products and packing as barriers to ecommerce adoption. This is also a well-acknowledged problem in Tanzania's national ICT policy document. However, the response to this barrier in each of the SMEs varies somewhat. In the case of tourism firms, the slow speed of the Internet is a serious challenge. Table 1 shows that there is no special preference for small firms as they are charged similar rates to medium and large firms. The energy charge is more for small firms than for other firms, which does not indicate an incentive in power consumption. Table 2 shows the result of the sample.

**Table 1.** The no special preference for small firms as they are charged similar rates to medium and large firms

	Small Business	Medium Business	Large Business
Fixed charge (TSH per month)	381400	142300	142300
Energy charge (TSH per month)	22100	13200	11800
Demand charge (TSH per month)	Nil	13200	11800

**Table 2.** The result of the sample

Type of SME	No of SME in the category	No of employees Not less than	Capital (Million Tshs)
Service and maintenance	28	35	21
Wood and its Products	21	21	30
Paper product and Printing	34	18	29
Food production and packing	39	30	36
Electricity and Production power	14	28	42
Electronic and Electric Industry	24	43	45
Tourism	5	10	15

#### Conclusions

In this paper, the author researches on the big data model of E-Commerce in cloud networking based on consumer behavior. Domestic and international research in the field of e-commerce platform were summarized based on the dimensional business model, platform ownership, consumer behavior and pricing mechanisms, such as the platform to do a thorough analysis of the current situation and the

lack of a clear platform for e-commerce-related research.

The emergence of the electronic commerce has its specific historical background, the economic weakness of the western developed countries and growth worry in developing countries is the internal demand of the electronic commerce. In-depth interpretation of the research status of two-sided market theory, research scholars at home and abroad in the platform

pricing strategy and platform for competitive differentiation and other aspects of the summary evaluation of this theory are to extract from the direction of innovation.

The paper aims to value all characteristics of e-business model, thus, E-commerce initiatives will be highlighted through inspirational case studies. Nevertheless, before conducting E-business model, we may consider an array of international economic, technological, social, and legal issues and then suggest solutions.

### References

1. M.J Taylor, J Mcwilliam, D England, J Akomode. Skills required in developing electronic commerce for small and medium enterprises: case based generalization approach. *Electronic Commerce Research and Applications*, 2004, pp. 33-42.
2. Neja Zupan. Using cellular automata to simulate electronic commerce receptivity in small organizations. *Technological Forecasting & Social Change*, 2006, pp. 746-758.
3. D.E. Leidner. Virtual partnerships in support of electronic commerce: the case of TCIS. *Journal of Strategic Information Systems*, 1999, pp. 81-93.
4. David L. Johnston. Open networks, electronic commerce and the global information infrastructure. *Computer Standards & Interfaces*, 1998, pp. 202-218.
5. Niklas Aldin, Per-Olof Brehmer, Anders Johansson. Business development with electronic commerce: refinement and repositioning. *Business Process Management Journal*, 2004, pp. 101-112.
6. Yang Xu, Xiao yao Xie, Huan guo Zhang. Modeling and Analysis of Electronic Commerce Protocols Using Colored Petri Nets. *Journal of Software*, 2011, pp. 67-78.
7. Yabing Jiao. Electronic Commerce Logistics Network Optimization Based on Swarm Intelligent Algorithm. *Journal of Networks*, 2013, pp. 89-98.
8. Yang Xu, Xiao yao Xie, Huan guo Zhang. Modeling and Analysis of Electronic Commerce Protocols Using Colored Petri Nets. *Journal of Software*, 2011, pp. 67-79.



## The Village Cadres Poverty Alleviation Work Satisfaction Research by Villagers—Based on the Investigation of Fuping County

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### Abstract

In order to establish the satisfaction evaluation index system of the village cadres poverty alleviation and development work, adjust measures to local conditions, formulate policy of poverty alleviation and development, promote