MINISTRY OF INDUSTRY AND TRADE

VIETNAM
E-COMMERCE REPORT
2008

Hanoi, February 2009

FOREWORD

Decision 222/2005/QD - TTg (Decision 222) by the Prime Minister dated 15 September 2005 on approving the Master Plan on E-commerce Development for the 2006 - 2010 Period is the first macro policy of the State with comprehensive measures, orientations and detailed action programs to promote nation-wide growth of e-commerce. This is the foundation for a wide range of activities related to e-commerce in the five-year period and helps to introduce e-commerce into social life through specific policies in economic and trade areas.

As an important transitional year for implementing Decision 222, the year 2008 witnessed many changes in business environment in general and e-commerce in particular. Assigned by the Government to serve as a state regulator of e-commerce and monitor the implementation of Decision 222, Ministry of Industry and Trade has published the Vietnam E-commerce Report 2008. The report presents survey results, analysis, and overview on the three years' implementation of the Master Plan on E-commerce Development. It focused on analyzing major changes in the macro environment for e-commerce applications following the themes of six major sets of policies and measures stipulated by Decision 222 – education, propagation and popularization of e-commerce legal system improvement public, service provision, e-commerce supporting technology development; enforcement of laws on e-commerce and international cooperation on e-commerce.

Like the previous reports on e-commerce from 2003 to 2007, the 2008 Report recognizes great progress in e-commerce application among enterprises relative to the previous years. Such important issues to the sustainable and long-standing development of e-commerce as data privacy, e-commerce technology standards, public services supporting e-commerce, and case studies of e-commerce application in the business community are the highlights of this Report.

On behalf of the Ministry of Industry and Trade, I am sincerely thankful to institutions, enterprises, the media, and experts for their cooperation in sharing information for this Report. We look forward to constructive suggestions to further improve the Report and make it a useful document for policymakers, enterprises, research institutes and interested parties in the future.
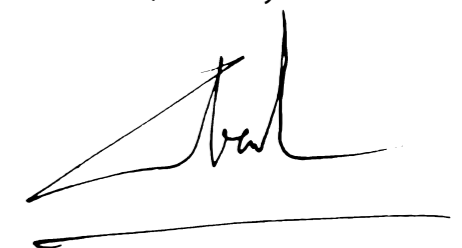
Hanoi, February 2009

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Vice Minister of Industry and Trade

NOTE

This report has been published by VECITA (Vietnam E-commerce and IT Agency, under Vietnam Ministry of Industry and Trade). The presentation of the material in this publication reflects the results of empirical research and surveys, and do not imply the expression of any opinion whatsoever of the Vietnam Ministry of Industry and Trade.

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OVERVIEW

Vietnam economy experienced numerous challenges in 2008. However, thanks to the dynamism of the business community, e-commerce was still able to maintain its robust momentum of growth from 2007.

The Vietnam E-commerce Report 2008 is centered around the evaluation of three years' implementation of the Master Plan on E-commerce Development for the 2006 - 2010 Period, the implementation of some activities related to data privacy protection, and the application of e-commerce supporting technology standards. On this basis, the Report presents recommendations to ensure successful implementation of the Master Plan on E-commerce Development.

The overview will look into the most striking features of Vietnam's e-commerce in 2008. The objective is to enable readers to get the overall picture of the current development of e-commerce in Vietnam.

1. E-commerce is widely used with increasing effectiveness among the business community

The survey of 1600 enterprises nationwide by the Ministry of Industry and Trade in 2008 showed that most of them have started to use e-commerce at different levels. Investment in e-commerce was now enhanced and generated clear positive effects.

100% of the enterprises are now equipped with computers. The percentage of those owning from 11 to 20 computers has increased over the years and reached 20% in 2008. The percentage of those having the Intranet in 2008 was 88%, as compared with 84% in 2007. So far, 99% has Internet connections, of which broadband accounts for 98%. The proportion of companies having their own websites in 2008 was 45%, an increase of 7% relative to 2007. The percentage of websites that are frequently updated and allow online orders has also risen apace.

One of the highlights of e-commerce application among enterprises is the rapid growth of software investment, which accounted for 46% of the total corporate investment in information technology in 2008, doubling that in 2007. At the same time, the share of hardware investment declined from 55.5% in 2007 to 39% in 2008. This structural adjustment indicates that companies have switched focus to investing in software applications to develop e-commerce after building the necessary IT facilities. Revenue from e-commerce is now quantifiable and tended to increase steadily over the years. It represents at least 5% of the total revenue in three quarters of the surveyed enterprises. Many now have staff specializing in e-commerce application and development.

These figures suggest that by the end of 2008, the majority of Vietnamese companies had been well aware of the importance of e-commerce in their business and willing to develop e-commerce to a higher extent in the future.

2. Educational institutions are stepping up E-commerce teaching

To evaluate the current situation of e-commerce training and education after three years' implementation of the Master Plan, and to make recommendations on promoting the teaching in the remaining two years of the Plan, the Ministry of Industry and Trade has conducted comprehensive survey of universities and colleges across the country.

The survey results showed that by the end of 2008, 49 educational institutions taught e-commerce (30 universities and 19 colleges). Of the 30 universities, one already established the faculty of e-commerce, 19 assigned the teaching task to the department of economics and business administration, 10 assigned it to the department of information technology, and 8 taught e-commerce as a module. Of the 19 colleges, one already established the faculty of e-commerce, 9 assigned the teaching task to the department of economics and business administration, 9 assigned it to the department of information technology and 3 taught e-commerce as a module.

Regarding the teaching plan for the coming time, 33 out of 108 surveyed institutions plan to introduce e-commerce major and 52 plan to start teaching e-commerce in the near future.

It can be seen that educational institutions are prompt at picking up the demand of the society and enterprises for e-commerce manpower. Nevertheless, the development of teaching activities is spontaneous and lacks of support from relevant state regulatory agencies. Hardly has any educational institution established close links with companies in need of recruiting their students. Neither have enterprises taken initiative in specifying their requirements of e-commerce workers in the short and medium run, so that educational institutions can develop their teaching plan accordingly.

3. Many agencies and localities started to develop online public services

One of the targets set out in the Master Plan is "By 2020, government agencies shall have offered all public services online, of which the priorities are such services as taxation, customs, procedures for imports and exports, investment and business registration related procedures. "During trade certificates, etc." During the first three years' implementation of the Master Plan, ministries and agencies have actively engaged in and achieved positive outcomes for a number of important public services such as electronic customs, electronic tax declaration and clearance, electronic certificate of origin issuance, and e-commerce application in public procurement.

The Ministry of Finance started to conduct the project on e-customs in 2005 and so far, such objectives as shortening the time for customs clearance and reducing the paperwork have been met. The percentage of exports done through e-customs has increased over the years, from 8% of total exports revenue in 2006 to 16% in 2007 and 17.5% in the first nine months of 2008.

One of the outstanding achievements in providing online public services is the System of electronic certificate of origin issuance by the Ministry of Industry and Trade (eCoSys). It started in early 2006 to help exporters reduce costs and improve their competitiveness. By 2008, eCoSys had been operational nationwide. Any business in need of preferential CO for their exports can apply via the electronic CO system of the Ministry of Industry and Trade, without being present in person as before.

At present, some other important projects of online public services such as electronic tax declaration and clearance - monitored by the Ministry of Finance, and e-commerce application in public procurement - monitored by the Ministry of Planning and Investment, are entering the stage of pilot implementation.

In addition, ministries and localities also pay attention to other types of online public services. By the end of 2008, almost all ministries and 59 out of 63 people's committees of provinces and centrally-governed cities had used websites to communicate with citizens and organizations. Most of these websites provide basic public services such as giving information about the activities of the agency, disseminating legal texts, publishing administrative procedures and interacting with individuals and organizations.

Some localities such as Ho Chi Minh City, Lao Cai province, etc. have started to provide online public services related to trade activities, such as issuing business registration certificates, investment certificates and representative office establishment licenses, tax code registration, stamp registration, etc.

Along with the rapid progress in constructing the legal system on e-commerce and developing technological infrastructure, success models of online public services at the national and provincial level will create the momentum for robust e-commerce development in the coming period.

4. Data privacy issues started to receive attention

In e-commerce, transactions are done entirely on the Internet and parties do not meet face-to-face, hence the huge demand for personal information. E-commerce transactions by Vietnamese companies have increased rapidly recently with more and more information being exchanged. Violations related to personal information, therefore, are also increasing, creating concern for those engaged in e-commerce activities.

Since 2005, state regulators have put great efforts in legalizing data privacy protection and detailed penalties for violations. Moreover, Vietnam is also actively engaged in bilateral and international cooperation on data privacy within the APEC framework. The Ministry of Industry and Trade has translated and published the book APEC Privacy Framework and cooperated with the US Department of Commerce and the Federal Trade Commission to organize two workshops on data privacy in 2007 and 2008.

Vietnamese enterprises also have been aware of the importance of and paid more attention to data privacy issues. According to a survey conducted in 2008 by the Ministry of Industry and Trade, 18% of 132 enterprises said that they already established data privacy policy, while 40% planned to do so in the near future. Despite not having detailed rules on collecting and using customers' personal information, Vietnamese companies have started to adopt technological and managerial measures to protect customers' information. 67% of the surveyed firms said that they have taken both of the above measures.

5. Electronic payment continued its rapid growth

While 2007 is seen as marking the rapid takeoff of electronic payment, 2008 is the year of robust and solid development.

Regarding the national payment system, after years of preparation, the State Bank of Vietnam officially kick started the interbank electronic payment system phase II on 8 November 2008. Currently, more and more members are being admitted and the coverage of the system is being expanded. It is expected that the system will be operational across the country in the second quarter of 2009. Once completed, it will be able to process 2 million transactions per day, improving the payment quality and capital liquidity of the economy.

Card payment services also had a sound year of development. By the end of 2008, 39 banking institutions had issued 13.4 million payment cards, up by 46% compared with 2007. There were 7,051 ATMs, up by over 46% against the year before, and more than 24,000 POS. The payment systems of the two biggest card payment alliances, Banknetvn and Smartlink, which account for more than 90% of the card payment market share, have now been linked together.

In 2008, thanks to the dynamics of banks and enterprises, a variety of electronic payment services were born. The number of e-commerce websites providing online payment rose dramatically from only a few in 2007 to over 50 in 2008. These websites are owned by companies in different business areas such as banking, air transportation, tourism, retailing, etc.

According to the State Bank of Vietnam, together with the rapid development of non-cash payment services, the proportion of cash in total payment methods has decreased to 14% by the end of 2008, as compared with 18% in 2007.

It can be foreseen that thanks to the robust development of electronic payment facilities and non-cash payment services in 2008, the 2009 - 2010 period shall witness drastic transformations of the payment area in Vietnam.

In addition to the above 5 major features, ministries and agencies have introduced a range of policies to promote science and technology application for practical purposes, encourage enterprises to invest in technology and utilize common standards, especially electronic data interchange (EDI and ebXML), in e-commerce. The third chapter of this Report will present an overview of the establishment, dissemination and application of e-commerce-supporting technological standards in enterprises of different sectors.

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ABBREVIATIONS

ADSL	Asymmetric Digital Subscriber Line
AFACT	Asia Pacific Council for Trade Facilitation and Electronic Business)
AKFTA	Asean-Korea Free Trade Area
APEC	Asia - Pacific Economic Cooperation
ATA	Asia - Pacific Trustmark Alliance
ATM	Automatic Teller Machine
B2B	Business to Business
B2C	Business to Consumer
CO	Certificate of Origin
eCO	Electronic Certificate of Origin
C2C	Consumer to Consumer
eCoSys	E-Certificate of Origin System
ECVN	Vietnam E-commerce Potal
EDI	Electronic Data Interchange
EDIFACT	Electronic Data Interchange For Administration, Commerce, and Transport
ERP	Enterprise Resources Planning
FTA	Free Trade Area
G2B	Government to Business
GTA	Global Trustmark Alliance
IATA	International Air Transport Association
IP	Internet Protocol
ISP	Internet Service Provider
OECD	Organisation for Economic Co-operation and Development
PAA	Pan – Asian e-Commerce Alliance

PKI	Public Key Infrastrure
POS	Point of Sales
SEOM	Serior Economic Officials Meeting
SOM	Summit of Ministerials
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
UNCITRAL	United Nations Conference on International Trade Law
UNCTAD	United Nations Conference on Trade and Development
VCCI	Vietnam Chamber of Commerce and Industry
VNPT	Vietnam Posts and Telecommunications Group
VOV	Voice of Vietnam
VTV	Vietnam Television

CHAPTER I

THREE YEARS' IMPLEMENTATION OF THE MASTER PLAN ON E-COMMERCE DEVELOPMENT FOR THE 2006 - 2010 PERIOD

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THREE YEARS' IMPLEMENTATION OF THE MASTER PLAN ON E-COMMERCE DEVELOPMENT FOR THE 2006 - 2010 PERIOD

On 15 September 2005, the Prime Minister signed Decision 222/2005/QD-TTg approving **"The Master Plan on E-commerce Development for the 2006 - 2010 Period"**. The Plan projected the overall orientation and specific measures to reach the development goal for the 2006 - 2010 period. The first chapter of the Vietnam E-commerce Report 2008 will review and evaluate what has been achieved from implementing the Master Plan during the 2006 - 2008 period.

I. EDUCATION, PROPAGATION AND POPULARIZATION OF E-COMMERCE

1. Propagating e-commerce to consumers

Since 2006, the activities of propagating e-commerce knowledge to consumers have both intensified and expanded. The mass media and enterprises are the pioneers in these activities. Vietnam Television (VTV), Voice of Vietnam (VOV) and Vietnam Digital Television (VTC) have developed their own programs specializing on information technology and e-commerce.

On 01/08/2006, VTC introduced its trial broadcast of the first channel on information society in Vietnam (VTC5) and officially launched the channel in Ho Chi Minh City on 17/07/2007. With a variety of programs such as The Message of Life, Digital Convergence, Information Society, etc. VTC has propagated the concept and role of e-commerce, helping improve the awareness and consumption practice of the society.

Table I.1
Several programs on e-commerce by VTC in 2008

No.	Content
1	Introduction of website *chodientu.vn* developed by Hoa Binh Co. Ltd.
2	The role of e-commerce in our life
3	Introduction of website *thitruongnuocngoai.vn* developed by the Ministry of Industry and Trade
4	Online auction with DGMarket Vietnam *(dgmarketvietnam.org)*
5	Online travel with *hottourvn.com*
6	Introduction of website *chonongnghiep.com* developed by the Institute of Water Resource Science

Aside from VTC, VTV is also active in spreading knowledge about e-commerce and information technology. Programs such as "Digital life" of VTV1 and "Digital Space" of VTV2 are popular nationwide. From 2006 to 2008, VTV introduced different issues relevant to e-commerce in Vietnam such as data privacy protection, information security in the banking sector, social networks, information technology application in finance, etc. From 19/07/2007, VTV2 started broadcasting the program "Digital Space" (now known as "7-day technology") 60 minutes every day. This program has contributed a significant part for disseminating knowledge of e-commerce to TV viewers.

With its national radio coverage, VOV also played an active role in propagating the knowledge of and events related to e-commerce. The program "Informatics and life" broadcast everyday on VOV1 has brought many e-commerce related issues to the listeners across the country. Many broadcast issues such as the situation of constructing and enforcing legal documents on e-commerce, transaction process in e-commerce and information security in e-commerce were able to capture the attention of the society. In addition, VOV also has talk programs between the listeners and experts on issues associated with science and technology, of which significant broadcasting time was dedicated to e-commerce topics.

Another important channel of propagation is newspapers, which also expressed considerable interests about information technology and e-commerce. Thanks to such magazines specializing in information technology as PC World, Digital World, Informatics and Life, Digital Mart, Digital Power, etc., readers can now have access to concrete and in-depth information of e-commerce related issues.

With the rapid growth of the Internet and the dynamism of the media, e-commerce is propagated not only via the television or newspapers but also on electronic channels. So far, almost all of big newspapers have had their electronic version with diversified content. Such news pages as "Informatics" *(www.dantri.com)*, "Information technology" *(www.vnexpress.net)*, "Online life" *(www.tuoitre.com.vn)*, "Information technology" *(www.tienphong.vn)*, "Information technology" *(www.laodong.com.vn)*, etc. are very popular among viewers.

VTV, VOV and VTC also continued propagating the benefits of e-commerce on the Internet. Such programs as "Digital life" *(www.vtv.vn)*, "Technology" *(www.vtc.vn)* are often viewed by many Internet users.

As awareness raising activities, State regulatory agencies and professional-social organizations frequently hold competitions and award prizes related to e-commerce, such as the E-commerce Gold Cup by the Vietnam Association of Informatics, Sao Khue prize by the Vietnam Software Association, etc. In 2007, the Department of E-commerce (now Vietnam E-commerce and Information Technology Agency) of Ministry of Industry and Trade started the program "Students and E-commerce" (renamed "Digital Ideas" in 2008) to introduce and familiarize students with e-commerce. This program has attracted many university students across the country.

The "Trusted E-commerce Website Program" - TrustVn, coordinated by Ministry of Industry and Trade and the Vietnam Association of E-commerce has helped to build consumers' confidence and encourage them to take part in e-commerce. In June 2008, Asia - Pacific Trustmark Alliance (ATA) officially admitted the owner of TrustVn – the Vietnam Center for E-commerce Development (EcomViet) – as its permanent member.

Additionally, from 2006 until now, tens of workshops on e-commerce were held in many provinces and cities nationwide, capturing the attention of state regulators, enterprises, organizations, etc. A number of international workshops on essential issues in e-commerce such as "Data privacy and the development of e-commerce in AEPC, the US experience", "Trusted e-commerce website certification program – Trustmark: Solutions to improve Vietnamese e-commerce firms' reputation in APEC", etc. were also organized. With participation of experts from the economies with advanced e-commerce development like the US, Japan, South Korea, Taiwan, etc, the workshops helped raise awareness of enterprises and consumers about the advantages of e-commerce in economic and trade activities, especially in imports and exports.

2. Propagating and educating e-commerce for the business community

Industrial regulators, enterprises and other organizations are active in educating advanced knowledge and skills of e-commerce for companies. From 2006 to 2008, many training courses for enterprises were held across the nation. The Vietnam E-commerce and Information Technology Agency, the Vietnam Chamber of Commerce and Industry, the Foreign Trade University and the University of Trade are institutions that proactively provided enterprises with effective training courses. Since 2005, the Vietnam E-commerce and Information Technology Agency has held more than 100 courses on e-commerce skills for firms of different sectors.

3. Propagating and education e-commerce to state regulatory staff members

To promote uniform and systematic e-commerce development, it is important that the competency and qualifications of the state officials be enhanced. The Master Plan on E-commerce Development 2006 - 2010 clearly stated "During the 2006 - 2010 period, it is necessary to provide training for state officials in charge of e-commerce policy making and law enforcement at the central and provincial level".

To achieve this goal, e-commerce propagation and training for state officials have been implemented from as early as 2006 with diversified forms such as workshops, seminars, and practical training. Since 2006, the Vietnam E-commerce and IT Agency have coordinated with different provincial Departments of Industry and Trade to organize more than 60 training courses for staff members in charge of e-commerce across the country. So far, local state officials have been well aware of the role of e-commerce in socio-economic development. By the end of 2008, 45 provinces and cities had promulgated their e-commerce development plans and 13 were considering to do so. This shows great efforts by local administrations given the relatively big gap among localities and geographical areas in terms of the level of socio-economic development.

II. FULL-TIME EDUCATION OF E-COMMERCE

The Master Plan on E-commerce Development for the 2006 - 2010 Period stressed the importance of e-commerce education in universities, specifying: "During the 2006 - 2010 period, e-commerce shall be taught in full-time courses at universities, colleges and technical high schools of economic and law branches. At the same time, e-commerce shall also be taught as basic courses at vocational schools of commerce and business administration branches".

As early as before 2003, being aware of the need of e-commerce human resources, several universities and colleges had started teaching e-commerce. Since 2006, this trend has not only been maintained but also been further developed.

The 2008 national survey on e-commerce education at universities and colleges by the Ministry of Industry and Trade revealed that out of 108 educational institutions, 49 have taught e-commerce (30 universities and 19 colleges).

Figure I.1
Number of institutions teaching e-commerce over the years
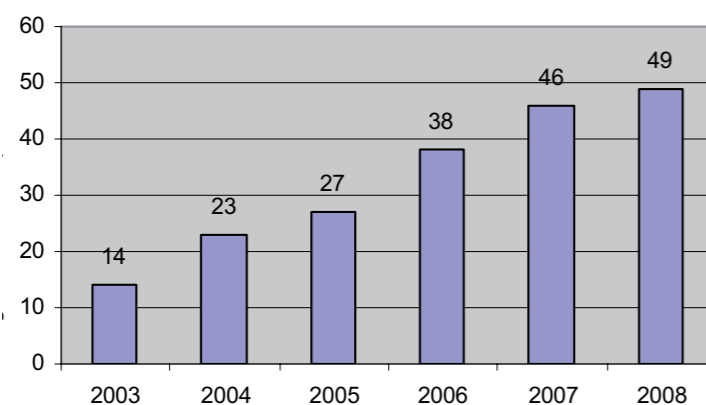
Of these 49, two have established e-commerce department, 11 have founded e-commerce module and 36 have assigned or hired teaching staff for the subject. 30 and 19 take the business and information technology approach respectively in teaching.

As for teaching staff, only 15% of the institutions have lecturers with e-commerce background while 45% use teachers of other backgrounds and 50% use self-study teachers. The curriculum is compiled collectively in 13 institutions and individually in the others. The major source of materials used in compiling the curriculum is from overseas. Some even use foreign textbooks in teaching.

In the next five years, 33 institutions plan to establish the e-commerce major and 52 plan to start teaching e-commerce.

It can be seen that e-commerce education at universities and colleges has been rapidly adopted. However, there remain a number of problems to be solved to make it improve, both in quantity and quality.

III. PERFECTING THE LEGAL SYSTEM

Perfecting the e-commerce legal system is one of the six major sets of measures stipulated by Decision 222 to promote the development of e-commerce in Vietnam. The roadmap is as followed:

- By the end of 2006, issuing bylaws to enforce the Law on Electronic Transactions, the Commercial Law and the Civil Law, forming the basis for legal effects of data messages. By the end of 2007, issuing all legal documents regulating dispute settlement, consumer protection, intellectual property right protection, criminal prevention, local taxation and customs related to e-commerce.

- Reviewing, complementing, and amending relevant legal documents to ensure consistence of the entire legal system, with the overall direction of supporting and facilitating e-commerce development.

Albeit behind schedule, by the end of 2008, the legal system for e-commerce in Vietnam was fundamentally established, with the backbone being legal documents under the Law on Electronic Transactions. Besides, the Law on Information Technology and its guiding texts formed a favourable legal basis for developing the information technology facilities for e-commerce application.

1. Policy framework for e-commerce

Within the legal system, strategies, projects, master plans and industrial development plans promulgated by Prime Minister or Head of Ministries play a significant role. They help form the policy framework and macro-orientation for the development of particular socio-economic areas.

The Master Plan on E-commerce Development 2006 - 2010 is Vietnam's first strategy on e-commerce, which sets the roadmap and general solutions to encourage the e-commerce application nationwide. To carry out this Plan, provinces and cities have worked hard to establish their own plans for e-commerce implementation at the local area. By December 2008, 58 out of 63 provinces and centrally governed cities (a percentage of 92%) had established their e-commerce development plans, 45 of which were approved for implementation by the local administration.

Table I.2
**Implementation of the Master Plan on E-commerce Development
for the 2006 - 2010 Period in provinces**

Approval made				Approval pending	
1	Hanoi	24	Kien Giang	1	Ba Ria Vung Tau
2	Ho Chi Minh City	25	Kon Tum	2	Bac Kan
3	An Giang	26	Lang Son	3	Cao Bang
4	Bac Giang	27	Lao Cai	4	Da Nang
5	Bac Ninh	28	Lam Dong	5	Gia Lai
6	Binh Duong	29	Long An	6	Ha Nam
7	Binh Dinh	30	Nam Dinh	7	Hung Yen
8	Binh Phuoc	31	Phu Tho	8	Nghe An
9	Binh Thuan	32	Phu Yen	9	Ninh Binh
10	Ca Mau	33	Quang Nam	10	Ninh Thuan
11	Can Tho	34	Quang Ninh	11	Quang Tri
12	Dac Nong	35	Soc Trang	12	Thai Binh
13	Dak Lak	36	Son La	13	Tuyen Quang
14	Dong Nai	37	Tay Ninh		
15	Dong Thap	38	Thanh Hoa		
16	Ha Giang	39	Thai Nguyen		
17	Ha Tay	40	Thua Thien Hue		
18	Ha Tinh	41	Tien Giang		
19	Hai Duong	42	Tra Vinh		
20	Hai Phong	43	Vinh Long		
21	Hau Giang	44	Vinh Phuc		
22	Hoa Binh	45	Yen Bai		
23	Khanh Hoa				

Over the past few years, together with the 2006 - 2010 Master Plan on E-commerce, the policy framework on e-commerce has been consolidated by various programs and projects of national scale, from Internet and telecommunication infrastructure planning to IT human resource development, or IT application diffusion among state agencies. These policies have helped support and promote the development of e-commerce in Vietnam.

Table I.3
E-commerce-related policies promulgated during the 2006 - 2008 period

Date of Issue	Document title
15/09/2005	Decision 222/2005/QD-TTg by the Prime Minister promulgating of the Master Plan on E-commerce Development for the 2006 – 2010 Period
07/02/2006	Decision 32/2006/QD-TTg by the Prime Minister approving the development planning of Vietnam Telecommunications and Internet towards 2010
24/05/2006	Decision 112/2006/QD-TTg by the Prime Minister approving the Project on the development of Vietnam banking sector towards 2010 and vision for 2020
06/12/2006	Directive 14/2006/CT-BTM on implementing the Master Plan on E-commerce Development for the 2006 - 2010 period
29/12/2006	Decision 40/2006/QD-BTM by Ministry of Trade issuing the Master Plan on Application and Development of Information Technology in the Trade Sector towards 2010
29/12/2006	Decision No. 40/2006/QD-BTM by Ministry of Trade promulgating the Master Plan on application and development of information technology in trade sector up to 2010
12/04/2007	Decision No. 51/2007/QD-TTg by the Prime Minister approving the Program on the Development of Vietnam Software Industry towards 2010
23/04/2007	Decision No. 55/2007/QD-TTg by the Prime Minister approving the list of priority industries and spearhead industries for the 2007 - 2010 period, vision towards 2020 and a number of incentive policies for these industries
03/05/2007	Decision No. 56/2007/QD-TTg by the Prime Minister approving the Program on the Development of Vietnam Digital Content Industry towards 2010
28/05/2007	Decision No. 75/2007/QD-TTg by the Prime Minister approving the Master Plan on the Development of Vietnam Electronic Industry towards 2010 and Vision for 2020
07/07/2007	Directive No. 07/CT-BBCVT of the Ministry of Post and Telecommunication on Strategic Orientation for the Development of Vietnam Information and Communication Technology in the 2011 – 2020 period ("Take-off Strategy")
26/10/2007	Decision No. 05/2007/QD-BTTTT by Ministry of Post and Telecommunication approving the development planning for Vietnam IT human resources towards 2020
24/03/2008	Decision No.43/2008/QD- TTg by the Prime Minister approving the Plan of Information Technology Application in State Agencies

2. Promulgation of legal texts under the Law on Electronic Transactions and the Law on Information Technology

The current legal system governing electronic transaction in Vietnam is constructed around two pillars, the Law on Electronic Transactions 2005 and the Law on Information Technology 2006. The former has laid the legal foundation for electronic transactions by recognizing the legal effects of data messages and giving detailed regulation for electronic signatures – the element to ensure the reliability of data messages. The Law on Electronic Transactions mainly regulates electronic transactions in state agencies and business, commerce, and civil relationships. On the other hand, the Law on Information Technology is composed of basic provisions on the application and development of information technology and measures to develop the infrastructure for these activities. Combined together, these two laws regulate almost all elements related to the use of information technology and e-commerce in socio-economic activities in Vietnam.

In 2006 and 2007, four decrees guiding the implementation of the Law on Electronic Transactions were issued, namely the Decree on E-commerce, the Decree on Digital Signatures and Digital Signature Certifying Services, the Decree on Electronic Transactions in Finance, and the Decree on Electronic Transactions in Banking. In addition, the promulgation of the Decree on the Use of Information Technology in State Agencies and the Decree on Anti-spam, which guided both the Law of Electronic Transactions and the Law of Information Technology, has contributed to sufficing the legal framework for developing electronic transactions in some of the essential areas of socio-economic activities.

The decrees on e-commerce, electronic transactions in finance, and electronic transactions in banking focus on guiding the implementation of the Law on Electronic Transactions in the aspect of "data messages", by specifying elements of the legal effects of data messages in commercial, financial and banking activities. The Decree on the Use of Information Technology in State Agencies and the Decree on Anti-spam have provided detailed guidance for some specific areas of electronic transaction application. The Decree on Digital Signatures has formed the legal basis for the development of digital signatures and digital signature certifying services – the prerequisites for developing electronic transactions on a mass scale.

Table I.4
Legal texts under the Law on Electronic Transactions and Law on Information Technology

Law	
29/11/2005	Law on Electronic Transactions
29/6/2006	Law on Information Technology
Decrees to provide guidance on law	
09/6/2006	Decree No. 57/2006/ND-CP on E-commerce
15/2/2007	Decree No. 26/2007/ND-CP guiding the implementation of the E-transaction Law on digital signature and C/A services
23/2/2007	Decree No. 27/2007/ND-CP on electronic transactions in financial activities
08/3/2007	Decree No. 35/2007/ND-CP on electronic transactions in banking activities
10/4/2007	Decree No. 64/2007/ND-CP on information technology application in State agencies
13/8/2008	Decree No. 90/2008/ND-CP on anti-spam
28/08/2008	Decree No. 97/2008/ND-CP on the management, provision and use of Internet services and electronic information on the Internet
Handling of violations	
10/4/2007	Decree 63/2007/ND-CP on administrative sanctions for violations in information technology
16/01/2008	Decree No 06/2008/ND-CP on administrative fines in commercial activities
Circular guiding the implementation of some provisions in decrees	
21/7/2008	Circular No. 09/2008/TT-BCT guiding the E-commerce Decree regarding information supply and contract conclusion on e-commerce websites
15/9/2008	Circular No. 78/2008/TT-BTC guiding the implementation of Decree No. 27/2007/ND-CP of February 23, 2007 on e-transactions in financial activities
Draft	Circular guiding electronic transactions in securities trading

In 2008, Decree No. 97/2008/ND-CP on the management, provision and use of Internet services and electronic information on the Internet - another decree guiding the Law on Information Technology - was issued to replace Decree No. 55/2001/ND-CP. The new decree plays an important role in creating a more favorable environment for developing e-commerce in Vietnam. The biggest improvement is downsizing previous licensing requirements of all websites to a limited group of websites, including only electronic news page, general information web page and online social networks.

Box I.1
Principles of electronic information monitoring in accordance with Decree 97/2008/ND-CP

Article 19.- Principles of management, provision and use of electronic information

1. The establishment of websites, the provision, transmission, storage and use of electronic information on the Internet must comply with the laws on information technology, intellectual property, press, publication, protection of state secrets, copyright and advertisement and regulations on management of electronic information on the Internet.

2. Press agencies that have been granted electronic newspaper operation licenses under the press law may establish websites for use for press activities.

3. Organizations and enterprises that wish to establish general websites shall obtain a license from the Ministry of Information and Communication.

4. Enterprises that wish to establish websites to provide online social services shall make registration with the Ministry of Information and Communication.

5. Organizations and enterprises establishing websites and using the Internet to provide Internet-based specialized application services shall comply with the provisions of specialized laws and relevant provisions of this Decree.

6. Organizations, enterprises and individuals other than those prescribed in Clauses 2, 3, 4 and 5 of this Article are not required to obtain licenses and make registration when establishing websites but shall comply with the provisions of this Decree and relevant regulations on management of electronic information on the Internet.

Another major improvement of Decree No. 97/2008/ND-CP is the narrowing of the so-called "Internet services" which is under the control of the Ministry of Information and Communications. Previously, Decree 55/2001/ND-CP defined them broadly as Internet access, Internet connection and Internet application services. *Internet application service is a service, which uses Internet to provide its users with various applications or services, covering: post, telecommunications, information, culture, trade, banking, finance, healthcare, education, training, technical support and other services on Internet*. According to this definition, it can be understood that all applications based on the Internet are Internet services. However, Decree 97/2008/ND-CP has narrowed down the scope of Internet services to cover only Internet access service, Internet connection service and Internet - based telecommunication service. Besides, the function of state management over the Internet was also decentralized to various agencies: "Concerned ministries and branches shall coordinate with the Ministry of Information and Communication in submitting to the Government for promulgation or promulgate according to their competence, guide the implementation of, and manage the provision and use of Internet-based specialized application services in the domains under their state management function."

In addition to lessened regulations on websites licensing, the legal framework for e-commerce websites was also improved in 2008 thanks to the issue of Circular 09/2008/TT-BCT guiding the implementation of the Decree on information provision and contract conclusion on e-commerce websites.

Box I.2
Circular guiding the implementation of the Decree on information provision and contract conclusion on e-commerce websites

Along with the improvements of the infrastructures and legal environment over the past three years, applications of e-commerce in companies are increasingly widespread, especially those based on the Internet. The number of e-commerce websites has increased rapidly. Due to the distinctive features of the Internet, the processes of and conditions for transactions on these websites are very different from conventional ones, especially in the contract-conclusion step. Nevertheless, such transactions were yet to be covered by regulations of the current legal system. Transactions on websites have been done spontaneously and there was no legal basis on which disputes can be settled.

In this context, drafting a document guiding the process of concluding contracts on e-commerce websites is particularly necessary, with the view to set up common principles and standards for websites' operation, enhance the transparency of e-commerce transactions, protect and balance the interests of different parties in the transactions.

Performing the function of state management over e-commerce, the Ministry of Industry and Trade has drafted and promulgated Circular No. 09/2008/TT-BCT dated 21/07/2008 guiding the provision of information and conclusion of contract on e-commerce websites. The Circular was stipulated on the following premises:

- The Circular only covers issues pertaining to the practice of contracting on e-commerce websites. General matters of contract performance is regulated by universal laws on contracts (for example business practice of enterprises is governed by general laws on commerce).

- The Circular is confined to regulating business-to-consumer (B2C) contracting on e-commerce websites. Consumer-to-consumer contracting are civil transactions and thus, not subject to the Circular's prescription.

- The Circular's objective is to ensure balance of interests among contracting parties on e-commerce websites. Customers often are in disadvantageous position when it comes to accessing information and setting terms and conditions of contracts. Therefore, the Circular provides a common framework of regulations on the information needed to provide and the contracting process to follow on e-commerce websites, with the view to ensure basic interests for consumer. Whereas, enterprises are the party to set the terms of contracts, thus can specify provisions and take relevant measures to protect themselves in doing transactions with consumers over the website.

Based on distinctive features of the network environment, the Circular specifies an exemplar contracting process on an e-commerce website. On this ground, the scope of liability of each party to a transaction is clearly defined, and the asymmetric between buyers and sellers could be largely reduced.

Besides provisions on the contracting process, the Circular also speculates in details the provision of information on e-commerce websites to protect the rights of customers. Accordingly, sellers have to provide at least the following details on their website: name, address, email address, telephone number and business registration number, and comply with some basic principles of protecting customers' personal information. Additionally, they also have to provide sufficiently and clearly information relevant to the transactions on their websites, such as item description, price, delivery method, mode of payment, and other transaction terms.

3. Current situation of issuing other legal documents related to e-commerce

In addition to legal texts under the Law on Electronic Transactions and Law on Information Technology, a great number of documents on IT infrastructure and electronic transaction application in various areas have been issued over the past three years. The most notable are those regulating technical aspects of electronic transactions in state agencies and in the areas of customs, banking and trade. Accelerated application of electronic transactions in these core areas of commercial activities will be the driving force for Vietnam e-commerce development in the future.

Table I.5
Legal documents related to e-commerce

Date of issue	Document title
18/1/2006	Decision No. 04/2006/QD-NHNN promulgating the Regulation on safety and confidentiality of the information technology system in the banking sector
23/3/2006	Directive No. 10/2006/CT-TTg on reducing paperwork of state administrative agencies
28/4/2006	Decision No. 13/2006/QD-BBCVT on the functions, tasks, authority and organizational structure of the Vietnam Computer Emergency Response Team (VNCERT)
01/6/2006	Joint-circular No.60/2006/TTLT-BVHTT-BBCVT-BCA on the management of online games
29/6/2006	Circular No. 03/2006/TT-BBCVT on administrative handling of violations and settlement of complaints and denunciations over the management, provision and use of internet services
17/7/2006	Decision of the Prime Minister No. 169/2006 QD-TTg on ICT investment and expenditure of the State-budgeted bodies
31/7/2006	Decision No 35/2006/QD-NHNN promulgating rules on principles of risk management in electronic banking
04/10/2006	Decision No. 223/2006/QD-TTg amending regulations on investment and procurement of IT products using the state budget
22/2/2007	Directive No. 04/2007/CT-TTg on enhancing the protection of copyright over computer programs

23/2/2007	Directive No. 03/2007/CT-BBCVT on enhancing information security on the Internet
22/3/2007	Decision No. 18/2007/QD-BTC on the printing, issuance, use and management of electronic air tickets
05/4/2007	Decision No. 05/2007/QD-BBCVT issuing regulations on customer claim feedback and guidelines on dispute settlement between suppliers of post, delivery, telecommunications and Internet services and service users
15/5/2007	Decision No. 20/2007/QD-NHNN promulgating the regulation on issuance, payment, use of bank cards and provision of bank card operation support services
19/6/2007	Decision No. 20 2007 QD-BBCVT promulgating the model regulation on certification of digital signatures
22/6/2007	Decision No. 52/2007/QD-BTC promulgating the regulation on pilot e-customs procedures
25/6/2007	Decision No. 706/2007/QD-BNV on the establishment the Vietnamese e-commerce association
03/7/2007	Decision No. 32/2007/QD-NHNN on balance limits of anonymous prepaid cards
30/7/2007	Decision No.18/2007/QD-BTM issuing the regulation on granting electronic certificates of origin
24/8/2007	Directive 20/2007/CT-TTg on the payment of state budget-financed salaries through bank accounts
25/9/2007	Decision No. 1699/QD-TCHQ promulgating the process of electronic customs procedures
26/10/2007	Decision No. 05/2007/QD-BTTTT on planning and developing Vietnamese IT human resources towards 2020
21/02/2008	Decision No.04/2008/QD-NHNN promulgating the regulation on the provision, management and use of digital signatures, digital certificates and the use of digital signature-certification services provided by the State Bank
09/04/2008	Decision No. 19/2008/QD-BTTTT promulgating regulation on the application of information technology standards in state agencies
09/04/2008	Decision No. 20/2008/QD-BTTT stipulating the directory of standards for information technology application in state agencies
22/05/2008	Official Letter No. 1594/BTTTT-UDCNTT guiding the establishment of plans for information technology application in state agencies.
26/05/2008	Joint Circular No. 43/2008/TTLT-BTC-BTTTT on the management and use funding for information technology application in state agencies.
13/06/2008	Decision No. 891/QD-BTTTT on the function, mission, power and structure of the National Center for Digital Signature Certification

08/07/2008	Directive No. 05/2008/CT-BTTTT on promoting the development of information technology industry in Vietnam
17/09/2008	Official Letter No. 2967/BTTTT-Ttra on tightened prevention of online game hacking and deceitful messaging
15/10/2008	Decision No. 37/2008/QD-BCT promugating the directory of statistical indicators for e-commerce
29/10/2008	Decision No. 144/2008/QD-TTg promulgating the Plan for national statistics survey
31/10/2008	Decision No. 40/2008/QD-BCT on the management and use of digital signatures, digital certificates, and digital signature certification services.
17/10/2008	Official letter No. 3364/BTTTT-UDCNTT on guidelines for determining the value of software in state procurement
12/11/2008	Circular No. 05/2008/TT-BTTTT guiding several articles of Decree No. 97/ 2008/ ND-CP on management, provision, and use of Internet services and information on the Internet
18/12/2008	Circular No. 07/2008/TT-BTTTT guiding several contents of Decree No. 97/2008/ ND-CP regarding the supply of information on personal blogs
24/12/2008	Circular No. 09/2008/TT-BTTTT guiding the management and use of Internet resources
24/12/2008	Circular No. 10/2008/TT-BTTTT stipulating rules for settlement of disputes over Vietnam's country domain names ".vn"
30/12/2008	Circular No. 12/2008/TT-BTTTT guiding the implementation of a number of provisions of the Government's Decree No. 90/2008/ND-CP on anti-spam

IV. ONLINE PUBLIC SERVICES

Public service provision is one of the specific tasks of administrative agencies. Only administrative agencies (or the agencies authorized by them) are entitled to provide these services. This monopoly leads to authoritarian working manner. As a result, the needs of enterprises and citizens are not quickly satisfied. This circumstance has prolonged in some places and caused frustration against the working manner of administrative officers, increases business costs and reduces competitiveness of enterprises.

Over the past years, the ministries and provinces have put great efforts into establishing websites, which provide basic public services such as providing information about the agency's operation, legal documents, and administrative procedures, and interacting with enterprises and citizens. By the end of 2008, most of the Ministries, 59/63 of people's committees and cities directly under the Central Government have websites to carry out transaction with citizen. Some provinces like Ho Chi Minh City, Lao Cai province, etc... have provided online public services related to the business sector such as issuing certificates of business registration, investment certificates, certificates of representative office establishment, tax registration, seal registration, etc...

Presently, Ho Chi Minh City is operating its website at *http://www.hochiminhcity.gov.vn,* which enables people not only to search for information about administrative procedures but also apply online for certificates such as certificate of business registration, investment certificate, certificate of representative office establishment, etc. Every year, there are thousands of enterprises applying for certificates of business registration and more than 50% of them apply online. Moreover, citizens are able to check the status of their applications online through the system "electronic single window". This system has been operated officially at *http://motcua.ict-hcm.gov.vn* under the management of Ho Chi Minh City Information and Communication Department since 15th December 2008, incorporating 19 portals of different districts, departments and agencies. All 24 districts and agencies that directly provide public services are planned to join the system in 2009. Out of 52 kinds of certificates issued by districts and departments, 50 certificates in 6 areas have been processed by information technology. The steps from receiving, processing dossier to issuing certificates are now carried out over computer networks. Information about the status of dossiers in process is automatically saved and uploaded in the "Electronic single window" system. Citizens only need to enter the identification code on their receipt to the website or dial number 1900.545.444 to obtain this information. Thanks to open, transparent and accurate data provided by the system, authorities and competent agencies have been able to examine and manage public service provision more efficiently. Moreover, this system is a useful tool for citizens to observe and supervise administrative agencies' performance.

E-commerce will be the main commercial transaction in the future. In the Master Plan for Vietnam E-commerce Development from 2006 to 2010, The Prime Ministry directs that all administrative agencies have to provide public services online. The public services like electronic taxation, customs, export and import procedures, procedure relating to investment and electronic business registration, professional commercial license and dispute settlement are given priority. The procedure of government procurement tender will be modified in the direction that the investors have to present the invitation for tender openly on not only the website of tender administrative agencies but also on websites of other administrative agencies. Systematically, the ministries, ministerial-level agencies, provincial-level agencies, major city have to formulate the contract via website.

During the past three years, some programs have been implemented according to the Master Plan for Vietnam E-commerce Development of Online Public Services included:

- The management and issuance system of electronic certificate of origin, which has been implemented by Ministry of Industry and Trade.
- E-Commerce appliance on government procurement project which has been implemented by Ministry of Planning and Investment.
- Electronic customs project which has been implemented by Ministry of Finance.
- Electronic tax declaration and tax payment project which has been implemented by Ministry of Finance.

1. Electronic certificate of origin system (eCoSys)

C/O is an important document in export and import dossier. On 21st March 2006, Ministry of Trade (Presently Ministry of Industry and Trade) promulgated Decision No.0519/QD-BTM approving the plan on managing and issuing electronic certificate of origin system (eCoSys). ECoSys is one of the first online public services and it is implemented through three phases:

- *Phase 1:* Establish systems for every Export and Import Department to manage, store and process preferential C/O data under the management of Ministry of Industry and Trade at its integrate data centre.
- *Phase 2:* Electronic certificate of origin will be issued in a narrow scope to the large-sized and prestigious enterprises with large and stable turnover.
- *Phase 3:* Electronic certificate of origin will be issued in broad scope. All electronic CO form will be issued to every enterprise in nation-wide.

With simple, prompt and convenient applying process, eCoSys helps the enterprises to save time, money and human resource so it contributes to increase their competitive capacity. Moreover, it facilitates administrative agencies to accelerate administrative reform and carry out the export statistic activities. Statistics based on CO are important, accurate source assisting commercial management and settle commercial deputes with foreign countries.

Phase 1 and phase 2 mainly focused on the management of CO statistics. They were implemented in Export and Import Departments under Ministry of Industry and Trade and CO issuing agencies under Vietnam Chamber of Commerce and Industry (VCCI) since October 2006. The issuing agencies did not have to install software but used the software provided by MOIT. Export and Import Departments directly entered data in eCoSys at *www.ecosys.gov.vn*. By the end of 2007, data of about 700,000 CO forms issued throughout the country had been integrated into eCoSys.

Phase 3 was launched in April 2006. To ensure the security and accuracy of information, MOIT requires enterprises applying for preferential electronic CO to use digital signature when entering the data into eCoSys. Digital signature is a file, which is reasonable attached to electronic document, using private and public key technology in order to identify the signatory and affirm the information on his approval. Electronic documents applying for CO signed by digital signature have the same legal effect as paper documents. The enterprise could declare, submit electronic documents to apply for CO through eCoSys.

Electronic CO issuance procedures are as follows:

- The enterprise submits the electronic form of origin (eForm) with digital signature of its authorized manager to the Export and Import Department. After checking the legality of the digital signature and information, the Import and Export Department will present the legality of the eForm in the eCoSys.
- After the Import and Export Department approves CO issuance, the enterprise will submit the paper form signed by the authorized manager and relevant documents to the Import and Export Department.

- The Export and Import Department will verify information consistency between the eForm and paper form. If the information is correct, the Export and Import Department will instantly issue CO for the enterprise.

During the time of implementation, eCoSys has verified its superiority. The number of enterprises applying for electronic CO is increasing more and more. It is one of the first large-scale systems in Vietnam to apply security technology using digital signature.

In the future, in order to fully support import and export activities of enterprises, eCoSys will be connected to the customs database and integrated with other e-commerce services. MOIT is rapidly completing the eCoSys infrastructure to prepare for exchanging electronic CO with other members of Free Trade Areas which Vietnam has joined. EcoSys is the starting point of Vietnam in its progress towards paperless trading as per commitment within the Asia-Pacific Economic Cooperation (APEC) Forum.

2. Electronic customs project

In implementing Directive No. 149/2005/QD-TTg dated 20th June 2005 of Prime Ministry, the Ministry of Finance carried out the electronic customs project. Electronic customs procedures were first implemented on a pilot basis in Ho Chi Minh City and Hai Phong City customs agencies. Then, it will be expanded to other customs agencies of the cities and provinces that are adequately qualified to execute electronic procedures.

Electronic customs will bring many benefits to enterprises by saving them time and costs. Instead of going to customs agencies and spending a lot of time to handle export and import procedure, the enterprise will carry out these tasks through electronic customs system. The customs clearance process will be quickly completed by using electronic equipment and electronic data process of customs agency. The enterprises will declare customs information according to the criterion and standard forms of General Department of Vietnam Customs. The completion of customs dossier must be guaranteed and it has the same legal effect as the paper one. After receiving electronic customs information, customs department will carry out the tasks of examination and acceptance of information. If the information is accepted, the customs department will issue the customs declaration code and classify the goods into the section. Blue section is for goods based on the electronic declared information to be cleared. Yellow section is for goods of which paper dossiers have to be examined before clearing. Red section is for goods of which both the paper dossiers and goods have to be examined before clearing.

The objectives of the electronic customs project are transforming Ho Chi Minh City Customs (2010) and Haiphong Customs (2011) to electronic customs agencies. So far, the basis objectives as shortening customs clearance procedure, reducing paper documents and the costs for enterprise have been achieved. The turnover of import goods cleared through electronic customs increases quickly annually, from 8% in 2006 to 16% in 2007 and to 17.5% in September 2008.

However, the results of electronic customs do not reach the expectations. The percentage of enterprises joining electronic customs is not high. So far, electronic customs only benefit enterprises filing for goods that are classified in the blue section. The procedures for goods classified in yellow and red section are still quite complicated. Besides, the system's interconnection with trade agencies, tax authorities, treasury, banks, CO issuing agencies still not

convenient, barring prompt and accurate information flow. Tax data entry for enterprises requires many steps and some steps are difficult to fulfill. Besides, the risk management mechanism between manual and electronic process is not uniformly applied, and many officers are not qualified for the job. Moreover, data transfer is slow and the e-declaration software is not user-friendly. The campaigns, propagandas to attract enterprises to use electronic customs procedures are not effective. Many enterprises are not well aware about the benefits of electronic customs so they have not invested in equipment and human resource appropriately.

Presently, General Department of Vietnam Customs is exerting efforts to improve the quality and accelerate the implementation of electronic customs service.

3. E-commerce application in government procurement project

Government procurement activities attract great public attention. Government e-procurement system is one that apply information and communication technology for the management and implementation of goods procurement, facilities construction and consultation services between contractors and government agencies. Online publication of bidding invitations for government contracts will create a healthy competitive environment for public procurement. This practice not only helps government to save time and money but also promote fair competition among enterprises. In implementing Decision 222, the Tender Management Agency- Ministry of Planning and Investment has carried out the project "E-commerce application in government procurement" to establish a centralized biding system over the Internet. The objective of the project is setting up a complete bidding process including tender procedures, legal basis, software and IT infrastructure to serve online bidding. The IT infrastructure consists of network, database, and interface portal, digital signature certification system with high level of security. The project will be implemented through two major phases:

- *Phase 1 (from 2008 to 2010):* pilot implementation of online bidding system in three big organizations, namely VNPT, EVN and Hanoi People's committee.
- *Phase 2 (from 2010 to 2015):* completion and implementation of the system on the large scale.

The main participants in the systems are sellers - that supply goods and services; buyers - that use government budget for public procurement; and the system operator. The online procurement system has four major modules as follows.

- E-Tendering module: electronic solution to handle public procurement activities for goods, building, special consultation services with high value and small quantity. This module has the functions to prepare bidding dossier, bidding letter, invitation to bid, and deliver online bidding dossiers.
- E-Contracting module: electronic solution to handle negotiation, signing activities and supervise the implementation of contracts for purchasing goods, construction, and consultation services. This module has the functions to support contract drafting, reviewing, signing activities and manage contract implementation.
- E-Purchasing module: electronic solution to handle public procurement activities for goods and services with low value but large quantity. This module has the functions of searching, registering goods, erasing and approving the list of purchased goods. Besides, it has capacity

to upload pictures, materials and necessary information of goods. In addition, this module also has functions of approving the registered goods, carrying out reverse bidding, filing shipment request and managing shipments.

- E-Payment module: electronic solution to handle payment activities for public procurement. This module has function of receiving, reviewing and managing payment installments made during or after performance of contracts, and managing reimbursement or rebates.

The structure of the system consists of three function layers, which are users interface layer, processing layer, and the database layer.

- The users interface layer: facilitate the interaction between the system and users like sellers, buyers and the system operator. Information exchanged between users and the system are encrypted and secured by SSL protocol and digital signature certification services.
- The processing layer: application layer to process all transactions of the system.
- The database layer: the inner layer that stores the database of the entire system to verify users and data.

E-commerce application in government procurement is planned to be implemented from 2009 to 2015. The project success will be beneficial to all users. The information about government procurement presented openly on website will assist government to attract more suppliers. Therefore, government has more chances to purchase goods of high quality with low price. Moreover, it enables government to reduce the costs and personnel used for public procurement, while monitoring the procurement in a more professional way. This system also helps create more equal and increased access to the government procurement market for suppliers.

V. LAW ENFORCEMENT

1. Prevention of trading fraud and unfair competition in e-commerce

E-commerce activities take place in an economic sphere that greatly differs from traditional business methods. Acts of trading fraud and unfair competition in e-commerce are committed in many novel and sophisticated ways so that applying traditional sanctions to deal with these acts is difficult. Enterprises and individuals taking part in e-commerce will face particular risks of the cyber space due to lack of knowledge on advanced technology application. Therefore, defining and implementing effective measures to prevent such risks is an important aspect of organizing law enforcement, with the view to create a fair competition environment for sustainable e-commerce development of Vietnam.

One of the reasons for unrestrained fraudulent and criminal acts in a large scale on the Internet over the past time is that State management agencies have not had drastically deterrent measures. At present, the heaviest penalties for all kinds of high-tech crimes are administrative sanctions such as warning, informing the management agency, fining with the amount not commensurate to the action's seriousness .

Besides stealing through the Internet, dispersing viruses, destroying the information system of individuals and organizations, dispersing spam, etc in the past time, especially in 2006, there were

also many attacks on e-commerce websites of enterprises, disturbing the operation or destroying the website's database structure, which caused material losses and damaged enterprises' image. Most notable were the attacks on website www.vietco.com of the Trade, Service and Technology Limited Company SGC, website *www.nhanhoa.com.vn* of Nhan Hoa Software Limited Company, and website *www.chodientu.com* of Hoa Binh Software Solution Company.

Legally, these attacks can be classified as unlawful competition practice. Article 44 of the Competition Law approved by the National Assembly on 3 Dec 2004 stipulated *"Enterprises are forbidden to disturb lawful business activities of enterprises by performing acts of directly or indirectly preventing, disturbing the latter's business activities".* Article 9 of the Law on E-Transaction stipulated the forbiddance of acts "in order to destroy the technological infrastructure of e-transactions". At the serious level, individuals and organizations performing such acts can face criminal penalties. However, at present, Vietnam still lacks of bylaw documents stipulating specific guidance on the handling and sanction measures in such cases.

Box I.3
Legal texts stipulating the handling of trading fraud and unlawful competition
in E-commerce

At present, handing acts of trading fraud and unlawful competition in e-commerce is mainly based on the following legal texts":

- Criminal Code 1999;

- Law on E-Transaction 2005;

- Information Technology Law 2006;

- Decree No 63/2007/ND-CP stipulating administrative penalties in the information technology area;

- Decree No 06/2008/ND-CP stipulating administrative penalties in trading activities;

- Decision No 71/2004/QD-BCA on ensuring safety and security in providing and using Internet services in Vietnam.

However, all the above legal texts help only to identify criminal acts, not to define penalty frame for criminal acts over the Internet. Therefore, investigation agencies still face difficulties in handling criminals even when the subject and act of crimes have been already identified.

In this context, from 2006, many ministries and agencies have done research and developed sanction measures against criminal acts in the high-tech area in general and in the e-commerce sector in particular. The most noticeable is the Amendment to the Criminal Code drafted by Ministry of Justice, in which there are many revisions and addendums related to crimes in the information technology area.

Box I.4
Articles related to e-commerce in the Draft Amendment to the Criminal Code

The current Criminal Code has three articles on crimes related to computers and networks, namely Article 224- Crime of creating, spreading, scattering computer viruses, Article 225- Crime of running, exploiting and using computer networks and Article 226- Crime of illegally using information on the internet and in computers. These regulations have not covered all kinds of acts related to computers and networks, which are popular nowadays. Therefore, to overcome current shortcomings of laws related to handling computer crimes, it is asserted that this modification and supplementation of the Draft Amendment focuses on continuing the improvement of regulations at Articles 224, 225, 226 and complements two crimes i.e. illegal access to others' telecommunication, computer networks, the internet or digital devices (Article 226a) and the use of telecommunication, computer networks, the internet or digital devices to perform acts of property appropriation (Article 226b).

Article 226b stipulates the penalty frame with highly deterrent effect to fraudulent and defrauding acts in e-commerce as follows:

- Using the information of accounts and banking cards of individuals, organizations to fake credit cards and withdraw money or pay fees for services;

- Illegally breaking into individuals and organizations' accounts to steal money;

- Defrauding in e-commerce, currency trading, credit capital mobilization, stocks trading and payment through the Internet or performing other defrauding acts to appropriate properties of other organizations and individuals.

- The heaviest penalty for these acts can be life sentence, in combination with 100 million VND fine and other additional penalties.

Supplementation of these new regulations to the Criminal Code is a big progress in forming a specific and deterrent sanction frame against acts of fraud, defrauding and unlawful competition, contributing to improving the effectiveness of the legal system for e-commerce in Vietnam.

2. Handling disputes in e-commerce

The Law on E-transactions 2005 and the Decree on E-commerce 2006 stipulate core principles of data messages in general, and electronic communications in particular, laying the foundation for conducting commercial transactions by electronic means. Following the two legal texts, the Circular guiding the E-commerce Decree on information provision and contract conclusion on e-commerce websites (Circular No 09/2008/TT-BCT) dated 21 Jul 2008 has rather specific regulations on a contracting process between businesses and consumers over the website. However, the performance of B2C, B2B and C2C contracts is often loomed with risks of disputes, for which the current legal system has not had specific regulations to serve as reference in settling disputes among the concerned parties.

Box I.5
A lawyer's opinion about handling disputes in e-commerce

1. Mode of e-contract conclusion:

Article 23 of the E-Transaction Law stipulating principles of using e-signatures

"Unless otherwise provided for by law, the parties to a transaction have rights to reach agreement:

a) To use or not to use e-signatures to sign data message in the transaction process;

b) To use or not to use the certified e-signature

In our opinion, concluding contracts on e-commerce website needs regulations on using e-signature to sign data message in the transaction process but does not need certifying which is only necessary for activities of supplying evidences to handle dispute in trade procedures."

2. Handling disputes related to contracts on e-commerce websites:

Handling disputes is very complicated; courts and arbitration organizations handling disputes require enough concerned documents. At present, issues related to handling e-commerce transactions is stipulated at:

Article 20 of the Circular guiding the information supply and contract conclusion on E-commerce websites "Handling disputes related contracts concluded on e-commerce websites

a) E-commerce websites shall have the mechanism of receiving customers' complaints related to contracts concluded on websites and clearly announce the time-limit for responding to such complaints;

b) Handling disputes between traders and customers in the process of contract performing must be based on contractual terms publicized on websites at the time of contract conclusion;

c) Traders are not allowed to exploit their advantages advantages in the electronic environment to unilaterally handle disputes without customers' consent.

Article 52. Handling disputes in e-transactions

1. The State encourages the disputing parties in e-transactions to settle disputes by themselves through conciliation.

2. In case the parties cannot resolve their disputes, the competence, order and procedures for the settlement of disputes over e-transactions shall comply with the provisions of law.

We think that these above provisions are not reasonable because of some arisen questions: how to provide concerned parties' evidences to be considered? Could the two parties' self-printed statistics in their own system? Which agency can verify the existence of the the transactions for competent agencies to handle? We think that following components should be supplemented:

(1) Which kinds of documents and statistics systems are provided

(2) Which agencies have competence to verify that those transactions are the evidence for defining admitted e-commerce transactions.

(3) Stipulation on additional e-signatures certifying to be the foundation for defining the existence of the two parties' transaction.

In principle, the e-commerce law system only governs aspects related to electronic forms of transactions. More specifically, Circular No 09/2008/TT-BCT focuses on governing particular issues of contract conclusion on e-commerce websites, while contract performance will be governed by the laws on contracts (as enterprises' activities must comply with commercial laws). Therefore, most of disputes arisen in the process of contract performance will be handled in the framework of the Civil Law, Commercial Law and other related documents. Only disputes related to the legal effects of electronic communications created in the contracting process, as well as performance of contract, are governed by the e-commerce law system. Most of these issues can be solved if parties use e-signatures when conducting transactions.

Box I.6
Stipulation of e-signature in the E-Transaction Law

Article 21 of the E-Transaction Law

An e-signature is established in the form of words, letters, numerals, symbols, sounds or other forms by electronic means, logically attached or associated with a data message and capable of certifying the person who has signed it as well as the approval of such person to the content of the signed data message

Article 3 of the Decree providing details on the implementation of the Law on E-transactions regarding digital signatures and digital signature certification services:

"A digital signature" is a form of e-signature created by the alteration of a data message using asymmetric code system so that the person having the original data message and public key of the signatory can define exactly:

a) The above alteration is created by the private key that matches the public key in a pair of keys;

b) The data messages' content is intact since the above alteration is made.

At present, the biggest concern of businesses and consumers when conduct e-commerce transactions are: 1) How to verify the partner's identification and bind their responsibilities when a whole transaction is initiated and conducted in the electronic environment? 2) What requirements to impose on electronic communications exchanged during the transaction process to ensure their legal effects as evidence for dispute settlement? With the ability of "confirming the person signing data messages and confirming his acceptance for the data messages signed, simultaneously confirming the integrity of the data messages' content", the digital signature is an effective measure and legally recognized to solve these issues. The Law on E-transaction and the Decree on Digital Signature and Digital Signature Certification Services established the most essential legal framework for applying the digital signature in every administrative, economic and civil transaction. However, up to late 2008, digital signatures were yet to be widely implemented in Vietnam due to the lack of equivalent management mechanisms to materialize legal regulations

Box I.7
National Center for Digital Signature Certification

To facilitate wide-scale application of digital signature in society, there must be a system of providers of digital signature certification services, the center of which is the National Center for Digital Signature Certification - the administrative agency that coordinates the operation of the whole system. Organizations that want to provide digital signature certification service must be assessed and licensed by the National Center for Digital Signature Certification. Therefore, the operation of the National Center for Digital Signature Certification is the prerequisite for implementing the digital signature service provision and application in Vietnam.

In June 2008, the National Center for Digital Signature Certification, under the Information Technology Application Department was established according to Decision No 891/QD-BTTTT by the Ministry of Information and Communication. However, until late 2008, the Center has just stabilized its organizational structure and is now in the process of completing procedures related to the licensing appraisal so that starting from 2009, the Center will be able to issue digital certificates for digital signature service providers. In 2008, the Center received the application for service registration from the first organization providing digital signature certification services – VDC.

Along with improving the organization of the National Center for Digital Signature Certification, some specific regulations on implementing digital signature certification services are also in the process of drafting, such as the Draft Directory of Standards for digital signature and digital signature certification, the Decision promulgating form and regulations on reporting digital signature certification activities of organizations providing digital signature certification services, and the Circular guiding the application of digital signature technologies in information technology application for public services.

Besides implementing the digital signature services synchronously to create favorable conditions for handling disputes related to e-contracts, relevant authorities are facing a great challenge of improving the capacity of the judiciary and economic arbitration system. Judiciary agencies play the central role in settling disputes. However, e-commerce knowledge

in general and the capacity of handling disputes related to e-contract in particular of court officers, lawyers and economic arbitrators in Vietnam are still limited. This is a great obstacle for implementing legal regulations on e-commerce in reality. Therefore, the solution "Organize the implementation of legal regulations related to e-commerce" stipulated by Decision 222 has set out the urgent task of improving staffs' capacity and building effective mechanism for dispute settlement to ensure a transparent and fair environment for e-transactions in Vietnam.

3. E-commerce statistics

Statistics is an indispensable tool to assist the work of management and decision making. Not having a comprehensive and concrete statistics base causes great difficulties for the process of policy and law making among government agencies, as well as business strategy making and e-commerce application among enterprises. Decision 222 set out the task "Promptly implement e-commerce statistics" as a major component of the program "Organize the implementation of legal regulations related to e-commerce" – one of the main policy and solution groups to promote e-commerce development in Vietnam up to 2010.

Along with Decision 222 dated 24 Nov 2005, the Prime Minister signed Decision No 305/2005/QD-TTg promulgating the National statistics directory, including one e-commerce indicator (Indicator 1607: "number of entities having implemented e-commerce transactions", and designated Ministry of Trade (now Ministry of Industry and Trade) and the General Statistics Office to collect data. Article 2 of the Decision states: "Ministers and Heads of ministerial-level agencies, based on the National statistics directory as well as the management needs of ministries and industries, shall promulgate sectoral statistics index for the sector of which they are in charge".

Box I.8
Scoping of objects and transactions for e-commerce statistics

Given the current context in Vietnam, for the sake of statistics, e-commerce can be understood as the use of electronic means to carry out transactions of selling and buying goods, services, or other commercial activities. However, indicator 1607 of the National Statistics Directory confined the definition of electronic means to the Internet.

The number of entities having e-commerce transactions is the number of traders using the Internet in their business activities. Traders consist of legally established economic organizations and registered individuals doing commercial business on an independent and regular basis.

Entities are considered being engaged in e-commerce transactions if they take at least one of the following activities:

- Use email frequently for business purpose

- Have a website for business purpose and regularly update this website in the statistical period.

- Regularly access goods and services trading websites or tendering websites, participate in online public services;

- Apply electronic data interchange standards (EDI, ebXML) in business transactions.

To perform the function of State management over e-commerce, on 15 Oct 2008, Ministry of Industry and Trade issued Decision No 27/2008/QD-BCT promulgating the e-commerce statistic indicator system. This index includes 16 indicators divided into three groups that reflect social readiness for e-commerce application, the number of entities having e-commerce transactions, and the effectiveness of e-commerce application in enterprises. Vietnam E-commerce and IT Agency was designated to take charge and coordinate with competent departments and agencies to implement this Decision.

The e-commerce statistics index was built after the learning experience of other countries and international organizations, with adaption to ensure a better match with Vietnam's level of e-commerce development, meeting the following requirements:

- Serving the work of forming policies, building up strategies of the State management agencies in order to promote the e-commerce application in enterprises
- Serving the planning of public service implementation in the State agencies.
- Serving enterprises in building business strategies and making decisions about e-commerce development orientations and application.
- Serving activities of international cooperation on e-commerce
- Serving the research of institutes, schools and the State management agencies.

However, promulgating the e-commerce statistics index is only the first step in the statistics implementation roadmap, towards a comprehensive, synchronous and consistent statistics system of e-commerce in Vietnam over the years. To achieve this objective, Decision No 37/2008/QD-BCT mapped out the next steps to materialize the e-commerce statistics index:

- Standardize the definition, content and calculation method for each indicator of the e-commerce statistics index
- Build the periodic reporting mechanism for the compilation of the e-commerce statistics index, organize training courses for reporting units to apply synchronously in the whole industry
- Develop a master program on e-commerce statistical survey and submit it to competent authorities for approval, then organize the implementation
- Synthesize and publish e-commerce statistical data nationwide
- Build and develop the statistical database in accordance with the e-commerce statistics index

The above works need to be implemented immediately so that by 2010, the methodology for e-commerce statistics will be fundamentally established, ready for the implementation of statistical activities nationwide, timely supporting the work of formulating policies, enforcing laws and assisting enterprises to make decisions on e-commerce application in the next period.

4. Some other issues

4.1. Applying regulations of the traditional business model in e-commerce

4.1.1. Denomination of "online supermarket" for goods selling websites

Online business models such as B2C and B2B are rapidly expanding in Vietnam. These models have various denominations such as: e-market, e-commerce marketplace, online supermarket, e-supermarket, online shop, etc… While these names are yet to be defined and recognized by laws, they are socially recognized and flexibly used by enterprises.

The question posed for several state management agencies is whether or not online supermarkets must meet standards of a "brick and mortar" supermarket (such as physical business area, product catalogue, store planning, etc.) in conformity with current regulations. However, the most specific legal text on this issue to date is the Regulation on Supermarket and Trade Center promulgated by Minister of Trade's Decision No 1371/2004/QD-BTM dated 24 Dec 2004, which applies only for traditional shops and supermarkets having physical business area, without mentioning the online business model.

With regard to the existing legal system, the E-transaction Law, Information Technology Law, Decree on E-commerce and Decree on Administrative Sanctions in Information Technology Sector are the four documents related to online businesses. However, these documents have not had specific regulations on classification and denomination of goods selling websites or what requirements online supermarkets and online trade centers must meet.

As a result, while the State have not had specific regulations on universal nomination for different types of online shops, enterprises can take initiative in naming their online shops in whatever way not prohibited by laws. However, in the coming time, the State management agencies will consider and promulgate regulations on standards and denomination of goods selling websites.

Therefore, enterprises should consider carefully when using denomination such as "online supermarket" or "online trade center", in anticipation of the possibility of business name alteration if such denomination do not meet standards promulgated in the future. While specific regulations are yet to be promulgated, enterprises are advised to use common names such as "online shop" for their goods selling websites.

4.1.2. Applying accounting regulations for electronic documents

At present, invoice is still considered the most basic "original" document to identify businesses' tax duties and rights, to account businesses' revenue and expenditure, and to establish buyers' ownership over the purchased goods. Therefore, all invoices circulated within the economy must comply with the Ministry of Finance's strict regulations on printing, format, content as well as stamp and seal. Electronic invoices, which do not meet these requirements, will be considered invalid in transactions between organizations with tax agencies although they have the legal effects as "document" and "original copy" as provided by the current laws.

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Box I.9
Legal effects of electronic documents in financial activities

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Accounting Law 03/2003/QH11:
Article 18: Electronic documents are regarded as accounting documents when they contain the contents stipulated by Article 17 of this Law, are presented in the electronic form.

Decree No 27/2007/ND-CP on electronic transactions in financial activities
Article 4. Principles of electronic transactions in financial activities
1. Parties participating in e-transactions must comply with principles stipulated by Article 5 of the E-Transaction Law and other concerned legal regulations on finance. For e-transactions internally implemented within financial agencies or between individuals, organizations and financial agencies, participating parties must comply with regulations stipulated by Article 40 of the E-Transaction Law

Article 5: Legal effects of electronic documents

1. The presentation, sending, receipt, storage and legal effects of electronic documents in financial activities are implemented in accordance with the E-Transaction Law.

2. Electronic documents in financial activities must meet all requirements of the State management agencies in accordance with specialized legal regulations on finance.

3. Electronic documents must have all the e-signatures of responsible people that are required to sign the document.

4. In case electronic documents only have the signature of the competent person, the information system must have the ability of recognizing and verifying acts carried out by responsible people as provided by laws in the process of moving electronic documents to the last signing person .
Circular No 78/2008/TT-BTC guiding the implementation of some articles of Decree No 27/2007/ND-CP on e-transaction in financial activities.
IV. The legal effects of paper documents transformed from electronic documents and vice versa (abbreviated as transformed documents

A. The legal effects of transformed documents

1. Transformed documents are valid when they meet requirements on the integrity of information from the original documents, particular mark of transformation, and the signature, full name of the people performing the transformation as stipulated at Item 1 and 2 of Article 7 of Decree No 27/2007/ND-CP

2. In case of some transformed documents, depending on professional requirements, if necessary, professional units shall stipulate legal texts applicable for their specialized sector, requiring signatures of the head of unit or the person authorized by the head of unit on transformed documents.

Unlike commercial documents related to the contracting phase, financial documents and invoices are not only the basis for determining contract obligations of the parties, but are also used to identify their financial and tax duties to the State. Therefore, to complete an e-commerce transaction cycle, from ordering to payment, besides the agreement of participating parties, specific regulations by State management agencies are also needed to govern the receipt and handling of electronic invoices and documents arising from such transactions. Instead of ready-printed invoice forms at present, there will be invoices produced from enterprises' internal management systems, or electronic documents sent, received and stored in the information system of each participating party. To make these documents valid and practically useful for corporate finance, besides the State's official recognition of the legal effects of electronic documents, there must be corresponding changes in the current regulations on invoices and documents by the current financial law system.

That the General Department of Taxation recently encouraged enterprises to use self-printed invoices (providing that the invoice form is registered and some requirements of invoice forms are met) has set initial favorable conditions for enterprises to implement transactions by their business management information system with high self-control. However, requirements of "paper invoices and documents" with the signature and seal according to the traditional thinking is still a great obstacle for the development of comprehensive e-commerce solutions among enterprises. Given this context, the General Department of Taxation has set up the "Project on the improvement of invoice management and use for the 2007 - 2012 period" in order to review and amend regulations for a better match with new business models of the integration era. However, this is a long-term project, which needs painstaking preparation as well as close coordination among various agencies to ensure successful implementation.

4.2. Application of WTO commitments

4.2.1. Application of WTO commitments on import tax over Internet transmission (digitalized products)

Since 1998, the World Trade Organization (WTO) has conducted research activities on e-commerce. As requested by member countries, the WTO Secretariat has studied the role of WTO to e-commerce development. Many member countries, including developed and developing ones, have actively studied and participated in various meetings to discuss the best assistance for e-commerce development through WTO's strict multilateral trade rules.

The WTO's most outstanding achievement on e-commerce up to now is the approval of WTO Minister's Statement on Global E-commerce at the 2nd meeting of the WTO ministers organized in May 1998. This Statement consist of three major points: Firstly, the WTO recognized that e-commerce was developing rapidly, bringing new opportunities for trade. Secondly, the General Assembly would build the e-commerce working agenda to consider all issues related to trade of global e-commerce. The General Assembly together with the WTO's relevant bodies will implement this working agenda and report to the next Ministerial meeting necessary recommendations to promote e-commerce development. Thirdly, the WTO member countries will **maintain their current practice of not imposing customs duties on electronic transmissions .**

From May 2001 to Nov 2005, the General Assembly organized six meetings on e-commerce. The two main issues for discussion throughout these meetings were the classification issue

and orientation for global e-commerce development. However, due to the complication and rapid development of e-commerce application modes, up to now, the WTO members have yet to reach unanimity on whether e-commerce products and electronic transmission, particularly digital products provided over the Internet, is goods or service, or something else. Therefore, they have not agreed on which agreement (GATT or GATS) applied for such products. However, all members have the same mind in a key rule that no discrimination should be created between electronic transmission and the same product when being contained in visible forms and imported cross borders.

While there has not been yet a clear solution to this issue, Vietnam should keep close watch on e-commerce related activities in WTO. On the one hand, Vietnam must observe the commitment of not imposing customs duties on electronic transmissions. On the other hand, as a WTO official member, Vietnam need to actively take part in the activities of the General Assembly and relevant bodies to contribute to establishing the global e-commerce policy.

Box I.10
The development of policies goveming export and import of software and digital content in Vietnam

Scoping of transactions and objects is one of the key issues for the establishment of e-commerce statistics. After studying the statistics methodology of OECD and UNCTAD (two international organizations with high stake in e-commerce statistics) as well as of some e-commerce advanced countries such as the US, Canada, Australia, the following observations were drawn:

- Most international countries and organizations, for the sake of statistics, has confined the definition of e-commerce to commercial transactions (buying and selling goods/ services) implemented by electronic means.

- Various countries and international organizations agree on the method to identity an e-commerce transaction, as being based on the ordering/contracting stage. The payment and contract performance stage of e-commerce transactions can be implemented by traditional means.

- The difference among countries/organizations is the perception of "electronic means". Electronic means are sometimes limited as the Internet, sometimes extended to cover computer connection networks in general, or include other electronic means as telephone, fax, ...

The state of export-import market for software products and digital components:

Recent import of software products to Vietnam has increased rapidly, reaching USD 18 million in 2005, 30 million USD in 2006, and is expected to reach USD 65 million in 2007. The value of software-related services and software outsourcing contracts in the past five years saw a growth rate of over 50% per year, amounting to USD 180 million after the growth of 64% in 2007. The official figure of digital content imports has not been announced but it is estimated to reach over 30-50 million USD in 2007. Export of digital content and products has also emerged, with the estimated value of USD 10 million.

Some documents guiding the management of software export-import over the Internet:

- Official letter No 2508/TCHQ-CSQL by the General Customs Department dated 9 Jun 2006 sent to Nhan An Technology and Trade Limited Company:

"According to Article 4 of the Customs Law, imported and exported goods include all coded chattels exported and imported within the customs area. Therefore, according to the Customs Law, software imported through the Internet is not considered imported goods, Customs agencies do not oversee such import nor conduct customs procedures. Enterprises are required to contact with culture agencies to be guided for declaration and procedures".

- Official letter No 976/TCT-PCCS by the General Tax Administration dated 17 Mar 2006 sent to provincial Taxation Departments.

"Pursuant to Point 1, Item I, Section B of Circular No 120/2003/TT-BTC dated 12 Dec 2003 and Point 3 of Circular No 84/2004/TT-BTC dated 18 Aug 2004 by the Minister of Finance (MOF), software products exported over the Internet are subject to VAT (value added tax) rate of 0%.

To get VAT tax deduction or rebate for software exported over the Internet, all the usual requirements must be met, except for the Customs Declaration form: the contract of providing goods for foreign enterprises, value-added invoice, and documents of bank payment as stipulated by law."

Process of making policies on management of software export-import over the Internet

On 2 Dec 2007, Ministry of Finance sent Official Letter No 16480/BTC-TCHQ to Ministry of Industry and Trade (MOIT), Ministry of Information and Communication (MIC), Ministry of Culture, Sports and Tourism (MCST), stating: "Ministry of Finance has received letters from several enterprises asking whether they have to conduct customs procedures for software export over the Internet. Regarding this question, Ministry of Finance's opinions are as follows:

- According to Article 4 of the Customs Law, imported and exported goods include all chattels coded and denominated as provided by laws, that are exported, imported or transited within a customs territory. However, at present, exported software has not been listed among the HS codes and tariff table. Therefore, pursuant to the Customs Law, software exported over the Internet is not considered as exported goods, so they are not under Customs agencies' management.

- At present, the State is encouraging software export (as intellectual products) but there are yet any specific regulations on the management of export-import activities. Therefore, to promote this activity in accordance with the State management requirements, Ministry of Finance kindly requests MOIT, MIC and MCST to contribute ideas for the management orientations of the above products.

On 7 May 2008, Minister of Information and Communications signed Decision No 695/QD-BTTTT on establishing a working group to formulate policies and regulations on the management policies and export procedures for software products and digital content exported over the Internet. The Working Group is making a report to submit to the Prime Minister, in which they propose several solutions to the management of software export-import over the Internet as follows:

- Research and promulgate regulations on HS codes for each kind of software products and digital content;

- Establish criteria for software assessment and procedures for software content checking;

- Develop the process and procedures for the management of software products and digital content export and import;

- Develop methodology for the appraisal of software and digital content price.

4.2.2. Application of WTO commitments on e-commerce related services

After Vietnam's accession to the WTO, the process of market opening according to commitments on goods and services pose many challenges to Vietnam enterprises. Besides the question of competitive capacity in the globalization context, enterprises are also troubled when facing new modes of competition from international competitors through non-traditional modes such as e-commerce.

There has appeared confusion about classification of e-commerce services as well as of business activities themselves in the electronic environment. The classification will play a key role in determining the applicable roadmap and extent of market opening for each service category. However, WTO members' service commitment schedule is based on the Central Product Classification (CPC) system of the United Nations, while this system is yet to have exclusive classification for e-commerce services.

Box I.11
Classifications of some e-commerce related services in CPC

831 CPC 1.0 (equivalent to code 841, 842, 843, 849 in PCPC [Provisional CPC])
Sector: 8314 - Computer consultancy services

836 CPC 1.0 (equivalent to code 871 in PCPC)
Sector: 8362 - Purchase or sale of advertising space or time, on commission

843 CPC 1.0 (equivalent to code 849 in PCPC)
Sector: 8430 - On-line information provision services

8420 CPC 1.0 (equivalent to code 7523 in PCPC)
Sector: 8420 - On-line access services

Some believe that establishing, managing and operating e-commerce websites or other e-commerce assistance services in the cyber space belongs to computer consultancy services. However, it should be noticed that although website designing is a computer service; establishing and operating websites to sell goods or carry out other commercial activities is not a computer service. Website is an additional method for entities to conduct socio-economic activities that vary and differ by nature. Therefore, there can not be a common service code applying to all websites, but classification must be based on the nature of services provided on each website. For example, advertising services provided on a website must conform to the market open roadmap under Vietnam's commitments of advertising services. This is the approach applied by many countries. However, for the long term when the final objective that WTO pursues is obtained, which is trade liberalization at the highest level, this service classification will become less significant.

VI. INTERNATIONAL COOPERATION

Prime Minister's Decision No 222/2005/QD-TTg dated 15 Sep 2005 listed international cooperation on e-commerce as one of the main solution groups to implement the Master Plan on E-commerce Development for the 2006 - 2010 period.

The Master Plan points out: "Priorities are given to multilateral cooperation with international and regional economic - trade organizations such as WTO, APEC, ASEAN, ASEM and specialized councils of the United Nations such as UNCTAD, UNCITRAL, UN/CEFACT; bilateral cooperation with e-commerce advanced countries and Vietnam's major trade partners".

In the past time, especially since promulgation of Decision 222, international cooperation on e-commerce has been fostered. International cooperation were geared towards the objectives: improving management capacity and perfecting e-commerce related legal system; promoting information and data exchange through computer networks within the economy or with other economies (paperless trading); strengthening international cooperation on data privacy to attract consumers to e-commerce transactions; cooperating with the world's leading organizations and enterprises in e-commerce application to help domestic enterprises reduce transactional and administrative costs, increase domestic enterprises' competitive capacity in the context of ever-increasing globalization.

1. Multilateral cooperation on e-commerce

Building the legal framework for e-commerce in accordance with international laws and practices, and at the same time meeting realities of each economy has great significance to global e-commerce development. International organizations and the UN's specialized organizations such as UNCITRAL, UNCTAD, together with APEC and OECD have played the pioneer role in enhancing international cooperation and supporting economies to develop policies on laws, technology and e-commerce related issues.

1.1. UN Commission on International Trade Law (UNCITRAL)

After many years of research, UNCITRAL approved the Model Law on E-commerce at the 605th meeting on 6 Dec 1996.

In Vietnam, on 29 Nov 2005, the National Assembly approved the Law on E-Transactions. The content of this Law is built in accordance with Vietnam's laws and the Model Law's provisions, ensuring the harmonization with international laws and practices on e-transactions.

After the Law on E-transaction, in 2006, the National Assembly approved the Information Technology Law. Like the Law on E-Transactions, the Information Technology Law was built after the experience of countries with advanced information technology and the works of relevant international organizations.

Since 2006, the Government has promulgated many decrees guiding the implementation of the Law on E-transactions and Law on Information Technology. The system of legal texts on information technology and e-commerce is now basically completed. This is an important legal framework for further development of Vietnam e-commerce in the coming time.

Since 2006, Vietnam has also actively participated in e-commerce meetings of UNCITRAL.

1.2. Asia-Pacific Economic Cooperation (APEC)

APEC is one of the pioneer organizations in international cooperation on e-commerce. To strengthen APEC international cooperation on e-commerce, in 1998, APEC ministers approved the Blueprint for Action on Electronic Commerce with many objectives, in which they agreed that member economies had to make efforts to reduce or eliminate paper documents in customs procedures, cross-border trading management procedures and texts, documents related to sea, air, and road transportation, etc…

To accelerate the implementation of the Blueprint for Action, in 1999, APEC established the Electronic Commerce Steering Group (ECSG). With the aim of strengthening ECSG's capacity of cooperation and coordination in solving trade and investment related issues, in 2007, ECSG was moved to be under the Committee on Trade and Investment (CTI).

From 2006 until now, Vietnam has been actively participating in ECSG activities. In 2006, Vietnam hosted APEC e-commerce meetings and was elected the Chair of the Paperless Trading Subgroup (PTS). In 2006 and 2008, Vietnam organized two international workshops under the themes "Data privacy in e-commerce transactions and e-Government" and "Paperless business transactions: harmonization of interests between the public and private sectors". From 2007, Vietnam has been actively taking part in the nine projects under APEC Data Privacy Pathfinder Initiative.

Within the framework of SOM III APEC in August, 2008, ECSG agreed on the draft content of the above projects, including 1) Guidelines for self-assessment of Cross Border Privacy Rules for business (project 1); 2) Accountability Agent (Trustmark) guidelines (project 2); 3) Compliance review process of CBPRs (project 3); 4) Contact directories for statistics protection authorities and privacy contact officers (project 5); 5) Templates for enforcement cooperation arrangements

(project 6); 6); Templates for cross-border complaint handling forms (project 7). Vietnam will take part in project 1, 2, 3 and be an observer of projects 5, 6, 7.

Through activities in ECSG, Vietnam has been affirming its position and increasingly active role in international cooperation on e-commerce within the APEC region.

1.3. Association of Southeast Asian Nations (ASEAN)

In ASEAN cooperation, paperless trading is a great concern of member countries. On 9 Dec 2005, ASEAN signed the Agreement on Establishing the ASEAN Single Window. Accordingly, Brunei, Indonesia, Malaysia, the Philippines, Thailand and Singapore had to bring the national single window into operation no later than 2008. Cambodia, Laos, Myanmar and Vietnam would have to do so no later than 2012.

E-ASEAN is one of 11 prior areas brought into the ASEAN Fast Integration Roadmap. To further speed up the integration process, at the Senior Economic Officials Meeting (SEOM) in late Oct 2006, the ASEAN Framework (Amendment) Agreement for the prior sectors and the ASEAN Sect oral Integration (Amendment) Protocol for the prior sectors were approved, liberalization and further cooperation strengthening in key areas of the economy, including e-commerce was pledged.

Mutual recognition of electronic certificate of origin (eCO) was also mentioned in the Framework Agreement on Asean-Korea Free Trade Area (AKFTA). Accordingly, parties would mutually recognize each other's electronic CO Currently, Vietnam accepts eCO from Korea. From 2006 to now, Ministry of Industry and Trade has been actively implementing the project of Electronic CO System (eCoSys). In 2008, Ministry of Industry and Technology worked with appropriate authorities of Korea, China, Taiwan and Singapore to launch the connection and eCO mutual recognition. The objective to 2010, Vietnam will come to its implementation with these countries. At present, e-commerce issues are listed in the content of negotiations on free trade areas between ASEAN and major partners such as Japan, Australia and New Zealand. The Draft on E-commerce in the ASEAN - Australia - New Zealand free trade area mentioned many issues from recognition of electronic transactions' validity, tax exemption for electronic transmissions, consumer protection, personal information privacy, mutual recognition of electronic signature technologies to encouragement of e-customs procedures and other trade facilitation measures in the free trade area.

1.4. Other multilateral organizations

AFACT is the Asia-Pacific Council for Trade Facilitation and E-business. Its objectives are to carry out activities promoting the implementation of trade and e-commerce assistance policies in the region, focusing on issues proposed by UN/CEFACT in order to guide, strengthen, encourage and improve the capacity of enterprises and State management agencies of member economies.

Every year, Vietnam took part in and made active contributions to AFACT's activities. For that credit, at the AFACT Plenary in Seoul, Korea 2008, Vietnam was elected to the Steering Committee of AFACT for the term 2009 - 2010.

Building and consolidating consumers' confidence in e-commerce is very important, especially to countries like Vietnam where cash payment is preferable and direct selling and buying still dominate. To help e-commerce enterprises build their reputation and attract consumers to online shopping, Ministry of Industry and Trade has supported EcomViet and Vecom to implement the Trustmark program for Vietnam e-commerce websites (TrustVn). At the same time, Ministry of Industry and Trade actively assisted TrustVn to engage in international cooperation, with the view to acquire experience and promote its image. In June 2008, Vietnam hosted the 6th annual meeting of Asia - Pacific Trustmark Alliance (ATA). On this occasion, ATA admitted the hosting agency, namely EcomViet to be the official member of ATA.

From 2007 until now, in the position of an observer, the National E-commerce Portal (ECVN) also actively participated in activities of the Pan-Asian E-commerce Alliance (PAA).

2. Bilateral cooperation on e-commerce

Besides multilateral cooperation activities, since 2006 Vietnam has been actively promoting bilateral cooperation with countries and territories such as the US, China, Korea, Taiwan …

Bilateral cooperation on e-commerce over the past time have been implemented at both State and business levels.

Regarding China cooperation, the Vietnam Ministry of Trade (now Ministry of Industry and Trade) and China Ministry of Commerce have coordinated to build the website *www.vietnamchina.gov.vn* to further provide economic - trade information for the two countries' enterprises. The website *www.vietnamchina.gov.vn* was officially inaugurated by the two countries' leaders during the APEC Submit in Hanoi in Nov 2006. In June 2008, the Ministry of Industry and Trade of Vietnam worked with the Ministry of Commerce of China and relevant authorities to discuss the issue of eCO, preparing for eCO mutual recognition between the two countries in the coming time.

Bilateral cooperation on e-commerce with the US was fostered in the 2007 - 2008 and focused on data privacy. In Nov 2007, Vietnam Ministry of Industry and Trade coordinated with the US Department of Commerce (US DOC) and the US Federal Trade Council (US FTC) to successfully organize the international workshop "Data privacy and e-commerce development in APEC: the US's experience" in Hanoi. In March 2008, Ministry of Industry and Trade coordinated with US FTC to hold the workshop "Trustmark for Vietnamese enterprises- solution to increase the competitive capacity of Vietnamese e-commerce enterprises in Asia- Pacific region" in Ho Chi Minh City.

To further bilateral cooperation between the two countries in the sector of information technology and e-commerce, in Sep 2007, Vietnam and the US established the Vietnam – US Information & Communication Technology Dialogue (Vietnam-US ICT Dialogue) with the participation of the two countries' State management agencies and concerned organizations.

The first Senior Officials Meeting (SOM) on e-commerce between Vietnam Ministry of Industry and Trade and the US Department of Commerce, the US Federal Trade Commission was held in Hanoi in Nov 2007. The two sides agreed to enhance bilateral cooperation on e-commerce within the cooperation framework of APEC and Vietnam- US ICT Dialogue.

Many US big corporations in the sector of information technology and e-commerce such as Microsoft, IBM, IDG, Intel, Yahoo, Google, eBay, etc has officially had presence and become active players in Vietnam market.

Moreover, many bilateral cooperation activities of e-commerce with other countries and territories have also been strengthened.

Korea is a very active country in international cooperation on e-commerce. Vietnam Ministry of Industry and Trade has been coordinating with Korea to implement eCO mutual recognition, Vietnam Ministry of Planning and Investment coordinated with Korea's E-procurement Department to survey and carry out the project "Establish the test e-procurement system in Vietnam". Vietnam organized several study tours to acquire experience of e-commerce implementation in Korea, coordinated with Korean relevant agencies such as KTNET, and organized many workshops on e-commerce in Vietnam.

E-commerce cooperation with Taiwan in the past time developed in good terms. Within the cooperation framework of APEC, from 2006, Taiwan's Information and Communication Technologies Institute (III) implemented the program "APEC Digital Opportunity Cooperation (ADOC) in Vietnam, contributing to the improvement of knowledge and information technology and e-commerce application of Vietnamese enterprises. In the framework of ADOC, Taiwan supported Vecom to build an e-learning center in Hanoi.

Japan is one of the world's top ranking countries in e-commerce development and a major trade partner of Vietnam. In the passing time, despite the two sides' remarkable efforts, cooperation on e-commerce with Japan is still limited, mainly focusing on activities of multilateral cooperation such as APEC, ASEAN-Japan, and ATA, etc…

CHAPTER II

DATA PRIVACY PROTECTION IN E-COMMERCE

CHAPTER II
DATA PRIVACY PROTECTION IN E-COMMERCE

I. OVERVIEW

1. The role of data privacy protection in e-commerce

In the era of globalization, information exchange plays a crucial role in production and business activities of enterprises. Timely and precise information help enterprises to operate more efficiently and improve competitiveness in an increasingly tough business environment. Therefore, ensuring the flows of information on a national as well as international scale has an important role in promoting the development of commerce. Previously, access, collection, compiling, and analyzing of information used to be difficult, time-consuming, and very costly. With the rapid development of ICT and e-commerce, enterprises can do those tasks in the shortest time and with the smallest budget ever.

In Vietnam, electronic transactions and the volume of information exchange have been increasing dramatically in recent years. Nevertheless, infringement relating to data privacy also raise remarkably and limit the participation of organizations and individuals in e-transactions. According to the surveys by Vietnam E-commerce and Information Technology Agency – Ministry of Industry and Trade in 2006 - 2008, information security, including data privacy are rated one of the largest barriers to the development of e-commerce in Vietnam.

On the global scale, organizations and nations have various points of view, policies and mechanisms on data privacy protection. For example, European Union (EU) prohibits the transfer of personal data from EU to nations that do not "ensure adequate data privacy protections" a defined by the EU. The United States promulgated many legal texts relating to data privacy such as Children's Online Privacy Protection Act, Gramm-Leach-Bliley Law, etc. All of those have detailed regulation on data privacy and personal information protection. Australia and New Zealand have Privacy Laws. Canada enacted the Personal Information and Electronic Documents Act (PIPEDA) in 2000, etc.

Today, more than 50 nations and territories administer data protection laws at various levels. Since the regulations of each nation are built on different approaches and points of view, information exchange through modern electronic means between nations and territories face many legal difficulties. This issue posed negative effects on commerce activities.

2. Data privacy protection in the world

Data privacy attracted more interest after World War II. In order to avoid using personal data for the purpose of harming citizen as happened in the World War II, Europe codified privacy as a fundamental human right in the European Convention for the Protection of Human Right and Fundamental Freedoms in 1950. After that, in 1973 the Committee of Ministers adopted two resolutions on protection of individuals with respect to electronic data banks. The first resolution established principles of data protection for the private sector. The second set rules for the public sector.

In the 1970s, Fair Information Practice Principles (FIPPS) were proposed the first time by a special privacy advisory committee of the Department of Health, Education, and Welfare (HEW). Mission of this committee was to research and examine the impact of automatic data processing systems on privacy. In 1974, The US Congress passed the Privacy Act. This law enacted fair information practices into legal mandates for how federal agencies process personal information. It also authorized the creation of the Privacy Protection Study Commission to assess how personally identifiable information was being used and protected.

With regard to international cooperation, the Organization for Economic Cooperation and Development (OECD) was a pioneer on the field of privacy and personal data protection. After years of research, in 1980 OECD issued its Guidelines on the Protection of Privacy and Transborder Flows of Personal Data. The Guidelines incorporated 8 privacy principles, including: collection limitation, data quality, purpose specification, use limitation, security safeguards, openness, individual participation, and accountability. The Guidelines suggest members to "take all reasonable and appropriate steps to ensure that trans-border flows of personal data are uninterrupted and secure". Also, members countries "should avoid developing laws, policies and practices in the name of the protection of privacy and individual liberties, which would create obstacles to transborder flows of personal data that would exceed requirements for such protection".

In 1981, Council of Europe's member countries ratified Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data. In 1995, European Union promulgated Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data (the EU Data Protection Directive). The Directive requests member countries to enact national implementation laws and establish independent enforcement bodies to enforce the national data protection frameworks.

With the above policy and legal developments, at present there are essentially three basic models of data protection frameworks in the world: the EU model built upon the EU Data Protection Directive 1995; the US model based on sector- specific statues, self-regulatory regimes and codes of conducts; and the APEC Privacy Framework built upon the combination of the above two models. APEC's member economies are actively implementing Data Privacy Pathfinder Projects based on APEC Privacy Framework.

II. CURRENT SITUATION OF DATA PRIVACY IN VIETNAM

1. Some cases of data privacy violations

Since the issuance of the E-Transaction Law in 2005 unto now, the e-commerce application among Vietnamese enterprises has become more and more developed. Especially, since late 2007, may enterprises have conducted and applied a complete e-commerce transaction cycle. All steps of transactions from advertisement, offer, and contract conclusion to payment, delivery, client care, warranty can be conducted in the electronic environment. Therefore, collecting customers' information on the internet becomes an indispensable demand in the operation.

of enterprises. B2C e-commerce transaction, data collecting and processing, marketing and customer relation management (CRM) have become regular activities.

Due to the e-commerce's particular characteristic i.e. being conducted in the cyber space, in which partners conduct transactions, pay and receipt goods without direct meeting, the demand for personal information is enormous, including the most sensitive information. Moreover, many advanced technologies such as cookie, espionage software, global positioning and digitalized database allows enterprises to collect and process information easily, serving their various purposes. Online advertisement organizations always strengthen the collecting, establishing and even buying and selling of consumer information documents. Personal information has been becoming valuable goods to enterprises. Individuals and consumers can hardly imagine all risks that their personal information shall be illegally exploited when taking transactions on the Internet.

Until recently, data privacy in the electronic environment is still a new issue in Vietnam. The current law system still lacks of concrete regulations and sanctions for the sake of data privacy protection over the Internet. Additionally, this is a relatively new concept to people and enterprises and even the state management agencies.

However, along with the rapid development of information technology and e-commerce, especially the Internet's wide and deep infiltration into every aspect of life, negative impacts of using personal information illegally has become clearer. This fact makes data privacy protection become a great issue, attracting broad care of the state management agencies, enterprises and the whole society.

Box II.1
Trend of increased high-tech crimes in recent years

In comparison with normal criminals, the particular characteristics of the high-tech criminal is that he can sit still to conduct his act without whereabouts appearance but only few traces left (electronic evidences are difficult to discover, collect but easy to be ruined). Meanwhile, the time for committing a crime is short. The investigation police of economic criminals caught 42 cases (cause the loss of 1,978 billion VND and 11.3 million USD), investigated 35 cases, 75 arrestees, recover 120 billion VND, simultaneously discovered many sophisticated ruses of criminals. Many foreigners traveling to Vietnam use fake passports and credit cards to pay for hotel services, air tickets, and appropriate money or steal personal information accounts, hack online shopping websites, take information from foreign credit cards to sell online and make illegal profit.

Late 2007 was an ideal time for swindlers of multi-level financial investment through the internet to do whatever they want. These swindlers opened internet websites, propagandized, advertised financial investment activities for foreign companies, attracting money of many people of 38 provinces and cities under the multi-level business with the interest at 2.5-3% per day and each broker got the 10-15%. Only when the network was

shut down were tens of swindlers arrested, and many people became moneyless, as they are victims of swindlers. Also by the mask of luring with the high interest rate of 5% per month, Stanley Elliot Tan, a Canadian, Head of the representative office of Golden Rock company at No 35 Nguyen Hue Str, district 1, Ho Chi Minh City and the Financial Director Patrick Chang, in a smooth way, swindled 10 million USD of approximately 1,000 customers distributing money to buy and sell foreign currency on the New York Stock Exchange.

In the stock market, there have been acts of manipulation such as colluding with others to place buy and sell orders at large volume at the same time in order to manipulate the stock prices , illegally accessing websites to change enterprise information... which make investors take false information..., leading to wrong decisions. From 2007 up to now, the Inspectorate of the State Securities Committee have uncovered and handled administratively 125 cases, one typical case of which was investor Truong Dinh Khoi who was fined 100 million VND. Through inspecting and screening over 300,000 transaction accounts at the Ho Chi Minh Stock Exchange, the Inspectorate of the Securities Committee discovered that Mr. Khoi's account number 006C002819 opened at the Asia Commercial Bank Securities (ACBS) has many extraordinary transactions such as invalid, erased, edited or uncompleted order forms, many orders at the same time but conducted by both ACBS in Ho Chi Minh City and ACBS branch in Da Nang. Form 28 Jan to 14 Feb, Mr. Khoi sold Sacombank stocks (STB) consecutively with the price much lower than the purchase price, causing the panic that STB went down.

Source*: http://www.nhandan.com.vn/tinbaidadang/noidung/?top=40&sub=67&article=133137*

According to the annual survey of Ministry of Industry and Trade, from 2003 until now, personal information safety and security in e-commerce transactions has become more and more cared by enterprises and the community. Given the context that illegal collection, stealing, using data such as personal emails, account number… has been developing, the awareness about data privacy protection of enterprises and the community is very significantly important.

1.1. Collecting, using email addresses illegally

One of the most popular data privacy protection violations in the past time is to collect email addresses illegally to serve various purposes, from advertising to selling these email addresses to individuals, organizations interested in. With advanced technology, collecting email addresses is now relatively easy. The fact that many individuals, enterprises advertise millions of email addresses publicly is giving negative impacts on online advertisement activities, harming consumers, reducing the community's confidence in e-commerce transactions.

Box II.2
Some advertisements for selling addresses and email address collection software

The software of mass mail searching and sending
Only one click will help you search thousands of email addresses, verifying addresses and sending, a solution to marketing and advertisement for individuals and enterprises.
Price: 65,000 VND
Scope: nationwide
Date posted: 10-11-2008 21:56
How to buy: See and pay in cash directly or pay by telegraphic transfer before receiving goods
Source: *http://www.123mua.com.vn/xem?sp=FACLULYQRe*

Selling over seven millions companies' email addresses
Selling over 7 millions email addresses of companies, enterprises and individuals selected carefully (CD consist of over 7 millions email addresses, which we selected carefully from the database of 12 million email addresses; enclosed with the software of professional email sending and using instruction document in Vietnamese).
Package price: 350,000 VND
 Source: *http://www.webmuaban.com/?mode=ads&siteid=499643*

1.2. Stealing, swindling to take personal account information

Electronic payment is relatively new to Vietnamese consumers and relevant authorities but it has developed fast in recent years. Catching this situation, many criminals, including foreigners conducted many stealing and swindling acts for account information of individuals, enterprises to withdraw money or sell and buy goods, making profits illegally. Some criminals of the banking sector stole the passwords of competent people to appropriate money illegally.

Box II.3
Some cases of law breaking related to personal accounts

Taking the advantage that some low-price airlines allows customers to book tickets and pay online, Director Nguyen Hoang Yen used high-tech to crack, penetrate personal accounts, credit cards of domestic and foreign customers to book tickets, pay for low-price airlines, then receive "fresh money" from customers needing real tickets. This damages both airlines and individuals having accounts penetrated. According to the initial investigation, only Pacific Airlines (Vietnam) lost over one billion VND because of this swindling act by Nguyen Hoang Yen. It is said that some famous low-price airlines of other countries are also victims of this Director

Source: *http://www.sggp.org.vn/SGGP12h/2007/10/125913/*

1.3. . Some other violations related to personal information

Besides violations related to assets and money, in the recent time, there were many violations related to dispersion of private images and information which give negative impacts on private life of individuals in particular and the whole society in general.

Materializing the State's policy of cashless payment, in recent years, the ATM system has relatively strong development steps. Up to late 2008, in Vietnam, there have been over 7,051 ATMs and 24,000 POS machines. Along with the development of the ATM system, there was the appearance of some new violations related to this payment mode. Evildoers stole and bought personal information (such as ID), then established ATM accounts to perform a swindling.

Box II.4
Swindling through ATM cards

The newest trans-province gang of swindling through ATM has been discovered; its instigator is Nguyen T (24 years old) in Dong Chieu, ward 4, district 8, Ho Chi Minh City. At the initial investigation, T confessed that he came to a pawnshop to buy IDs that customers left, then change into his photo to open tens of ATM cards and earn money. The case is being investigated extensively, up to now it is said that Nguyen T appropriated money of 14 people and transferred nearly 3.8 billion VND into an accomplice's account.

Source: *The Worker's Newspaper*

According to the Ministry of Industry and Trade's survey in 2006, safety and security in electronic transactions including data privacy protection was rank third among seven biggest obstacles to the e-commerce development in Vietnam. In surveys of 2007 and 2008, it always ranks the first in the list of biggest obstacles to the e-commerce development. The result shows that Vietnamese enterprises and people are paying more and more attention on data privacy protection when using e-commerce. This is also in line with the tendency of e-commerce application in the world. In the first development stage, the biggest obstacle is technological infrastructure and legal system, next was obstacles on buying and selling practices. In the high development stage when business can be completely conducted through the electronic environment, the concern about the information safety and security has become the biggest obstacle to the e-commerce development.

2. Institutionalization of personal information in the Vietnam legal system

Up to now, Vietnam yet has any legal texts governing acts related to data privacy protection systematically. However, along with the strong development of information technology and e-commerce application in all sectors of social life, the state management agencies are more and more aware and interested in data privacy protection. This is expressed in the Party and State's Instructions, and legal texts recently issued.

At the Instruction No 27/CT-TU dated 16 Oct 2008 on leading the implementation of the 2009 National Population and Housing Census, the Party Central Committee's Secretariat required "pay attention to information security in accordance with legal regulations, especially personal information security…"

Through examining legal texts systematically, it can be said that items governing data privacy protection has been stipulated more and more clearly in laws and regulations. There have been regulations on penalty forms, specific sanctions from administrative measures, pecuniary penalty to criminal measures to serious violations.

Referring the civil legal text, the Civil Code approved by the National Assembly in June 2005 has some stipulations on data privacy protection such as Article 31 "The rights of an individual with respect to his/her picture" and Article 38 "The rights to personal secrets". Article 31 states that an individual has the right with respect to his/her picture, the use of an individual's picture must have his/her consent and it is strictly forbidden to use pictures of other people to infringe upon their honor, dignity and prestige. Accordingly, rights to personal secrets are respected and protected by laws, collecting, publicizing information and documents about an individual's personal secrets must have the consent of this individual. Letters, telephone, messages and other electronic information of individuals must be kept in safety and security.

The highest legal text governing electronic transactions is the Law on E-transactions approved by the National Assembly in Nov. 2005, in which there is one article (No 46) stipulating information security in electronic transactions. Article 46 of the Law on E-transaction states: "Agencies, organizations and individuals are not allowed to use, provide or disclose information on personal secrets or information of other agencies, organizations and individuals that they access or control in e-transactions without the latter's consents, unless otherwise provided by law".

In June 2006, the National Assembly approved the Law on Information Technology defining the general activities of information technology application and development, securing and developing measures of information technology , rights and obligations of agencies, organizations and individuals applying and developing information technology. The Law on Information Technology has more specific and clear regulations on collection, process, use and store personal information on the Internet at Articles 21, 22. Article 72 mentions matters related to security for personal legal information which organizations, individuals exchange, transmit, store on the Internet. However, these stipulations are yet complete and yet focus on protection of consumer rights and yet define rights of personal information owners clearly.

On 10 April 2007, the Government issued the Decree No 63/2007/ND-CP defining acts of violations, modes and levels of penalties and competence to take administrative penalties in information technology application and development.

Box II.5
Some regulations on data privacy protection at the Decree No 63/2007/ND-CP
dated 10 April 2007 by the Government

Article 6. Acts of violations of regulations on storage, lease, transmission, supply, access, collection, process, exchange and use of digital information.

1. Warn or fine from 100,000 VND to 200,000 VND against acts of quoting other organizations and individuals' information which can be quoted as provided by laws but without mentioning such information sources.

2. Fine from 200,000 VND to 500,000 VND to one of the following acts:

a) Define lists of owners hiring places for information storage according to the demand of the State appropriate agencies inaccurately or incompletely;

b) Store others' personal information collected over the networks in a period of time longer than the one provided by laws or agreed by the two sides

3. Fine form 500,000 VND to 2,000,000 VND to one of the following acts:

a) Quote digital information of other organizations, individuals without their consents or quote illegally;

b) Not stop the hire of places for digital information storage when self-discovering or being informed by the State appropriate agencies that the information being stored is illegal;

c) Not stop the supply of information search tools for other organizations, individuals when self-discovering or being informed by the State appropriate agencies that the digital information source is illegal;

d) Collect, process and use personal information of others over the network without their consents unless stipulations at Term 3, Article 21 of the Law on Information Technology;

e) Collect, process and use personal information of others without informing them modes, scope, places and purposes of those acts;

f) Use personal information of others in the network environment for the purpose different from the one informed to them,

g) Not check, modify or delete others' personal information stored in the network space in the process of collecting, processing, using information when the owners of such information require;

h) Supply or use personal information which is yet modified when the owners of such information require to modify;

i) Supply or use personal information when the owners of such information require to delete it.

k) Not store digital information regarding activities conducted over the network according to the regulations of the State appropriate agencies.

4. Fine form 2 million VND to 5 million VND to one of the following acts:

a) Access computers, computer networks and database illegally;

b) Not implement necessary measures to prevent the access to or deletion of illegal information according to the demand of the State appropriate agencies when transmitting or letting places for digital information storage;

c) Not effectuate the State appropriate agencies' demand on defining the list of owners of places for digital information storage;

d) Not ensure the security of information of organizations, individuals hiring places for digital information storage;

e) Not implement necessary technical management measures to ensure that information will not be lost, stolen, revealed, changed or destroyed when collecting, processing and using personal information of others in the network environment;

f) Provide personal information for others for the 3rd party in the network environment illegally without the information owner's consent;

g Prevent rights of searching, exchanging, using legal information in the network environment

h) Not restore information or access to the legal information source when the information owners require;

i) Not follow, supervise information of other organizations, individuals according to the State appropriate agencies' demand;

k) Not investigate acts of violations in the process of transmitting or storing digital information of other organizations, individuals according to the State appropriate agencies' demand;

On 21 Jul 2008, the Ministry of Industry and Trade issued Circular No 09/2009/TT-BCT guiding the e-commerce Decree on information supply and contract conclusion on e-commerce websites. The Circular has some general stipulations on information which needs supplying to protect the minimum interest of customers, including requirements that e-commerce website owners must obey when collecting and using personal information of customers.

Along with the wider and deeper integration into the global economy of our country and the very strong development of technology, many new criminals have appeared, in which the most outstanding is high-tech criminal. Given the context, the state management agencies petitioned for the amendment of the Criminal Code issued by the National Assembly in 1999. It is expected that in the first half of 2009, the National Assembly will approve the amended Criminal Code. At the amended Criminal Code, Article 226 will be added "The crime of uploading information illegally on the telecommunications network, computer network or use information on these networks illegally". This will be the basic to take criminal measures against acts of violations of personal information laws in the network environment.

Together with the issuance of concrete regulations governing violations of laws on information safety and security, the state management agencies have also care about the improvement of the capacity of high-tech crime criminal prevention. Given the context that the number of high-tech criminals showed an upward tendency, in 2005, the Ministry of Public Security established a team of high-tech criminal prevention, directly under the Department of Economic Criminal Investigation (C15). In the past time, the Team coordinated effectively with concerned agencies to investigate, raze many cases of high-tech criminals, including cases related to illegal personal information stealing and using. However, with the strong development of information technology and e-commerce application in most sectors of the economy, a large-scope organization having enough ability, professional skills and enough powers to fight against these criminals is very required.

III. DATA PRIVACY AND PERSONAL INFORMATION PROTECTION IN VIETNAM E-COMMERCE

The awareness of the importance of personal data protection has been clearly increased in Vietnam in recent years. This result is expressed by many regulations relating to personal data protection, which were promulgated by the State in various legal documents. At the same time, enforcement agencies have been built, consolidated and mandated with more executive authorities and power to effectively prevent and fight high-tech crimes, including crimes relating to data privacy and personal data protection.

At the end of 2006, Department of e-Commerce of the Ministry of Trade (now is Vietnam e-Commerce and Information Technology Agency of the Ministry of Industry and Trade) surveyed 290 e-commerce websites to evaluate the status of data privacy and personal information protection in enterprises that doing online business in Vietnam. The survey showed that, there were only 75 websites having data privacy and personal information protection policies, made up 26% of the surveyed websites. Having deeper analyses on the structure and operation of surveyed websites, websites with more professional operation flows pay more attention to the data privacy and personal information protection issue. B2B e-marketplaces - the most professional e-commerce websites also have the highest rate in building and declaring data privacy and personal information protection policies (57%). Although B2C and C2C e-marketplaces accounting for overwhelming number of surveyed websites and served mainly for individual consumers, they have a very modest rate in publication of data privacy and personal information protection policies for the peoples who take part in transactions in these websites.

Table II.1
Data privacy policies of Vietnam e-commerce websites in 2006

Kinds of website	Have		Do not have	
	Quantity	Rate (%)	Quantity	Rate (%)
C2C	19	19%	83	81%
B2C	36	24%	117	76%
B2B	20	57%	15	43%
Total	**75**	**26%**	**215**	**74%**

Source: Study "Personal Information and data privacy in e-commerce" – Department of E-Commerce, Ministry of Trade, May 2007.

In order to make general conclusions on the status of data privacy in Vietnamese enterprises in 2008, Vietnam E-commerce and Information Technology Agency (VECITA), Ministry of Industry and Trade sent official letter No.167/TMDT-PC to 350 organizations in Vietnam (included enterprises and trade associations) having e-commerce application. In the content of this official letter, VECITA required enterprises to answer survey of their data privacy practice. The content of survey included questions related to: mode of personal information collection, usage purposes, types of information which are collected, personal information disclosure, development and implementation of data privacy policy, publication of data privacy policies, etc.

By the end of November 2008, 132 organizations answered and sent the questionnaires back to VECITA, including 24 banking organizations, 14 travel agencies, 36 goods manufacturers, 34 companies in the sector of software services and IT and e-commerce education, 14 real estate and construction firms and 10 trade associations. The result of this survey is presented below.

1. Status of personal information collection by e-commerce enterprises

1.1. Consumers' personal information collection

Among 132 organizations answered the questionnaire, 122 collected personal information, including 18 banks, 14 travel agencies, 34 goods manufacturers, 34 companies in the sector of software services, IT and e-commerce education, 13 real estate and construction firms and 10 associations. Of that, 100% of travel agencies and associations collected personal information. The personal information collection percentage of the other types of enterprises are as follows: companies in the sector of software services and IT and e-commerce education 97%, goods manufacturers 94%, real estate and construction firms 94% and banks 75%.

When we carried out further analyses of the organization structure of surveyed banks, we realized that out of 24 these banks, there were 19 commercial banks, 3 representative offices of foreign banks, which did not have functions as normal banks. 18 in 19 surveyed banks collected personal information online, occupied 95%. VID Public Bank was the unique bank, which did not collect personal information online. However, in the forthcoming time, VID Public Bank is going to collect personal information of consumers online when they implement their online services. Like this, in future, 100% banks are going to collect personal information online. Now, all banks collect personal information of consumers with traditional offline measure.

All of 14 travel agencies collected personal information. This result was also in conformity with the e-commerce application trend, which has prevailed in hotel and travel agencies. From 2007 till now, many travel agencies have been carrying out online payment service.

Table II.2
Travel agencies took part in data privacy survey

Name of companies	Website
The Indochina Trekking Company	*http://www.indotrek*
Viet service and travel Limited liability company	*http://www.dichthucviet.com*
Công ty TNHH Đầu Tư và du lịch quốc tế Việt	*http://www.khamphaviet.vn*
Vietnam E-commerce Development Joint Stock Company	*http://www.vietnamtradefair.com*
Dai Phuong travel, Ltd Company	*http://www.sapatruly.com*
Viet International Investment and Travel, Ltd Company	*http://www.khamphaviet.vn*
Vinamice Tour Company	*http://www.vinamicetour.com*
Hai Phong Travel Joint Stock Company	*http://www.huunghihotel.vn*
MAI LINH HUE Travel Agency	*http://www.dulichmailinh.com*
Viet Culture Trading and Service Travel, Ltd Company	*http://www.vanhoaviet.biz.vn*

The result of the survey showed that personal information collection already became one of common activities in all enterprises, especially in companies, which applied e-commerce in their usual operation such as travel agencies, banks, software and education services companies. Other organizations such as trade associations also collected personal information .

1.2. Kinds of collected personal information

By the results of statistic, 114 organizations that took part in the survey, collected email addresses of consumers. They occupied 86% of organizations participating in the survey. In this number, banks had the worst rate of email addresses consumers, this rate was 50%, travel agencies, immovable property, and building firms occupied the same rate, and these were 93%. Goods manufacturers occupied 94%, this was also the rate of software supporting services and education companies. Finally, associations seized the highest rate, 100%.

On the contrary, for permanent address collection, the collection rate of participated organizations had clear difference. Travel agencies occupied the worst rate, 57%. Software supporting services and education companies occupied 76%, banks appropriated 83%, immovable property and building firms held 86%. Finally, associations had the most rate of permanent address collection with 100%.

In addition, many enterprises have collected information about account number of consumers. 77% travel agencies implemented this collection, correlative rate of banks is 54%, goods manufacturers held 47%. Software supporting services and education companies occupied the same rate with good manufactures, immovable property and building firms and associations held the same rate with 50%.

This result reflected the situation of E-commerce application in Vietnam: Banks in Vietnam has been carrying out direct transactions with consumers, the supply of electronic bank services have not developed strongly yet. Meanwhile, because of transactions with consumers from far away, even consumers abroad, travel agencies have implemented strongly kinds of online transaction and payment to attract consumers.

Table II.3
Kinds of information are collected by enterprises

Business branch	Number of enterprise	Percentage of businesses that collect information (%)			
		Email	Account number	Permanent address	Other information
Bank	24	50	54	83	8
Travel services	14	93	77	57	21
Goods manufacture	36	94	47	77	22
Software services, education	34	94	47	76	12
Immovable property and construction	14	93	50	86	21
Association	10	100	50	100	30

1.3. *Notice about using purposes when organizations collect personal information of consumers and reveal to third party*

By the surveyed result, 111 of 132 participated organizations to the survey answered that they brought the notice about using purposes of personal information to consumers in their website. This number include 18 banks, 14 travel companies, 29 goods manufacturers, 28 software supply services and education companies, 12 immovable property and construction firms and 10 associations. Among them, 100% travel companies informed that they brought the notice about using purposes of personal information of consumers.

With the question about the revelation personal information of consumers to third party, most of organizations affirmed that they did not do it. Among them, banks occupied 92%, travel agencies appropriated 100%, immovable property and construction firms held 93%. Software supply services and education companies seized worse rate than those enterprises, this rate was 88%, goods manufacturers occupied 89% and the rate what associations held, was 50%.

2. Comsumers' data privacy protection

In 132 organizations participated in the survey, only 24 organizations (18%) affirmed that they set up regulations on personal information collection and data privacy in e-commerce. These organizations included 10 software services and education companies, 4 banks, 3 travel agencies, 3 goods manufacturers, 2 real estate and construction firms and 2 associations.

40% organizations informed that they would build these regulations in near future. They were 9 banks, 5 travel agencies, 18 goods manufacturers, 12 software services and education companies, 6 real estate and construction firms and 2 associations. The remaining 42% have not had plan to set up these regulations yet.

By this result, total number of websites which will declare regulations for collecting and using personal information in e-commerce transactions, will be strongly increased in the near future.

Despite not having clear regulations on collecting and using consumers personal information, Vietnam enterprises have started to combine administrative methods and technological measures to protect personal information. Among 132 enterprises participated in the survey, 89 companies reported that they had been implementing both technological and administrative solutions to protect consumers' personal information. Among them, banks held the most rate with 71%.

For building dispute settlement and appeal mechanisms which have reactions with using their personal information of consumers, software supply services and education, software services and education companies and banks appropriated the highest rates at 26% and 21%, respectively. Other enterprises had very low percentage on having dispute settlement mechanisms: 7% of travel agencies, 8% of goods manufacturers. Real estate and construction firms still have not paid due attention to this mechanism. If this situation still prolonged, it would have adverse effects on development of e-commerce in Vietnam.

Table II.4
Survey result on data privacy implementation of enterprises

Industry	Number of enter-prises	Regulations on collecting and using personal information (%)			Data Privacy protection solutions (%)			Dispute solving mechanism (%)	
		Have	Not have	Not have plan	Adminis-tration	Techno-logy	Both	Have	Not have
Banking	24	17	38	45	17	8	75	21	79
Tourism	14	21	36	43	50	14	36	7	93
Manu-facturing	36	8	50	42	28	3	69	8	92
Software services, education	34	29	35	36	18	9	73	26	74
Real estate and construction	14	14	43	43	29	14	57	0	100
Association	10	20	20	60	30	0	70	10	90

The result shows most enterprises collect personal information of customers but they are yet adequately aware of the importance of data privacy. To build up an effective mechanism of customer right protection, enterprises are required to study the State's current regulations and build a suitable system to internal information management. Moreover, they should apply advanced security technologies to prevent acts of stealing and illegal access to the enterprises' information system.

IV. VIETNAM TRUSTMARK ORGANIZATION - TRUSTVN

1. Risks in online transactions

When visiting websites, users usually have to provide information such as name, age, contact address, email, hobby, income, medical record, credit card number, etc… which will be stored in the database of the website owner. Website owners can use that information for various purposes not except ones harmful to users. Spam or letter-bombs… also start from illegal email collecting and using. It is more dangerous that sensitive information such as medical record, personal income, especially account and credit card number are revealed and illegally used.

Figure II.1
Homepage of website www.trustvn.org

To prevent potential risks, governments of e-commerce developed countries such as the US, Japan, EU countries… and many organizations in the world recommend consumers to take transactions on reliable websites. Trustmark certification for websites is provided by governmental or independent organizations, depending on features of each country. In developed e-commerce countries such as the US, Japan, Singapore, it is usually done by private organizations, for example: Truste of the US, TradeSafe of Japan, TrustSg of Singapore. Meanwhile, in developing e-commerce countries, it is often done by governmental organizations or industry associations, in which typical ones are DBD of Thailand, AMIPCI of Mexico, and TrustVn of Vietnam.

Issuing trustmark certification for e-commerce websites is based on the assessment of websites' compliance with certain criteria by issuing organizations. These criteria are built on the basic of broad consultancy with the State management agencies and prestigious experts. Enterprises having trustmark certification will have the trust seal of the issuing organization on the homepage of their websites and users can examine the seal reliability by clicking at it.

Issuing trustmark certification for e-commerce websites not only brings users belief in websites' prestige but also brings economic benefits for e-commerce websites through the increase of viewers' number as well as of turnover of the website owner.

According to a survey of Truste *(www.truste.org)*- a US top trustmark organization, with each 15 USD for shopping, customers are ready to pay extra 60 cent to buy goods at websites having trustmark seal instead of buying at other websites with lower prices. One of the main reasons why consumers are ready to buy at a higher price when taking transactions on reputable e-commerce websites is the thoughts that their personal information is safer.

2. TrustVn – an effective mechanism to promote data privacy in e-commerce of Vietnam

To contribute to the build-up of a favorable environment for online business, EcomViet under the Ministry of Industry and Trade has coordinated with Vietnam e-Commerce Association (Vecom) to build and launch the program of Vietnam e-commerce websites ranking and evaluation - TrustVn.

Enterprises joining the program and complying with all TrustVn criteria will have trust-mark certification and TrustVn label placed on their websites.

Box II.6
History of TrustVn

> www.pacificairlines.com.vn;
> www.123mua.com.vn;
> www.travel.com.vn;
> www.vinabook.com;
> www.25h.vn;
> etc…
>
> Following achievements of TrustVn, since 2008, EcomViet has upgraded TrustVn to become an e-commerce trustmark certification program in Vietnam. EcomViet also coordinated with Vecom to operate TrustVn. Along with upgrading TrustVn, EcomViet became an official member of ATA – Asia Pacific Trustmark Alliance) on 13 June 2006 *(www.ataportal.net)*

The task of TrustVn is to assess e-commerce websites' reliability, especially websites collecting personal information and doing e-transactions. TrustVn helps website owners to build up customers' confidence. With websites having trustmark certification issued by TrustVn and TrustVn label placed on, consumers can feel secure when providing their personal information for website owners. TrustVn also help website owners outline necessary criteria related to policies of data privacy and customer protection.

To receive trustmark certification and get TrustVn seal placed on websites, the website owners must comply with TrustVn procedures at *www.trustvn.org.vn* and go through strict assessment under program criteria. TrustVn has two important assessment principles: Firstly, websites must take the assessment of data privacy policies according to criteria built on the basic of APEC Privacy Framework. Secondly, if a website does online selling, it will be assessed through the examination of its compliance with regulations of Circular No 09/2008/TT-BCT dated 21 Jun 2008 by Ministry of Industry and Trade guiding the E-commerce Decree on information supply and contract conclusion on e-commerce websites. These are important criteria to recognize a reputable website. Not stopping at one time assessment, TrustVn also supervises and has regular examination to ensure the long-term compliance of enterprises and gives public recommendations and announcement of enterprises' compliance to the program.

Box II.7
Process of issuing Trustmark certification and sealing TrustVn

There are 8 steps:

Step 1:
Enterprises contact and make online registration at *www.trustvn.org.vn* or contact directly with EcomViet.

Step 2:
Enterprises fill in the TrustVn self-assessment form on data privacy protection policies.

Step 3:
Enterprises send EcomViet their document of data privacy policies and self-assessment form

Step 4:
TrustVn will assess enterprise website's compliance with TrustVn criteria and put forward recommendations if necessary.
- The assessment criteria are built on the basic of APEC Privacy Framework;
- If a website has online selling function, it will be assessed basing on regulations on information supply and contract conclusion on e-commerce websites.

Step 5:
Enterprises make changes, modify and rearrange their website operation according to TrustVn recommendations.

Step 6:
Sign agreement on TrustVn label use.

Step 7:
Enterprises pay fees for TrustVn label maintenance.

Step 8:
EcomViet and Vecom award enterprises with TrustVn certification and seal TrustVn label on enterprises' websites. The TrustVn certification and label will be placed according to the enterprise's desire in order to increase customers' confidence.
EcomViet ensure enterprises' compliance and supervise regularly.

: These documents can be downloaded at www.trustvn.org.vn

With the deeper global economy integration and the borderless e-commerce, countries and international organizations have been more active in international cooperation on e-commerce related matters. For trustmark organizations, international cooperation is very important as it helps consumers of an economy feel secure to buy online on e-commerce websites of other economies. Dispute among parties in different countries if any will be handled more effectively through international cooperation.

At present, some trustmark alliances such as Global Trustmark Alliance – GTA, Asia Pacific Trustmark Alliance – ATA… have been established. These are important efforts to deal with consumers' confidence, one of the biggest obstacles to the e-commerce development.

With the own effort and assistance of the Ministry of Industry and Trade, EcomViet - operator of TrustVn program was admitted to the ATA in Jun 2008. ATA is the alliance of trustmark organizations in the region. Participating in this alliance, TrustVn will be a label recognized by other organizations of ATA, bringing practical benefits for Vietnamese consumers as well as for e-commerce website owners. In recent years, ATA has implemented practical activities to contribute to the regional e-commerce development, which are highly appreciated by APEC.

CHAPTER III

E-COMMERCE SUPPORT TECHNOLOGY STANDARD APPLICATION

I.   **Background**

II.   **Business activities and e-commerce support technology standard application**

III.   **EDI application in industry and service sectors**

IV.   **Typical e-commerce models**

CHAPTER III
E-COMMERCE SUPPORT TECHNOLOGY STANDARD APPLICATION

I. BACKGROUND

1. Establishment and popularization of e-commerce support technology standards

Awareness of the importance of e-commerce applications development to exchange information and data in trading activities facilitation and management, as of 2000, Vietnam businesses in many sectors started to establish business network combined with electronic data interchange applications according to international standards or standards that were defined by businesses themselves. However, in recent years, State management agencies have only further focused on establishment and popularization of e-commerce standards to improve awareness for managerial staffs and provide technical implementation support for many business types.

From 2002 until now, Ministry of Science and Technology with the mission of state management agencies in formulating e-commerce standards has formulated, promulgated and popularized many set of standards related to e-commerce sector, including standards related to trade data interchange, electronic data interchange for administration, commerce and transport (EDIFACT), data elements and interchange formats, XML schema definition, information processing, etc… including:

- TCVN ISO 7372:2003, Trade Data Interchange – Trade Data Element Directory.

- TCVN ISO 9735:2004, Electronic Data Interchange for Administrative, Commerce, and Transport (EDIFACT).

- TCVN ISO 8601:2004, Data Elements and Interchange Formats – Information Interchange – Representation of dates and times.

- TCVN ISO/TS 20625:2002, Electronic Data Interchange for Administrative, Commerce, and Transport (EDIFACT) – XML Schema Definition based on recommendations of EDIFACT.

- TCVN ISO 14662:1997, Information Technology – Open-EDI reference Module.

- TCVN ISO 6093:1985, Information Processing – Representation of numerical values in character strings for information interchange.

- TCVN ISO/TS 150000 ebXML: 2006 – Electronic business Extensible Markup Language.

- TCVN 7789 (part 1-6):2007: Information Technology – Metadata Repository.

To improve comprehensive Information and Technology (IT) application in State agencies, Ministry of Information and Communication promulgated Decision 19/2008/QD-BTTTT dated 09/04/2008 stipulating IT application standards in State agencies and Decision (20/2008/QD-BTTTT) dated 09/04/2008 promulgating IT application standard directory in State agencies in which there are many standards related to e-commerce sector under the group of data integration, information access and data specification.

Ministry of Finance and State Bank promulgated many legal texts guiding businesses unanimously use IT standards that are applicable to the sectors of card payment, inter-bank international transfer (such as ISO 8583, SWIFT) and information integration and interchange (based on XML foundation). Ministry of Finance also promulgated many legal texts guiding IT performance and application in customs activities (Decision 50/2005/QD-BTC dated 19/07/2005 by Minister of Finance stipulated pilot implementation process of electronic customs procedures for import and export cargoes, official letter 3339/TCHQ-HDH of General Department of Vietnam Customs dated 19/08/2005 guided e-customs procedures and processes, Decision1447/QD-TCHQ dated 23/02/2007 promulgated temporary regulations on formatting a number of remote e-customs declarations for customs information system). Presently, electronic data interchange from local customs departments to General Department of Vietnam Customs focused on web/Internet and traditional XML foundation. With the objectives of modernizing customs activities and harmonizing with international standards, General Department of Vietnam Customs have studied WCO and EDIFACT electronic data interchange standards to implement in the near future.

The Ministry of Industry and Trade began establishing and implementing electronic certificate of origin issuing system (eCoSys) since 2006. Previously, eCoSys was developed based on web/Internet and traditional XML. In 2008, Ministry of Industry and Trade studied, established and promulgated the National technical regulation on electronic data interchange for issuing certificate of origin. This national technical regulation applied to agencies issuing electronic certificate of origin (eCO), agencies and individuals using eCO issuing service and value-added network companies. In addition, this regulation also stipulated technical processes and criteria related to electronic data interchange methods for issuing eCO that were managed or authorized to manage by Ministry of Industry and Trade, including initiation, implementation, control and supervision of electronic data interchange transactions for issuing eCO. This regulation application will better support for State agencies in managing import and export digital data and gradually facilitate transborder trade activities based on connection with eCO issuing systems of other countries in the region and the world according to advanced technology standards – EDIFACT of United Nations.

Besides the above technology standards, a number of agencies and businesses in the sector of finance – banking, communication – information technology, industry, trade and service also established, promulgated, and used IT standards that applicable to the sectors of information interchange, card payment, international transfer and system integration (such as XML, ISO 8583, SWIFT, etc…).

2. E-commerce support technology standard application

In 2008, Vietnam E-commerce and Information Technology Agency (VECITA) conducted survey of about 50 agencies and enterprises through interviews and questionnaires. The content of the survey focused on evaluating e-commerce support technology standard applications in agencies and enterprises.

Below is the general assessment of e-commerce support technology standard applications of surveyed enterprises.

Although ministries, industries have actively deployed technology standard establishment and popularization to serve e-commerce application establishment for State management agencies and businesses, the result of survey showed that the awareness of e-commerce common standards are still low. 43.5% of 50 surveyed agencies and businesses knew those standards, 56.5% did not. Especially, the percentage of experts who know thoroughly e-commerce standard definition on electronic data interchange only accounts for 3-4% of respondents.

Although the e-commerce technology awareness of business alliances is still low, a number of large enterprises have quickly approached and deployed e-commerce technology applications to business and manufacture activities. 72.9% of survey agencies and businesses applied e-commerce support technology standards. After a period of developing and operating, up to now some e-commerce application information systems were implemented effectively by businesses. From the first experience and success, businesses have continuously promoted the system improvement and upgrading through technology system upgrading projects, or new construction and investment projects.

Table III.1
Lists of surveyed State agencies and businesses on e-commerce support technology standard application

No.	Agencies, Business
	State Agencies
1	Ministry of Industry and Trade
2	Ministry of Science and Technology
3	Ministry of Finance
5	Ministry of Information and Communications
6	State Bank of Vietnam
7	General Department of Vietnam Customs
	Sector of Transportation
8	Vietnam Airlines
9	Port Authority of My Tho Province
10	Port Authority of Ho Chi Minh City
11	Haiphong Port Holding Limited Liability Company
12	Haivan Transport and Travel Limited Company
	Sector of Finance and Banking
13	Vietnam Commercial Bank
14	Bank for Investment and Development of Vietnam

No.	Agencies, Business
15	Saigon Thuong Tin Commercial Joint – Stock Bank
16	Indochina Bank
18	Ho Chi Minh City Stock Exchange
19	Hanoi Securities Trading Center
20	VCBS securities company
21	Vietnam National Financial Switching Joint – Stock Company (Banknetvn)
22	SmartLink Card Service Joint – Stock Company
23	Capital Securities Company
24	TrangAn Securities Joint – Stock Company
25	RongViet Securities Joint – Stock Company
	Sector of Communications and Information Technology
26	Viettel Corporation
27	Vietnam Computing and Electronic Company
28	Lacviet Computing Corporation
29	Vietravel Company
30	VTC Intecom company
31	Vietnam Association of Software and Communication
32	Hoang Minh Technology Joint – Stock Company (SANOTC)
33	PeaceSoft Solution Company
34	Technological Application and Production company
35	Vietsoftware Incorporation
36	Opportunity Solution and Business Joint – Stock Company
37	Cantho Software Park
	Sector of Manufacture and Retail Distribution
38	Vietnam Steel Corporation
39	Vietnam Tobacco Corporation
40	Hanoi Beverages Corporation (HABECO)

41	Saigon Beverages Corporation (SABECO)
42	Education Publishing House
43	Unilever Joint – Venture Company of Vietnam
44	Honda Limited Company of Vietnam
45	Toyota Limited Company of Vietnam
46	Yamaha Motor Limited Company of Vietnam
47	Hanoi Synthetic Paint Joint - Stock Company
48	Hong Ha Stationary Joint – Stock Company

Currently, businesses are quite interested in applying advanced technology standards to modernize business processes and improve distribution processes. E-commerce support technology standard application of agencies and businesses serves various targets. The result of survey showed that 27.8% of surveyed enterprises mainly apply technology standards to provide information for online transactions with partners. E-commerce support technology standard applications to modernize business information systems such as accounting – finance data processing, customer relationship management, warehouse management, or resource planning were applied with quite equal proportions fluctuating between 10-16%. The result of survey reported that 10.1% of businesses apply standards to online payment according to the common development tendency of payment system via Internet, this number will have highly increased over the next. Since the awareness and capability of deploying e-commerce support technology standard applications to professional activities are still low, small and medium enterprises mainly apply these standards to promote advertisement, business and information presentation on their websites.

Table III.2
Purposes of e-commerce support technology standard applications

No.	Application purposes	Rate
1	Online transaction information Management	27.80%
2	Accounting and Finance Management	15.90%
3	Customer Relationship Management	12.70%
4	Warehouse Data Management	11.30%
5	Online Payment	10.10%
6	Resource Planning	9.50%
7	Supply chain Management	4.80%
8	Other	7.90%

E-commerce support technology standards have been applied in enterprises including:

- XML standard.

- International standards related to electronic data interchange (such as EDIFACT standards, GS1, ISO 8583, SWIFT, and ISO 9735).

- Other data processing standards.

Figure III.1
The percentage of e-commerce technology application in businesses
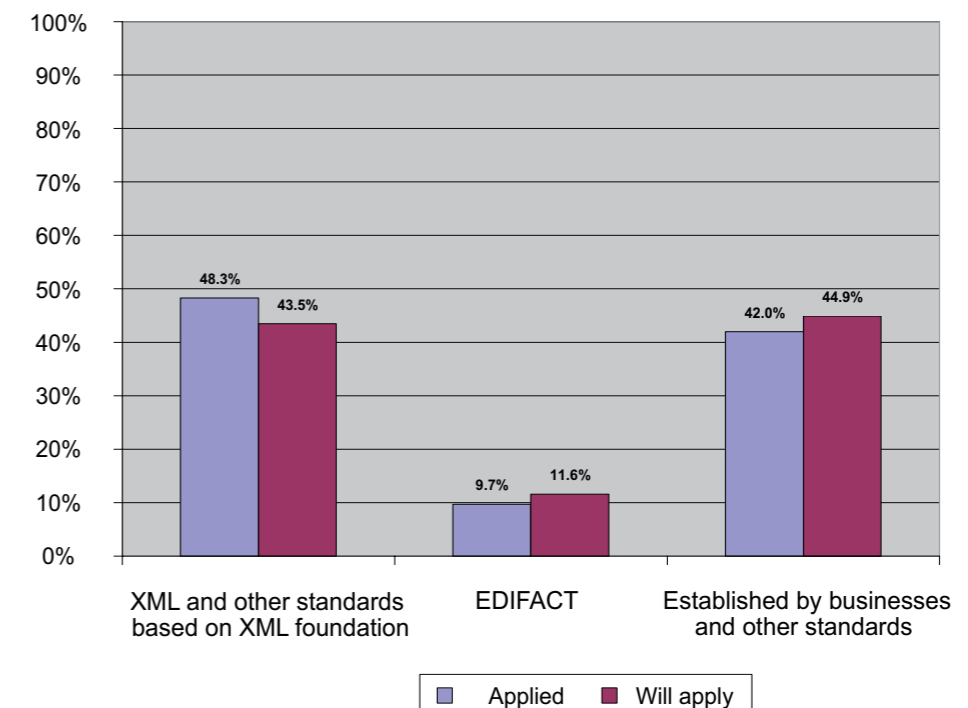
48.3% of surveyed businesses reported that they apply XML and other standards based on XML foundation, all these standards were established and promulgated by businesses themselves. XML – extensible markup language can meet requirements on structured business data interchange among business data bases; it therefore became popular standard, useful tool to help electronic data and document transfer more conveniently. Moreover, XML simplifies data integration and interchange between different computer systems, especially systems connect to Internet, and consequently XML is applied universally in e-commerce application activities.

Besides using XML, many Vietnam businesses have built and promulgated their own standards; others applied international popular standards such as EDIFACT, GS1, etc.

About the e-commerce support technology standard deployment, businesses currently applied by deploying by themselves or cooperating with domestic and foreign partners. About 75% of surveyed enterprises showed that e-commerce support technology standard application mainly received technology transfer from overseas, 20% used technologies that were developed by domestic companies, 5% self-deployed.

Figure III.2
Methods of e-commerce support technology standard applications

75%

5%

20%

☐ Domestic integration ☐ International co-operation ☐ Self-deloyment
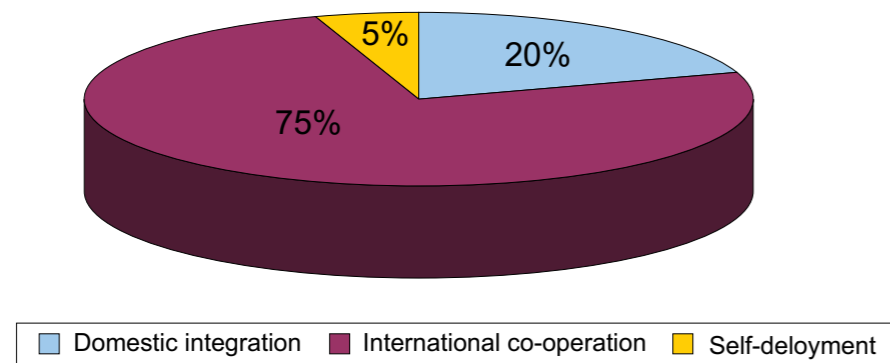
The result of survey showed that businesses' determination to e-commerce support technology standard application is very high. Parallel with e-commerce and information technology development, technology standard application tendency to trade activities according to business to business (B2B) model is vigorous, consequently standard development and studying is very necessary. With this in mind, agencies and businesses are very ready in promoting and modernizing management, business and manufacture processes.

Figure III.3
Business determination to e-commerce support technology standard application
(level 0 – 9)

22.8%

72.8%

4.4%

☐ Level 0-3 ☐ Level 4-6 ☐ Level 7-9

The result of survey showed that 72,8% of businesses have high determination (level 7-9) in studying and applying e-commerce support technology standard in practice in order to improve e-commerce effects and limit risks in online transactions. E-commerce support technology standards play an important role in promoting co-operation and connection among businesses, consequently 22,8% of businesses have determination level 4-6 and only 4,4% have level 0-3.

II. BUSINESS ACTIVITIES AND E-COMMERCE SUPPORT TECHNOLOGY STANDARD APPLICATION

1. E-commerce support technology standard application and business transaction processes
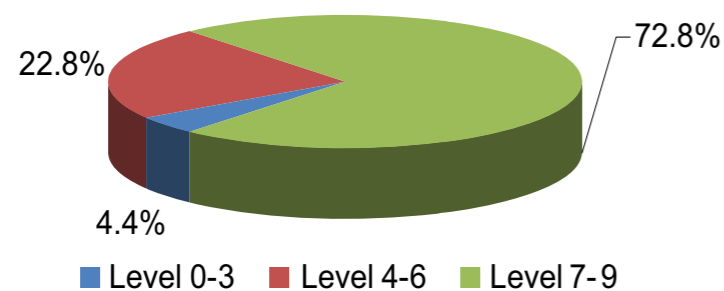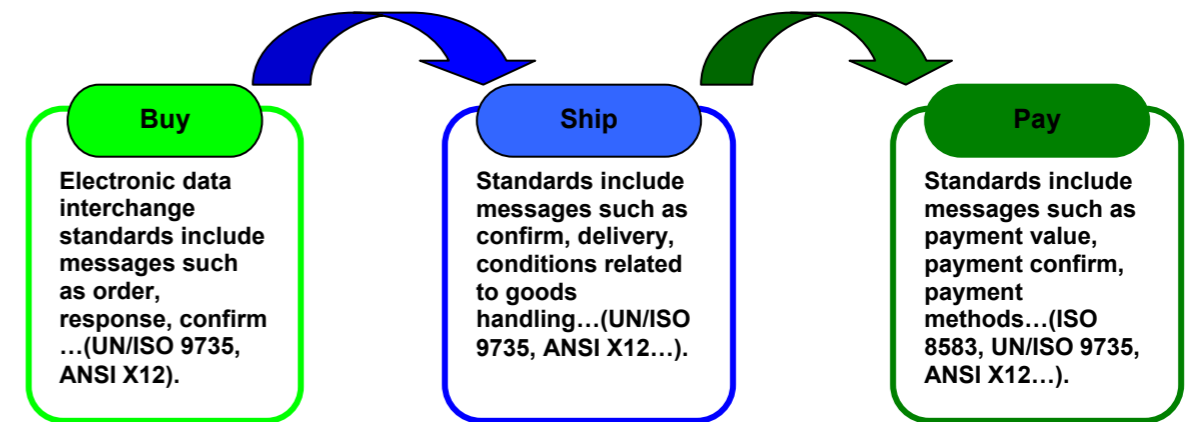
E-commerce support technology standards were mainly established and developed to serve 3 steps of e-commerce transaction process, including Buy, Ship, and Pay. In addition to e-commerce technology standards supported to applications, there are other standards built to

ensure infrastructure such as communications protocol standards, security services standards, data backup standards, etc…All these e-commerce support technology standards are very important, supporting for the successful development of e-commerce services.

Figure III.4
Basic steps of an e-commerce transaction process

Buy	Ship	Pay
Electronic data interchange standards include messages such as order, response, confirm …(UN/ISO 9735, ANSI X12).	Standards include messages such as confirm, delivery, conditions related to goods handling…(UN/ISO 9735, ANSI X12…).	Standards include messages such as payment value, payment confirm, payment methods…(ISO 8583, UN/ISO 9735, ANSI X12…).

Buy: When businesses buy goods from partners, they have to look up and order. To computerize this process, UN/CEFACT issued a set of electronic data interchange (EDI) standards – UN/ISO 97535, including 10 parts and more than 200 related messages. Another organizations such as CII of Japan and ANSI X12 of United States, etc… have sets of EDI standards similar to UN/CEFACT EDI ones.

Ship: related to logistics services, including warehouse management, and delivery, etc…These concepts are popular in many countries in the world, but quite new in Vietnam. According to statistics of international organizations, the annual costs of a country for logistic services are great. Although EU nations and United States have many experiences on logistics string management, their costs for logistics also account for 10% of GDP. For developing countries, this cost is extremely higher, for example, logistics service costs of China account for 19% of its GDP. Standard application such as UN/ISO 9735 of UN/CEFACT, ANSI X12 to delivery management and goods handling will make logistics service costs substantial reduction.

Currently, international EDI standard application in Vietnam to serve logistic services has been low; most businesses use their own standards. However, some large agencies and businesses deployed international EDI standards. Haiphong Port applied EDIFACT messages as of 2003 to manage transporting containers and connect to international shipping agencies such as MAERSK, MCC, HANJIN, MOL, WAN HAI, APM, etc… Unilever Vietnam began implementing EDI project applied to process of order and delivery goods at about 240 distributors, connected to centralized management system in German. Ministry of Industry and Trade deployed ELVIS, using messages such as SANCRT, REQDOC, CUSRES (version 99A) to transfer electronic visa to United States Customs. Currently, Ministry of Industry and Trade prepares to apply EDI to electronic certificate of origin issuing system (eCoSys).

Other services such as goods handling and purchase were implemented online such as e-ticket selling, electronic recharge through SMT, etc…

Box III.1
Vietnam Airlines sells tickets through its website

After e-ticket selling of Jetstar Pacific Airlines, since 17/12/2008, passengers can book tickets for flights of Vietnam Airlines on its website and pay airfare at the firm's booking offices. Vietnam Airlines plans to offer online payment service for international flights as of February 2009 for passengers with five kinds of credit cards, namely Visa, Master, Amex, JCB, and Diner Club. As of June 2009, the airline will offer online payment service for local flights through credit cards issued by local banks, like Vietcombank Connect 24 of the Bank for Foreign Trade of Vietnam and Techcombank Fast Access of the Vietnam Technological and Commercial Bank, on its website and via SMS. Passengers can also look for flight schedules, airfare, book and pay airfare online, change flights, and golden lotus plus program for customer loyalty on the company's website

Source: *http://www.vietnamnet.vn*

Pay: Technology standards using in electronic payment in Vietnam include ISO 8583 (card payment standard) and SWIFT (international transfer standard). A number of agencies in finance – banking sector use their own standards that were built based on SWIFT and XML structure. Standards that were used in electronic data interchange systems of securities companies with Ho Chi Minh City Stock Exchange (HOSE) and Hanoi Securities Trading Centre (HASTC) are self-establishment by businesses themselves and unanimous through Excel structure, flat file or XML. UN/CEFACT and ANSI X12 issued messages related to payment. Domestic payment systems used these above-mentioned international standards.

Box III.2
Connecting securities balance system with inter-bank electronic payment system

On 26/9/2008, State Bank of Vietnam co-operated with State Securities Commission of Vietnam to establish and deploy securities balance detail project. Vietnam securities balance system connects to inter-bank electronic payment system of State Bank of Vietnam. To implement this project, investors have to open deposit accounts at commercial banks. Investors' success transaction orders are respectively with withdrawal or transfer their deposit account. Presently, inter-bank electronic payment system has 35000 transactions per day with total value of 10000 billion dongs, and on peak day, 50000 transactions with total value of 60000-70000 billion dongs. After completing second phase by the end of 2009, average process capacity of this system can reach 350000 transactions per day and up to 2 million transactions per day in 2012.

Source: *http://www.sggp.org.vn/kinhte/2008*

2. E-commerce support technology standard application for business network development of large-scale industries.

In trend towards promoting e-commerce support technology standard application to practice, Vietnam businesses are tending to construction, development of business models using electronic instruments (electronic business network) to extend production, distribution, manufacture network, reduce cost and improve service quality as well as competitiveness.

E-commerce application will make an impact to all aspects of business activities. Consequently, when enterprises apply e-commerce for business development, they need to invest properly in IT infrastructure, study and deploy e-commerce applications and establish business processes in accordance with practical requirements on the basic of applying advanced technology standards. Up to now, many businesses established and operated electronic business networks, bringing practical effects in the sector of finance – banking, transportation, manufacture – distribution, ICT, etc…Electronic business networks were step by step established and applied widely in many banks such as Vietcombank, ACB, VPBank, Sacombank, Finance switching companies Smartlink, Banknet, large state corporations: Electricity of Vietnam, PetroVietnam, Vietnam National Steel Corporation, Vinamilk, and other entertainment – communication companies: VASC, VTC Games, etc. The above-mentioned businesses are operating nationwide on a large scale with business processes that are gradually standardized according to international standards.

Many businesses are gradually applying specific e-commerce models that are quite popular in Vietnam such as B2B, B2C to each step of business and manufacture process. These businesses deployed effectively advanced e-commerce technology applications, bringing practical effects to businesses as well as the society.

Reality shows that e-commerce support technology standard application, especially electronic business network investment and development to practical activities will change business processes and operation scale, innovate business methods and technology processes as well as related electronic services, etc…
This will make impacts to awareness, psychology of each manager, employee, worker of enterprises. The above impacts will bring the last result for enterprises - improve business and manufacture effects, reduce cost, create new competitiveness. To achieve these advantages, the above-mentioned businesses focused on developing and investing in the following sectors:

- *IT infrastructure:* a number of businesses built their private network system, invested in large IT centers to connect branches, business divisions and representative offices on a large scale. Modern IT infrastructure allows managers to supervise remotely business activities for making timely decisions. Private network is also infrastructure to implement properly high value-added e-commerce services, such as private networks of banks, EVN or financial and securities companies, etc…

- *Using electronic instruments in business operation:* Businesses implement report planning, information interchange, payment of tax, services and other fees through completely or partial electronic methods. Due to electronic business network, enterprises (especially carrier agencies) used it to manage warehouse, implement effectively logistics services. Businesses can communicate with their partners through common information system with virtual

warehouse. Data received from partners will be transferred to information systems through related partners' host computer or be stored at business data centre. A number of agencies deployed successfully online public services. Through websites, related individuals and organizations can implement online declarations. This allows businesses to preview document information, and goods information at warehouses in order to manage effectively, typically electronic customs procedure services, electronic certificate of origin (Ministry of Industry and Trade, VCCI), electronic transaction application at State Treasury.

- *Online data interchange implementation:* reduce cost and time related to paper document interchange and store. E-commerce system will automatically send electronic data to related partners. Currently, some businesses use advances technologies such as XML, EDIFACT based on combination of Internet EDI system to exchange electronic data with external and internal partners.

III. EDI APLICATION IN INDUSTRY AND SERVICE SECTORS

Presently, some e-commerce systems are applied at various scales by enterprises and brought vigorous effects to business and production activities. E-commerce support technology standards of United Nation or other international standards that have been popularized and applied include ISO 15000 ebXML, UN/ISO 9735, ISO SDMX (statistic data meta exchange), XML (applied for structured data), ISO 8583 and SWIFT (applied for card payment and transfer in finance – banking sector).

In Vietnam, the most popular standard that majority of agencies and businesses know and apply for electronic data interchange is XML. This standard is used for database backup, data interchange among different agencies, businesses or among branches of an organization, enterprise in the banking industry, securities companies or customs, etc. Most surveyed agencies and businesses applied self-established standards based on XML foundation. For example, General Department of Vietnam Customs deployed standards based on XML foundation combined with model recommended by World Customs Organization in order to exchange data with enterprises using electronic customs services, Ministry of Industry and Trade unified XML form with Vietnam Chamber of Commerce and Industry and local import-export management agencies, Vietnam industrial zones, export processing zones to backup and transfer eCO issuing data to eCoSys system.

Some businesses such as Haiphong Port – are pioneers in deploying electronic data interchange in bill of lading management and processing for external and internal shipping agencies. This program was established according to international standard UN/ISO EDIFACT 9735 to manage Port's container data. Unilever Vietnam established EDI network as of 2007 based on electronic data interchange standards to manage goods by barcode EANCOM13 according to GS1 standard.

The result of survey showed that electronic data interchange applications in Vietnam are developing at simple level and many applications were only applied in internal business or industry. Implementing international e-commerce support technology standard application and EDI standard application to practical is meticulous process; therefore it needs to be implemented through many steps from studying, building pilot project to project deployment

on a large scale. Especially, the support, advanced technology transfers, and co-operation with international consultant experts will be the key element bringing firm success to e-commerce project. In addition, most technology standards related to E-commerce and IT now are built by business themselves. Consequently, to achieve advanced e-commerce applications in service, industry and trade activities, it is necessary to have a popularization process with strong labor resources including experts and technical officers who are methodically trained in order to implement large projects with advanced e-commerce technologies.

Box III.3
Temporary regulations on standardization in Finance and Customs Industry

According to Temporary regulations on standardizing IT infrastructure applying for central and local Financial agencies and regulations on IT standards in Finance industry promulgated by Ministry of Finance to recommend and orientate hard ware purchase, computing software establishment. There are some obligatory standards and regulations in some sectors: application software development, electronic email interchange, electronic data interchange, computer network establishment, Internet connection, information system security. Data interchange among industrial applications is recommended using one of 3 following interchange methods:

- File data transfer: using file text;

- File data transfer, data structure using XML format;

- Directly data transfer among applications.

(Extracted from regulation's content promulgated enclosed with Official letter numbered 1690/TC-THTK dated 18/06/2004 by Ministry of Finance)

General Department of Vietnam Customs promulgated e-customs guiding document with information criteria for electronic customs declarations, including information criteria of 6 groups and 4 columns:

- *Column criteria include:* criteria number order; criteria name, criteria description, criteria belong fiducially catalogue, criteria have to input to computer.
- *Group criteria include:*

      + Group 1: common information criteria group: for each consignment;

      + Group 2: goods information criteria group;

      + Group 3: Bill of lading information criteria group;

      + Group 4: Authorization information criteria group;

      + Group 5: Certificate of Origin information criteria group;

      + Group 6: Valuable declaration information criteria group.

Data, information interchange and connection between local customs departments and Customs statistics office in Hanoi were implemented according to XML and file Excel format data structure.

(Extracted from the content of guiding document enclosed with Official letter numbered 3339/ TCHQ/HDH dated 19/9/2005 by General Department of Vietnam Customs)

IV. TYPICAL E-COMMERCE MODELS

1. EDI system of Haiphong Port

Haiphong Port is the pioneering company applying electronic data interchange system (EDI system) successfully and effectively. This port has constructed the EDI program under international standards EDIFACT, which links to obtain container management data from its current MIS management information to make the electronic report for carriers and shipping agents.

Since 2003, Haiphong Port has officially applied this EDI system to connect with APM Shipping. After more than 6 months, EDI system was completely built and Haiphong Port officially used EDI data in managing and exploiting containers. Until now, EDI application plays an important role in Port's operation. EDI system of Haiphong Port has effectively operated to exchange electronic data with large shipping agents such as MAERSK, MCC, HANJIN, MOL, WAN HAI, APM, etc. EDI program under international standards helps to synchronize, standardize container data management between Haiphong Port and shipping agencies and at the same time enhance Port's service capability.

EDI system of Haiphong Port includes two parts:

- Container exploitation (CODECO): includes demonstrators, container moving plan: container gate-in/gate-out, cargo handling.
- Ship exploitation (COARRI): includes demonstrators: container loading/unloading and transporting.

After a few years of implementation, now the rate of using online transaction use has been up to over 90%, the data are updated fast, accurately, and completely, the quality of management has been remarkably improved… Through EDI, carriers exploit and use all data about container management of the port, save cost, time, and human resources, and improve the efficiencies of their use and management.

Figure III.5
The operation model of EDI system in Haiphong Port
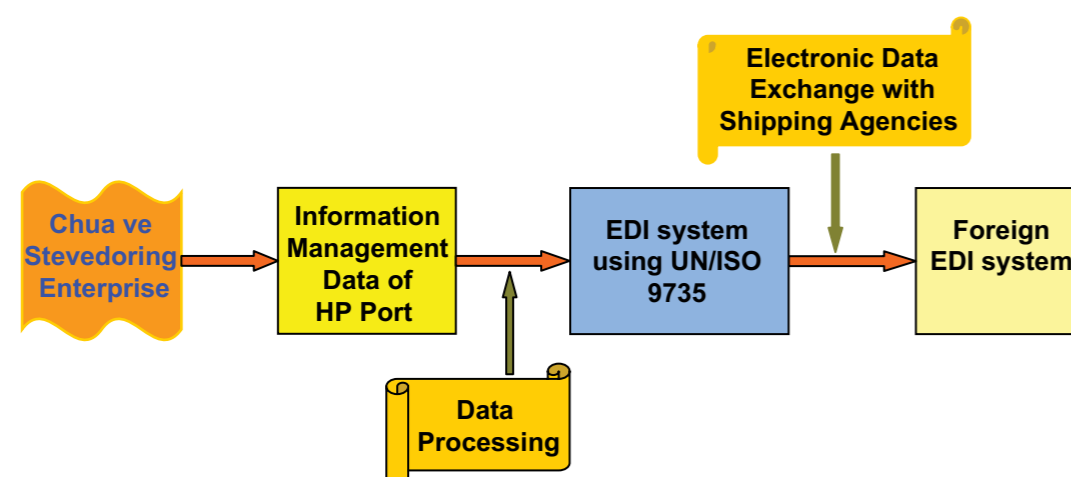
2. Connecting system of Vietnam National Financial Switching Joint – Stock Company (Banknetvn)

In the renovation process, banking industry has important contributions to the national social – economic development. Moving toward modernization of banking activities based on advanced technology standards, up to now, more than 90% of banking services have been computerized; in which many services perform interchange electronic data via network and especially electronic payment system.

Banknetvn is a leading company in electronic payment application. Established on 09/08/2004, up to now, this company have implemented Banknetvn switching system at the data processing center, and connected to the member banks: Vietnam Bank for Agriculture and Rural Development (Agribank), Bank for Investment and Development of Vietnam (BIDV), Vietnam Industrial and Commercial Bank (Vietinbank), Saigon Thuong Tin Commercial Joint – Stock Bank (Sacombank), Eastern Asia Commercial Joint – Stock Bank (EAB), Saigon Bank for Industry and Trade (Saigonbank).

In addition to member banks under Banknetvn Alliance, this system is also connected with 27 banks under Smartlink Alliance (connected on 23/05/2008). This connection created a biggest national bank switching system. After 3 months of official connection, there were about 400.000 transactions per month with the total amount up to 840 billion VND, growth rate on transaction value reach 47% per month in average. Until now, Banknetvn – Smartlink system already completed the connection of automated teller machine system (ATM) of all member banks (first phase) with payment network including 42 banks more than 4.500 ATM with 9,2 millions issued payment cards. Currently, this system is implementing the second phase to interconnect POS systems of the member banks and cooperate in providing other value added services.

Banknetvn switching system applies some standards such as:
- Magnetic card with card standard according to ISO/IEC 7811
- Equipment to receive information from POS device according to EMV Standard (Europay, MasterCard, and Visa: Smartcard Standard for online payment system)
- Financial transaction using EDI according to ISO 8583
- Secure system according to 3DES, HSM (Host Security Module) standard

Banknetvn Switching System has the following functions: switching processing for card transactions, clearing, settlement request generating, report generating, fee calculating and management, and other value-added services.

Figure III.6
Banknetvn switching system
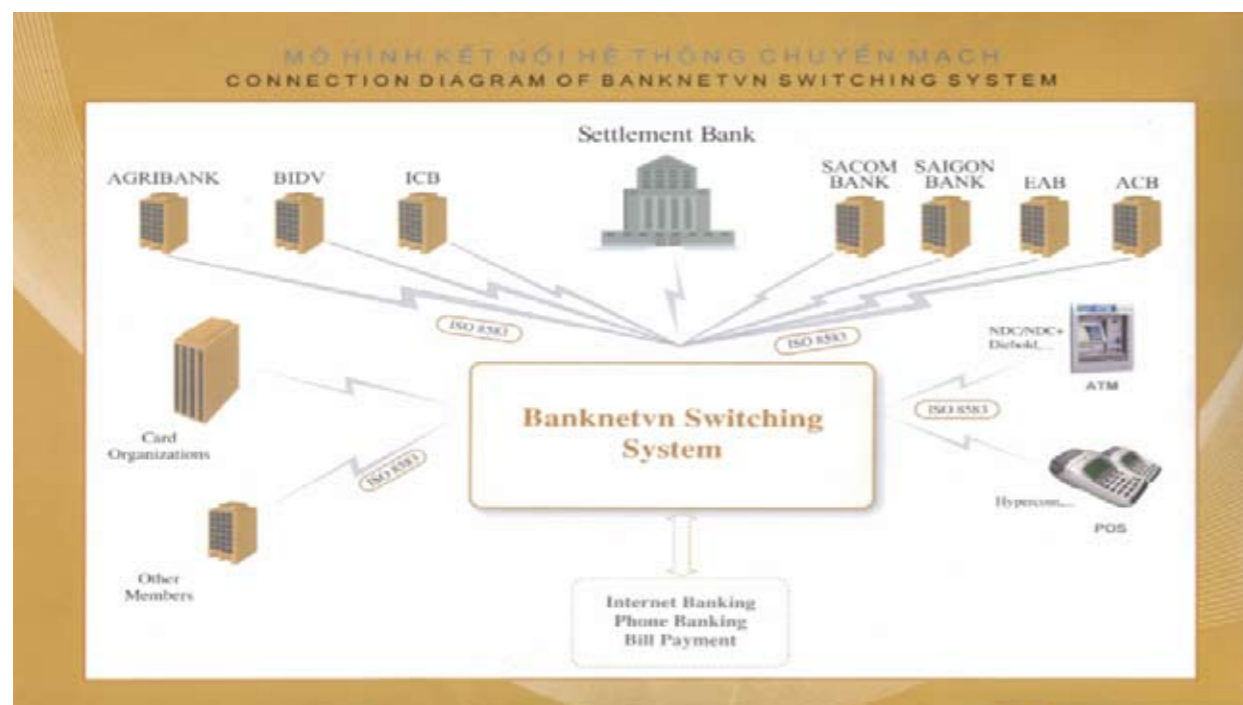
Scope of operation:
- Connecting bankcard systems, payment card system between banks eligible for bankcard issuance, acceptance, payment and other institutions eligible providing payment services.
- Performing clearing and settlement for bankcard transactions between banks eligible for bankcard issuance, acceptance, payment, and other institutions eligible for providing payment services.
- Providing and installing systems and equipments for bankcard issuance, acceptance and payment, payment cards for outsourcing service.
- Providing technology solutions in the field of bankcard issuance, acceptance and payment and in payment systems for customers.
- Providing installation and maintenance services for equipment of bankcard issuance, acceptance, payment and payment cards for customers.
- Producing, processing blank card, printing cards for customers in accordance with laws.

Box III.4
HSBC Internet Banking

HSBC internet banking service:

HSBC internet banking service helps customers do bank transactions speedily, conveniently and safely. Customers can access to their accounts anytime, anywhere. In addition, internet banking service brings customers high flexibility with diversified services including payment through automatic payment method, do time deposit account transactions and international finance.

HSBC internet banking service has high security with secure device that each time create a different secure code. Therefore, customers are protected from stolen information, Trojan or stolen passwords because only people who have the password and secure device can log on the internet banking system.

HSBC internet banking service also serve individual customer with original advantage by allowing customers, who own HSBC credit cards, to manage and view online the reward point program for credit card.

HSBCnet:

HSBCnet is HSBC worldwide internet banking system for large businesses, meets complicated financial control needs in payment, monetary management, international payment, securities service and securities deposit. HSBCnet also allow checking and viewing information and activate transactions, for many kinds of products and services with various options.

With HSBCnet, customer can choose many information management tools such as selecting, rearranging, checking and reformatting information as desire to meet complicated report and management requirements. A secure device guarantees the secure of system. This device provides various passwords when access and browse big valuable transactions.

Other services

HSBC Business ATM card: Along with the birth of Business internet banking, HSBC also develop pioneering product – Business ATM card – in order to provide more and more utilities for customers. Each business now owns up to 3 cards for the same account, with capability to do transaction via worldwide ATM machine system of HSBC and of other alliance banks.

Online bill payment: Three HSBC online systems are closely linked and bring electronic bill payment solution for bill issuance party as well as payment party. For enterprise that accept payment from individual customer or business, this service provides a solution of managing receivable finance to economize cost and manpower via two automatic payment channels – ATM and internet banking, is now developed and popular trend in Vietnam. This service also allows individuals and businesses to settle bills anywhere in Vietnam and all over the world with the highest convenient and safety.

3. State Treasury information system

State Treasury is in the process of completing the information – computing system modernization project up to 2010 and building information technology (IT) application strategy up to 2020 based on State Treasury Development Strategy up to 2020 approved by the Prime Minister in 2007. One of the most basic and important objectives affirmed in this strategy is that "Up to 2010, State Treasury activities are implemented on modern IT foundation and forming electronic State Treasury. The milestone of IT application strategy of State Treasury up to 2010 is to build State Treasury overall information system architecture, in which the focus is on treasury and budget management information system to meet the requests of finance and budget management innovation, expand State Treasury computing applications that are centralized and integrated with treasury and budget management information system (TABMIS).

The main applications of State Treasury information system were built based on modern technology including:

- Electronic transfer payment (deployed since 2006): the payment quality among clients through State Treasury agencies has been remarkably improved, more safety, accurate and especially more quickly with the time of payment only calculate by minutes.
- State Treasury bond and fund management applications (deploy since 2002) have met current bonds and fund payment needs of clients everywhere nationwide but not to depend on where bonds and funds are issued.
- Applications in internal State Treasury system, intranet system implementation (2006-2007) with basic services via information portal save cost, match administrative reform trend in State agencies.
- Digital certification applications, State Treasury is the pioneering agency in applying digital authentication with chip card technology. However, when State Treasury built electronic signature system, Electronic Transaction Law was not promulgated, consequently State Treasury had to build its own regulations for its electronic payment system.

4. Electronic Data Exchange System of Unilever Vietnam and Metro Cash & Carry

In 2007, Unilever Vietnam and Metro Cash and Carry agreed to implement Electronic data interchange project (EDI project). They are the first two businesses applying EDI in Vietnam. After 9 months of building barcode mapping and connecting technologies with each other via hubs, the data have been read, understood and automatically processed. After 1 year, Metro Cash & Carry examined and successfully exchange invoices.

The main standard that the 2 businesses used including barcode EANCOM13 in accordance to GS1 standard to unify for each order and delivery product (Buyer order the product via its barcode and the Supplier will deliver the right product with its barcode), GLN standard of GS1 organization for Buyer's code and Supplier's code. In addition, other standards such as UN/EDIFACT and XML have been studied to apply in the near future. Other codes such as order and delivery place code, supplier's code were built according to EAN13 and have been registered.

Besides invoices, EDI project will expand to apply EDI to exchange other transactions such as invoice processing, electronic delivery notes. On the basic of this project, in the near future, Metro Cash and Carry will expand to other suppliers. Presently, Unilever is applying EDI to order process for one supermarket and about 240 suppliers, from this project, Unilever will expand to other suppliers nationwide.

5. Vinamilk's electronic business network system

With Vinamilk, modern IT system development plays an important role in its long-term business strategy. Current distribution and manufacture management system cannot provide information accurately, punctually for business and production management. Vinamilk built a new management system with 2 solution including Oracle E- Business Suite and SAP CRM (Customer Relationship Management) to solve this problem.

This system allows Vinamilk to manage all data from suppliers on online environment (Internet system uses SAP programs) or offline environment (use Solomon software of Microsoft). Centralized information will help Vinamilk make timely decisions as well as support planning. The information collection and management of sale agents were to satisfy customers at higher level.

After a successful pilot period, since 01/2007, Vinamilk has officially used Oracle E-Business Suite (EBS) version 11.5 and SAP CRM and since 4/2007, ERP program has been officially operated. With overall business management system, Vinamilk can manage all finance – account, procurement, sales and production situation as well as analyze the company performance with 16 agents from Hanoi to Cantho. This is the biggest ERP solution implemented in Vietnam.

SAP system was built based on SAP NetWeaver technology foundation. In Vinamilk, Net Weaver integrated information from ERP system, which used:

- Oracle EBS – the solution to solve the connection between suppliers and other processes within businesses including normalized modules such as Finance, order management, Procurement, manufacturing, etc…
- Microsoft Exchange: Email system.
- Solomon (now called Microsoft Dynamics SL) used at distributors and applied on PDA for sales persons.

These 3 applications were integrated into Business Warehouse by NetWeaver to serve smart reporting system; help Management Board have accurate and online information about business movement situation nationwide.

At data center in Vinamilk head office, there are 4 host computers IBM with other host computers that store solutions of Oracle EBS, SAP CRM and Microsoft Exchange. Vinamilk built this center with 7- level spare system – this is the highest spare rate according to international spare standard to ensure the system operate continuously.

IT applications to modernize distribution channel helps Vinamilk support effectively employees to improve skill and professionalism and ability to grasp market information by using information shared in the whole system. In addition, Vinamilk also manages all price and promotion policies in distribution system towards international standard and improve management capability in international integration process.

6. Information and Technology Development and Investment Company (Intecom)

Intecom under Multi Media Corporation (VTC) is a pioneering agency in supplying digital content service, with activities such as VTC Game – game online, VTC Mobile – services via mobiles, VTC News – magazines, VTC Paygate – electronic payment infrastructure for digital content services on network and mobile, VTC Software – construction software centre and software system development centre for digital service.

Up to now, VTC Paygate has over 13 million registered accounts in which more than 1,7 million accounts that occurred top-up transactions, and more than 1,2 million surplus accounts with diversified V-coin establishment resources including direct top-up, prepaid card, bank transfer, international payment, SMS, fix phone (premium 1900 dial number).

Electronic payment solutions of VTC eBank include:

- In-stream channels: VTC online prepaid card, SMS mobile, fix phone (premium 1900 dial number), bank account (ATM, m-banking, e-banking), cash (at game canters, POSs), international credit card (credit card, international PP card), accounts from other e-bank, transfer from other games.

- Out – stream channels: VTC game online, online services (study, online test, and shop), mobile top-up for prepaid card, mobile Pin code, and transfer for e-bank account, other VTC games, etc…

Figure III.7

VTC eBank electronic payment model

- Application models: top-up connection, two-way transfer connection, connection to build sale payment portal, service charges, etc…
- Application scale: VTC eBank now has ability to serve maximum 2 billion accounts, current transactions is over 32.000.

Paygate technology solutions of Intercom have used service-oriented architecture (SOA). Data and transfer-line security uses HTTPS/SSL protocol; transaction certification between host computers uses digital certification technology RSA. Data standards have been used including XML, finance transaction message standard ISO 8583, self-defined data structure standard regulations. Connection protocols includes HTTP/HTTPS, RMI, Socket TCP/IP, SOAP, MSQUEUE, etc. About the integrated solutions with agencies, business in the sector of bank, finance, communication, Intercom with its partners has unified protocols, criteria and transaction procedure by adjusting and improving international standards suitable with application conditions in Vietnam. After 2-year applying VTC e-bank solutions, business result of Intercom has substantial advances.

Table III.3
VTC eBank turnover growth

(Unit: million dong)

Year	2006	2007	2008
Digital content services turnover	140	220	340
Commerce transaction turnover		120	460

In one day, VTC e-bank has more than 30.000 transactions deposit to the system and more than 30.000 businesses use Vcoin for services. Presently, there are always more than 1.7 million accounts have deposit of over 10 million registered accounts.

In 2009, based on VTC Paygate foundation and VTC online all-purpose card, Intercom will carry out:

- Developing electronic payment system
- Establishing centralized connection payment system: connecting banks and POSs.
- Extending scale, applying the stands such as EDI to automate order/distribution process, card payment, etc…

In conclusion, the result of the 2008 survey on technology standard application showed that, now most small and medium-scale businesses have not favorable conditions to understand and implement technology standards that are applicable to e-commerce. The rate of businesses applying e-commerce support technology standards in general and electronic data interchange standard in particular in Vietnam is still relatively low. Technology transfer from overseas to develop e-commerce applications only focused on some agencies, large-scale businesses of some Ministry in large provinces and cities through projects at all levels. However, the transfer of e-commerce support technology standards to Vietnam up to now lacked of long-term strategy, overall and reasonable implementation plan to make breakthroughs for e-commerce application development in our country.

As the result, besides completing the IT and e-commerce legal framework, State management agencies need to accelerate popularization and training of the benefit and content of e-commerce support technology standards to help businesses raise awareness, create opportunities to transfer and receive technology from overseas, build effectively e-commerce applications. In addition, to ensure successful implementation of e-commerce projects, project leaders need to co-operate with international and regional e-commerce development support organizations such as UN/CEFACT, AFACT in exchanging experts, providing documents, and training managerial staff.

CHAPTER IV

E-COMMERCE APPLICATION IN ENTERPRISES

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In 2008, Vietnam E-commerce and Information Technology Agency (VECITA), Ministry of Industry and Trade sent questionnaire on "E-commerce application in enterprises" to more than 3000 enterprises nationwide. With the aim of assessing the situation of e-commerce application in enterprises, the survey focused on three main issues:

- The readiness of enterprises for e-commerce application.
- The implementation e-commerce application.
- The efficiency of e-commerce application.

The survey content virtually remained similar to ones of the previous years. However, it was modified and improved in order to outline an overall picture of e-commerce application in enterprises in 2008, at the same time, (to) study the development trends of e-commerce throughout the years. The objects of study were randomly selected enterprises of various economic sectors, located in many areas and of different sizes.

VECITA received answers from 1802 enterprises, from that number 1638 are valid. Therefore, statistics and analysis utilized in this chapter are primarily based on the result of data processing from the above mentioned qualified answers.

General information of enterprises showed that locality, size of business (number of employees) and business industry were three factors that have direct impacts on multitude of criteria of e-commerce application in enterprises.

Regarding to the operating areas, it was indicated that 35% of the enterprises was operated in Hanoi, 33% in Ho Chi Minh City and the others were from other localities of Vietnam. In 2008, the geographic allocation of the survey continued to concentrate on the two major cities, in which the number of companies was very significant. Nevertheless, the percentage was smaller than the figure of 71% of enterprises in Hanoi and Ho Chi Minh City in 2007.

Figure IV.1
Geographic allocation of surveyed enterprises

■ Hanoi   ■ Ho Chi Minh city   ■ Other regions
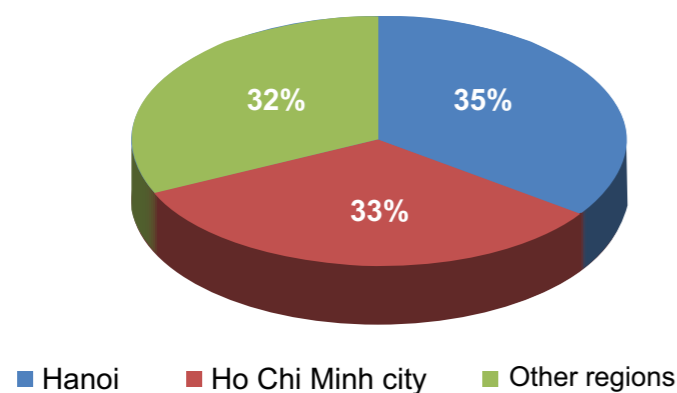
In terms of business size (number of labors), small sized enterprises (with less than 20 labors) still predominated with 50% of enterprises participated in the survey; however this number dropped by 3% compared to 53% in 2007. The ratio of medium sized enterprises (with 21 to 50 labors) was 15% in 2007 and increased to 18% in 2008. Apart from that, the ratios of other business sizes fluctuated very slightly.

Figure IV.2
Business sizes

Business sizes (number of employees)
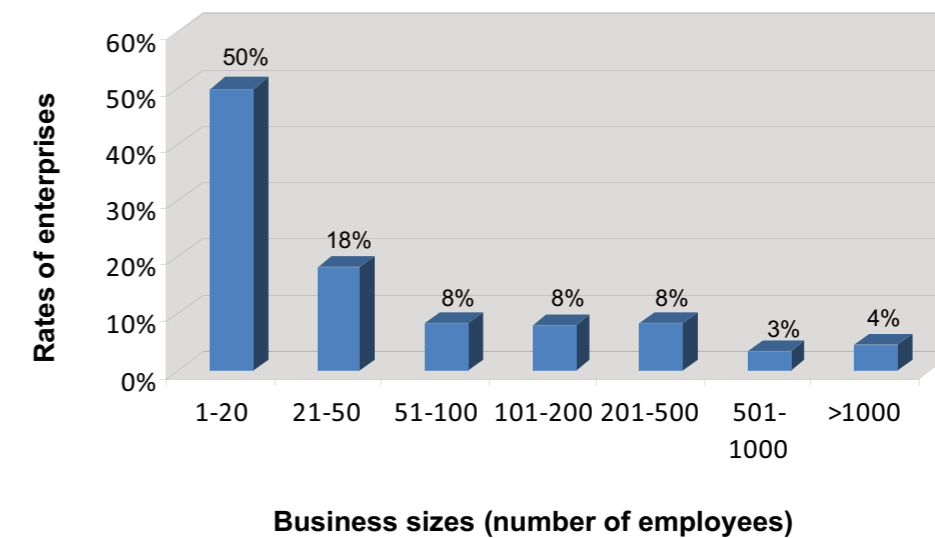
In terms of business sectors, enterprises from the mechanics/chemicals/construction background made up 28% of the surveyed enterprises, the number was the same for ones in the commerce/general services sector. The figures for the agriculture and information technology/e-commerce sector were 11% and 10% respectively. Most of the surveyed enterprises of 2008 fell into the group of business sectors in which a vast number of employees are unskilled labor with low level of computerization.

Figure IV.3
Industry sectors of surveyed enterprises
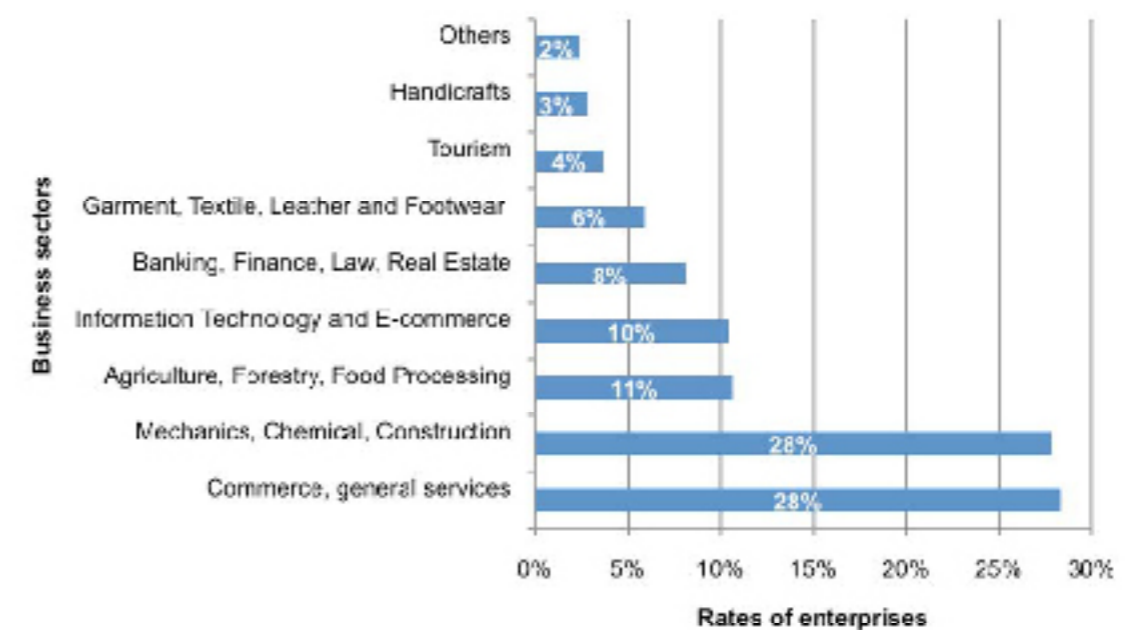
The structure of enterprises participated in the survey has changed in both locality and industry sector aspects in comparison with 2007. Statistics and business data analysis, to a certain extent, will outline the state of Vietnam e-commerce in 2008. enterprises.

I. THE READINESS OF ENTERPRISES FOR E-COMMERCE APPLICATION

Results gained from the survey illustrate that in 2008, the preparedness level of enterprises was relatively stable regarding the utilization of computers, local area network (LAN) and Internet within companies.

1. Computers and local network

In the aspect of ICT infrastructure, computers and LAN are indispensable to the implementation of IT and e-commerce application. As a result, all statistics of these 2 standards are important criteria to evaluate e-commerce application in enterprises.

On average, each company owns 15.5 computers (the results in 2006 and 2007 are 17.6 and 22.9, respectively). Approximately, there is one computer for every 10 employees (compared to 8.1 in 2007). As seen in the survey of 2008, average rate of computers used in enterprises decreased considerably in comparison with the two previous years. Two main reasons for this situation are the fact that surveyed enterprises are not only located in the biggest cities or either focus on advanced business sectors (the rate of enterprises from machinery/chemicals/construction and agriculture and forestry sectors is 39%). This decline shows that enterprises of different regions and business sectors are on very different levels of e-commerce readiness. However, the most positive indicator of 2008 is that there is only one company that claimed it had not used computers, making up less than 0.1% of all surveyed enterprises. All most all enterprises in the country are equipped with computers. Thus, this reflects the role of computers as a vital requirement for every business of all scales and sectors.
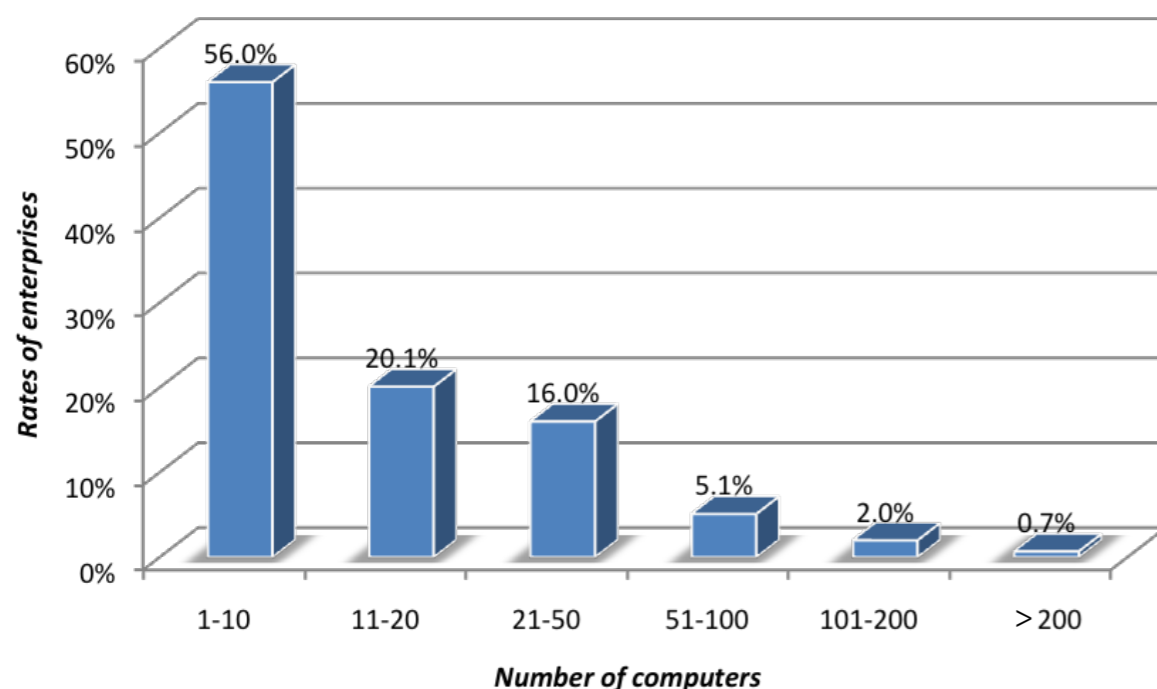
Among enterprises equipped with computers, more than 56% owns 1 to 10 computers and about 92% has 1 to 50 computers. Only 8% owns more than 51 computers. The percentage of enterprises that owns 11 to 20 computers has steadily increased throughout the years while this of enterprises that owns 1 to 10 or has no computer has decreased gradually.

Table IV.1
Comparison of computer usage from 2006 to 2008

Number of computers	2006	2007	2008
0	0.1%	0.3%	0.1%
1-10	67.0%	54.8%	56.0%
11-20	15.4%	17.9%	20.1%
21-50	12.2%	16.1%	16.0%
51-100	3.0%	7.6%	5.1%
101-200	1.6%	2.7%	2.0%
200	0.7%	0.7%	0.7%

Regarding business sectors, companies in the garment/textile and leather/ footwear sectors have the greatest average number of computers (24.6 computers/one business), followed by ones in the agriculture/forestry and food processing sectors (20.6 computers/one business). However, the vast number of employees in the mentioned sectors is also a factor that may lead to a big average number of computers deployed in each company. Thus, this indicator has not actually proven the readiness for information technology and e-commerce application in enterprises.

Further evaluation of the computer-per-head ratio in each business sector therefore was carried out in order to accurately acknowledge this issue. Regarding this ratio, enterprises in the garment/textile and leather/footwear as well as the agriculture/forestry and food processing sectors have the highest rates of employee/computer (32.1 and 19.3 employees share a computer, respectively). The result showed that enterprises in theses sectors had the lowest level information technology application. The other business sectors have the ratios of 3.3 to 10.3 employees sharing one computer, with the greatest level for information technology application performed by the IT services/e-commerce (3.3 employees using one computer) and the banking/finance/consultancy/law/real estate sectors (5.4 employees using one computer).

Figure IV.4
Computer usage rates in 2008

Table IV.2
The average computer number of enterprises in different business sectors

Business sectors	Computer per enterprise ratio	Computer
Computer ratio	12.7	3.3
Information Technology and E-commerce	12.7	3.3
Banking, Finance, Consultancy, Law, Real Estate	17.1	5.4
Commerce, general services	11.9	5.6
Handicrafts	11.3	8.4
Tourism	19.9	8.8
Others	11.7	8.9
Mechanics, Chemicals, Construction	15.7	10.3
Agriculture, Forestry, Food Processing	20.6	19.3
Garment, Textile, Leather and Footwear	24.6	32.1

Nevertheless, the average number of computer in enterprises and the number of employees sharing one computer rate are only able to demonstrate the ICT infrastructure aspect of enterprises. Consequently, the indicator that most reliably reflects the level of ICT infrastructure application for e-commerce is the percentage of frequent computer users in enterprises. According to the survey, 49.7% of surveyed enterprises stated to have more than 70% of their employees using computers frequently at work and 73.4% of them have the percentage of more than 40%. Only 6.1% of enterprises have this rate less than 10%, considered a significant drop compared to 9.4% of 2007.

Figure IV.5
The percentage of staff using computers frequently

■ Under 10% ■ 10% - 40% ■ 40% - 70% ■ Above 70%
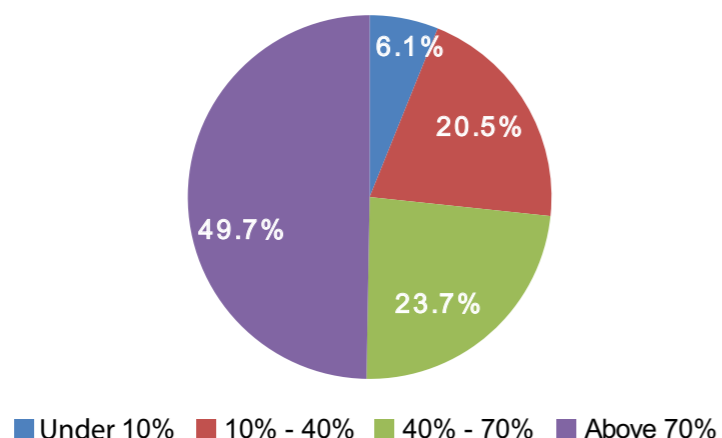
The percentage of staff using computers frequently at work is inversely proportional to the size of a business. In other words, the more employees there are in a business, the smaller the rate of frequent computer users at work is.

As compared to the situation in 2007, enterprises have improved in the percentage of staff using computers frequently at work. This evolution proves that enterprises have efficiently exploited their existing infrastructures. With respect to the enterprises that own a large number of computers, the establishment of local network, which provides a connected working system between all computers within a company, is an important standard to evaluate the readiness for e-commerce application in enterprises.

In 2008, the operation of local network in enterprises progressed noticeably as compared to the previous year. In 2008, 88.7% of enterprises established local network (83.9% in 2007). However, the structure of local network virtually remains unchanged. With 81.5% of enterprises using LAN network, LAN is still the predominant local network. The ratios of enterprises using other types of local networks such as WAN, Intranet, Extranet, are 4%, 6.8% and 0.8% respectively (a business can use many local networks at the same time). Because of the low cost and easy to set up features, LAN networks are using by enterprises from all sectors, scales and localities. Two other relatively popular local networks in international enterprises, Intranet and Extranet, still take a small rates in Vietnam.

Figure IV.6
Local networks in enterprises from 2006 to 2008

|	LAN	WAN	Intranet	Extranet
■ 2006	73.8%	4.0%	8.0%	1.2%
■ 2007	82.6%	2.1%	5.2%	1.0%
■ 2008	81.5%	4.0%	6.8%	0.8%
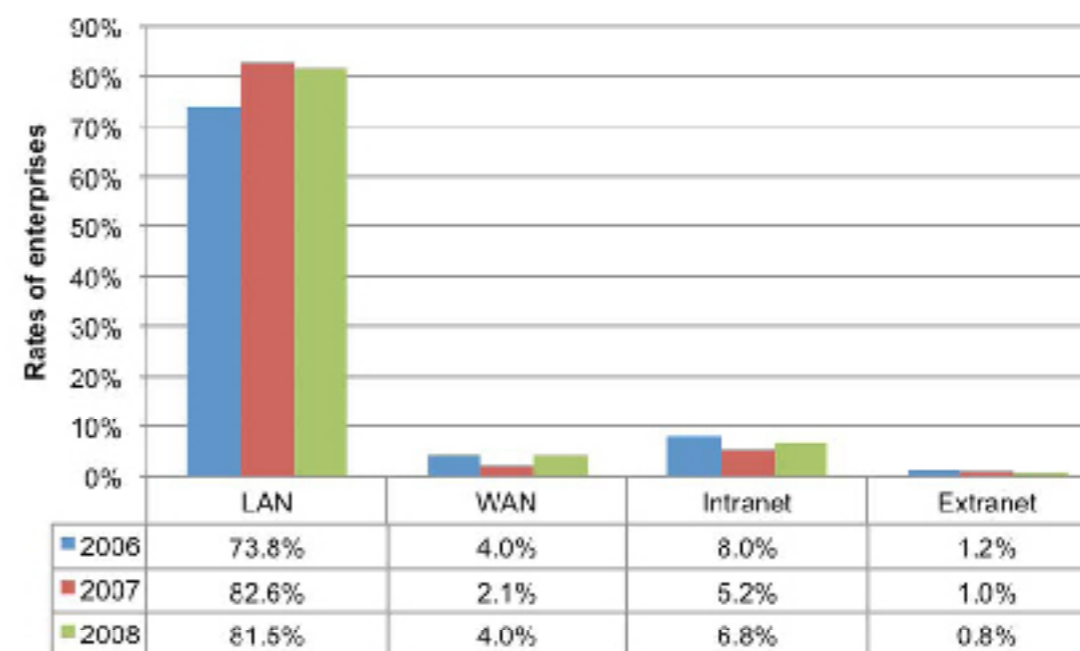
2. Internet and Telecommunication Infrastructure

Internet has become an essential environment for e-commerce application in enterprises. According to the survey results, 99% of surveyed enterprises have Internet connections, with 92% of enterprises use ADSL services, 6% have leased line and 1% uses dial-up method. However, 1% still has no internet connection.

Figure IV.7
Methods of Internet access of enterprises in 2008
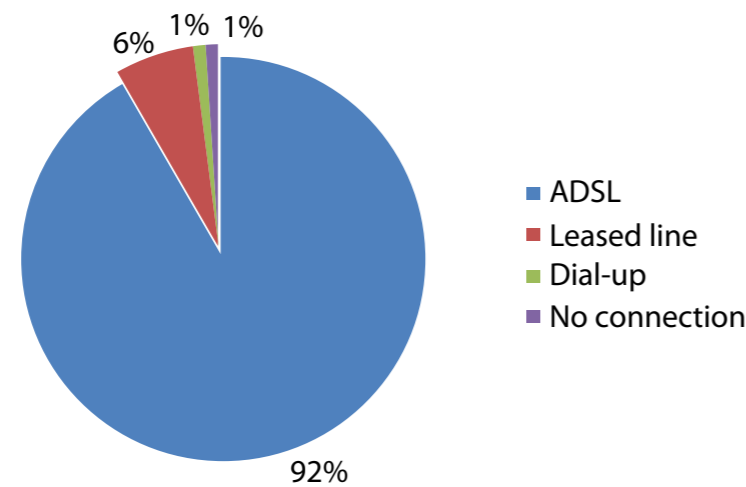
The percentage of 92% of enterprises using ADSL shows a rising level of Internet generalization (popularization) in recent years, especially when ADSL has become widespread and much more popular than other methods. On the other hand, many internet providers have started to deploy other connection methods using leased line such as optic cables, leased line, IXP. Enterprises have started to choose these methods thanks to their advantages, for example high speed, stable access to the Internet and good data security (system). The dial-up method is being replaced almost completely.

Figure IV.8
Methods of Internet Access in enterprises from 2004 to 2008
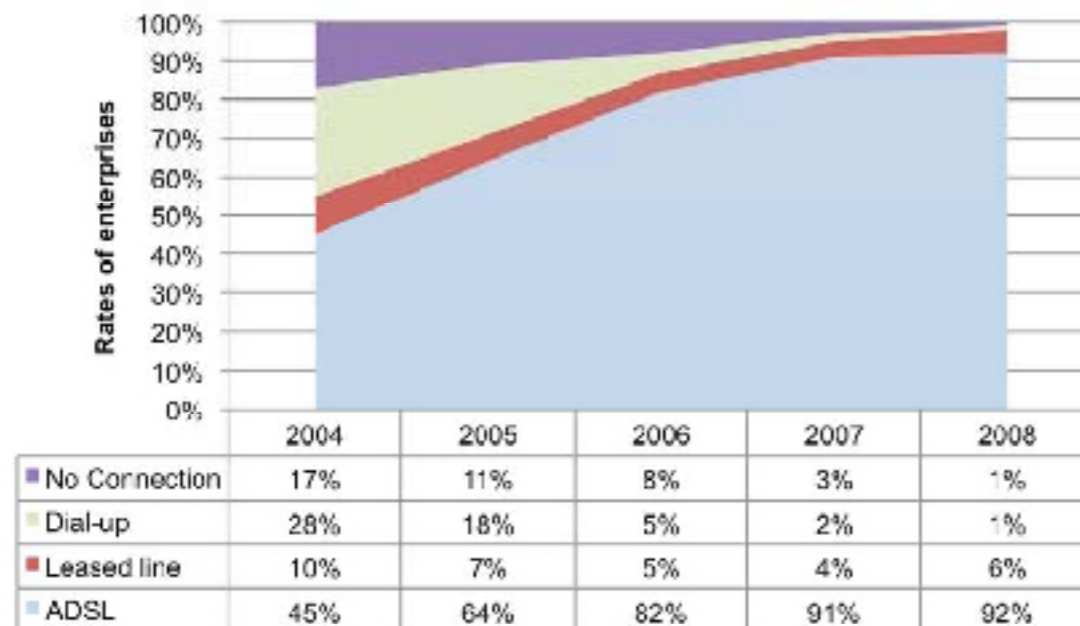
There is also a relative correlation between the methods of internet access and the locations of enterprises. Most of enterprises that use leased line are based in Hanoi and Ho Chi Minh City, whereas a large percentage of enterprises operating without Internet connection or still used dial-up are located in other areas.

Methods of Internet Access also depend on the size of enterprises; 100% of companies that have no Internet connection or use dial-up method are small-sized with less than 100 labors. Leased line, in contrast, is applied in medium and large-scaled enterprises.

However, there have been only trivial changes in the purposes of Internet use in enterprises. Most enterprises use Internet for information searching (89.8% of enterprises) and transactions with partners via e-mailing (81.6% of enterprises). The number of enterprises using Internet as an important tool for sending and receiving files has been rising gradually throughout the years thanks to the popularization of ADSL and leased line (the respective rates are 63.8% in 2006, 68.3% in 2007 and 71% in 2008).

Table IV.3
Purposes of Internet use in enterprises

Purposes of Internet use	2006	2007	2008
Searching information	82,9%	89,5%	89,8%
E-mailing	64,3%	80,3%	81,6%
Sending and Receiving files	62,8%	68,3%	71,0%
Maintaining and updating websites	40,9%	46,7%	40,0%
Purchasing goods	31,3%	38,1%	35,9%
Recruiting and Training	-	-	28,7%
Contacting Government Agencies	22,1%	30,6%	24,8%

Many enterprises have exploited the Internet for various purposes. 54% of enterprises have used the Internet for 4 purposes and more. Nearly 20% of them have taken advantages of the Internet for 6 or 7 purposes at the same time. Nonetheless, 23% of enterprises have made use of the Internet for only 1 or 2 functions, showing the fact that several enterprises have not taken full potential benefits of the Internet.

However, Internet use in enterprises has experienced certain obstacles. As asked to rank the obstacles to the Internet use with the 0 to 4 point scaling, in which 4 is the biggest obstacle, "obscure effectiveness" was valued as smallest obstacle with 1.0 point. This result showed that the Internet already asserted its importance and efficiency for the operation of every enterprise. Moreover, "heavy costs" and "complicated technology" are no longer serious obstacles with the scores of 1.4 and 1.5, respectively. Apart from that, the ranking reflects "quality of Internet services" and "security and safety" are two greatest barriers against Internet use in enterprises are. From 2006, the security issue has been considered the most severe hindrance towards

Internet application with the score of 2.8. In general, the average scores of all factors tend to decrease compared to the previous years but not yet significantly.

Table IV.4
Obstacles to the use of Internet in enterprises.

Obstacles to the use of Internet in enterprises	2006	2007	2008
Security and Safety	2,9	2,8	2,8
Service quality	2,4	2,3	2,2
Complicated technology	-	-	1,5
Heavy costs	1,6	1,6	1,4
Obscure effectiveness	1,0	1,3	1,0

So far, in 2008, the Internet has become an indispensable part in the operation of enterprises that is developing in terms of both quantity and quality. More than 99% of enterprises have Internet connections, among which, 88% of them using high-speed Internet services such as ADSL and Leased line. The purposes of Internet use mainly focus on information searching, transactions via e-mailing and sending and receiving files. There remain rigorous obstacles towards the use of Internet, which consist of the security issue that has existed for many consecutive years and Internet service quality that causes difficulties for enterprises in their normal operations.

II. STATUS OF E-COMMERCE APPLICATION IN ENTERPRISES

Up to 2007, the readiness for e-commerce application in enterprises was adequate regarding the technological and human resources aspects. However, the application of e-commerce was still at the beginning. In 2008, Ministry of Industry and Trade assessed the readiness of e-commerce application based on analyzing and comparing that of the previous years in terms of the following features:

- The level of e-commerce application in general

- Websites and their functions in enterprises

- Participation in e-marketplaces

- Application of e-commerce software in business administration

The remarkable sign of e-commerce application in 2008 is the fact that 33% of enterprises have built up projects or strategies on e-commerce development and application. This illustrates that e-commerce application is expanding widely and deeply.

1. The level of electronic means application in general

According to the definition of WTO: "the term "electronic commerce" is understood to mean the production, distribution, marketing, sale or delivery of goods and services by electronic means". Thus, the implementation of electronic means application in business process is a crucial indicator to measure the level of e-commerce application in enterprises. Three stages that are taken into specific consideration are ordering, payment and delivery.

As answered to the survey question about the methods or receiving order forms, 87.7% of enterprises stated to allow receiving order forms via one of these electronic means: website, e-mail, fax or telephone. The most regularly used means are telephone (74.3%) and fax (73.3%), followed by email (65%). Only 18.6% of enterprises permitted receiving orders via websites is a modest number compared with the rate of 45.3% of them had their own websites in 2008.

Figure IV.9
Modes of receiving orders via electronic means

	Website	Email	Fax	Telephone
2006	22.2%	59.4%	69.2%	64.6%
2007	24.4%	64.8%	63.7%	64.6%
2008	18.6%	68.0%	73.6%	74.3%
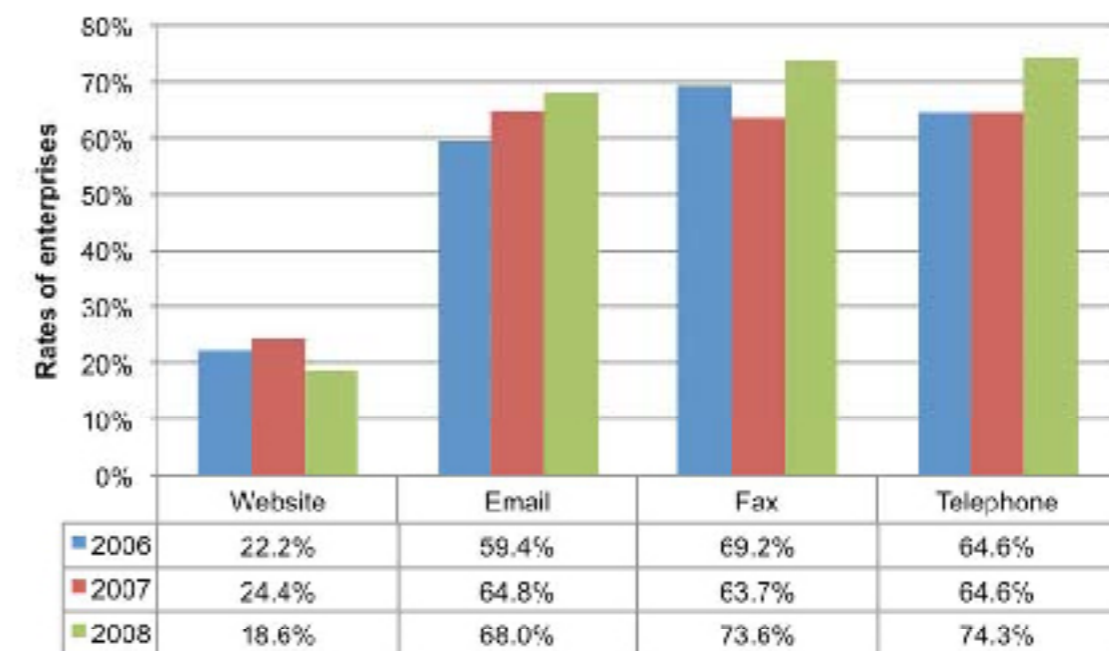
As seen in 2008, electronic means have been used more broadly in receiving orders. The percentages of e-mail, fax and telephone applications are all greater than those of 2007. Especially, the rate of e-mail use rose drastically during the three-year period between 2006 and 2008. In contrast, the percentage of enterprises that accept orders via websites decreased. This can be explained by the expansion in the number of companies in the agriculture, forestry, machinery, construction and chemicals sectors, products of those are more likely to be distributed using traditional order methods.

The demand for searching information as well as products of enterprises has become very high, with the increasing volume of access to websites for products promotion and goods purchasing. However, a majority of customers use websites only as a reference tool for price comparison and has not been eager to buy goods online. To a certain extent, this reflects the doubts of customers about buying goods online. In order to develop the B2C and C2C e-commerce model, the foremost mission is to help websites gain customers' trust and confidence.

E-commerce cannot be fully developed and bring in the best benefit without electronic payments. The methods of payment applied by enterprises therefore are essential criteria in survey. The results show that 74.1% of surveyed enterprises use the method of receiving cash from customers at delivery, 74.8% of them accept money via bank transfer and only 25% accept payments via post.

From 2007 until now, many electronic payment services providers have established and started to develop quickly. This is the main reason for the consecutive drops in using the method of transferring money through post offices. As replaced to that, the method of payment via bank transfer has become very popular. Nevertheless, direct cash payments are widely used while the rate of electronic payments is still very small. The rate of only 3.5% of enterprises applying online payments is too low compared to the average level of the world and the payment demand of e-commerce.

Figure IV.10
Payment methods applied by enterpries from 2006 - 2008

	Cash at delivery	Post transfer	Bank transfer	Online payment
2006	75.0%	31.9%	77.3%	3.2%
2007	67.6%	30.2%	71.4%	4.3%
2008	74.1%	25.0%	74.8%	3.5%
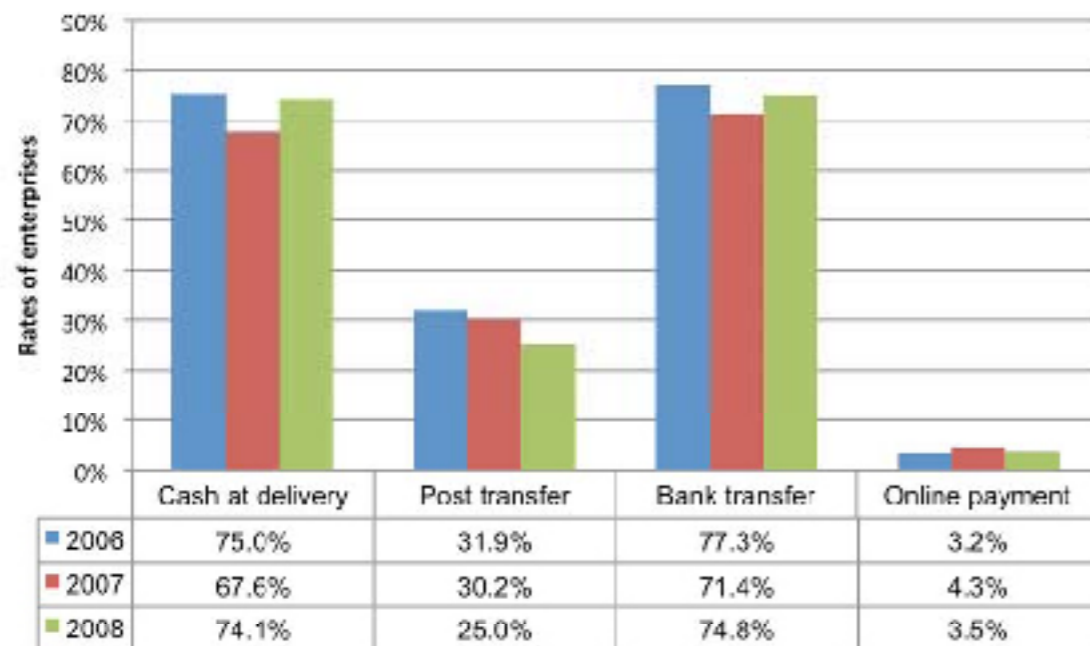
In spite of being the last phase of a business process, delivery plays an important role especially in the B2C and B2C transactions. According to the survey, 55.4% of surveyed enterprises have delivery staff, 49.9% let buyers pick up goods at stores, 25.8% set up delivery agents and 12.8% deliver goods through post offices. The delivery service of enterprises was still concentrated on self-organization or letting customer pick up their own goods. The postal delivery mode saw a big decline in number in 2008. However, this decrease does not demonstrate the general situation precisely because of the survey being focused on the agriculture, forestry and machinery sectors that are limited in using the postal delivery method.

Table IV.5
*Delivery methods applied by enterprises*

Delivery methods	2006	2007	2008
Delivery staff	56,9%	50,2%	55,4%
Buyers picking goods at agents	43,6%	41,2%	49,9%
Delivery agents	33,3%	26,6%	25,8%
Postal delivery	17,1%	18,6%	12,3%

2. Establishment and utilization of websites

A website is an important information channel that helps a business to approach its customers as well and other enterprises. In the booming era of information technology, website establishment becomes a vital requirement to improve business's competitiveness, affirm its reputation and achieve new business opportunities.

The survey result further explains this trend. In 2008, 45.3% of enterprises have had websites, 4.1% planned to establish websites in the future and 50.6% have no website or any intention to have websites.

Figure IV.11
Rates of enterprises having websites in 2008

- Enterprises having websites
- Enterprises planning to have websites
- Enterprises with no websites
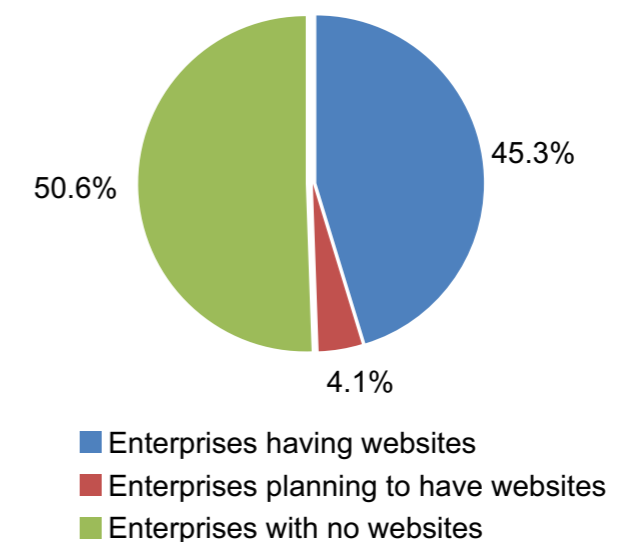
The percentage of enterprises having websites in 2008 continued to increase following the high momentum of 2006 and 2007. However, the number of enterprises planning to build up websites in the near future dropped quite considerably. With the rate of only 4.1% of enterprises intending to have websites in the next few years, there will be very few changes in the total number of enterprises that have websites. Thanks to the simplicity in setting up websites, all enterprises that had the demand already established theirs. Other companies may not have the need for websites. Although the conclusion cannot be assured, the rate of enterprises having websites in a short-term period is predicted to stay stable around 45%-50%.

Figure IV.12
Rate of enterprises having websites from 2004 to 2008
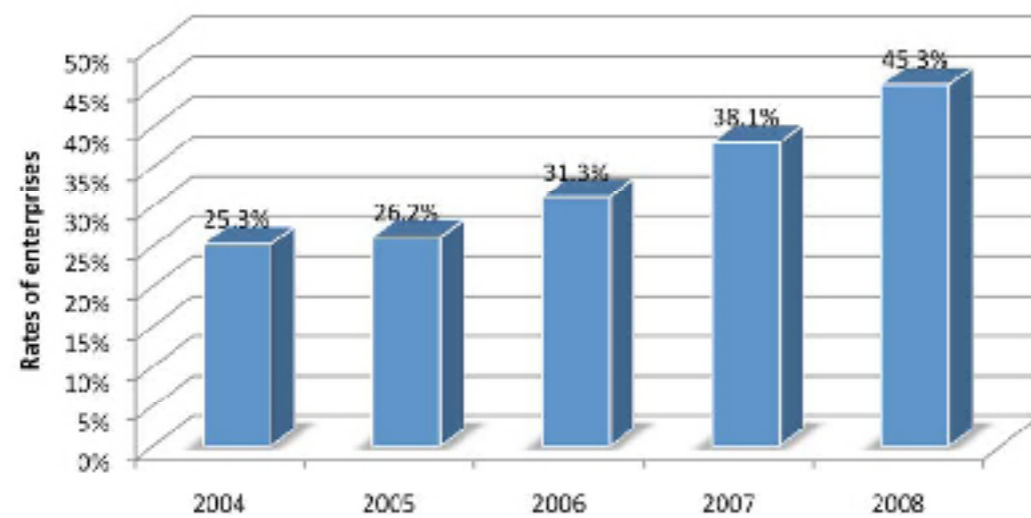
Business sector has a manifest influence on the need of websites establishments. Among all sectors, Tourism takes the lead with 85% of enterprises having websites, followed by information technology – e-commerce services with 56.5% and Banking, Finance, Consultancy, Law, Real estate sectors with 50%. Tourism and Handicraft are the two sectors with the number of websites substantially increased in comparison with the previous years.

Table IV.6
Rates of enterprises having websites – a comparison among business sectors

Business sectors	Rates of enterprises		Change
	2007	**2008**	
Tourism	65,2%	84,6%	9,4%
IT and e-commerce services	54,3%	56,5%	2,2%
Banking, Finance, Consultancy, Law, Real Estate	51,5%	52,0%	0,5%
Agriculture (Aquiculture), Forestry, Food Processing	40,6%	44,6%	4,0%
Garment and Textile, Leather	40,0%	43,0%	3,0%
Mechanics, Chemicals, Construction	33,8%	39,8%	6,0%
Handicraft	26,3%	36,8%	10,5
Commerce, General services, other services	32,6%	36,5%	5,9

In terms of functions, 89.9% of websites have the enterprises' profiles (introduction), 85.9% have the product promotion function, 38% allow ordering and 3.5% accept online payments.

In terms of target customers, 84% of websites aim at enterprises, 70% seek the attention of consumers. Over the years, these rates have been fairly stabilized. The rate of websites aiming at enterprises and organizations is still higher than those aiming at consumers. Nevertheless, the percentage of websites for consumers is quite considerable, which reflects prospects for the development of B2C and C2C markets.

Table IV.7
E-commerce features and function of websites

Website characteristics	**2006**	**2007**	**2008**
Introduction of the business	98,3%	84,5%	89,9%
Presentation of products	62,5%	79,4%	85,9%
E-commerce transactions	27,4%	36,7%	38,0%
Online payments			
Target customers	3,2%	4,8%	3,5%
Enterprises and organizations	76,4%	84,8%	84,0%
Individual customers			
Products and services on websites	68.7%	12,6%	17,5%
Electronic and Telecommunication devices	13,4%	12,6%	17,5%
General goods (e-supermarket)	7,2%	11,4%	13,1%
Tourism services	7,2%	11,7%	10,1%
Consumer goods	8,0%	12,5%	9,3%
Mechanical products	8,3%	11,9%	9,3%
Agriculture, Fishery and Forestry	5,4%	10,9%	8,8%
Handicrafts	4,9%	7,8%	8,8%
Consultancy, Banking, Real Estate	6,0%	8,4%	5,0%
Garment and Textile	4,2%	7,6%	5,0%
Digitalized goods	3,2%	3,2%	2,9%
Books, Cultural goods, Gifts	2,0%	4,5%	2,1%

The diversity of products presented on websites show the enterprises' effort of taking full advantages of their websites as an effective channel for product promotion. The rate of websites promoting electronic and telecommunication devices experienced a noticeable increase from 12.6% in 2007 to 17.8% in 2008, showing the fact that customers have been more and more familiar to choosing goods online as well as online shops. Therefore, the lack of websites is definitely a weakness of enterprises of this sector.

Frequency of information updates has improved remarkably compared with the previous years. The number of enterprises updating websites on a week basis has also risen. In 2008, there were only 13% of enterprises that did not keep their websites updated regularly. The rates of enterprises updating websites monthly or do not update regularly have declined constantly over the years. The e-commerce website thereby strongly affirms its role as a regular communication and interaction channel between enterprises and customers.

Figure IV.13
Frequency of information updates on business website

|	Daily	Weekly	Monthly	Occasionally
2005	28.8%	17.6%	13.7%	39.9%
2006	52.2%	13.7%	10.5%	23.5%
2007	64.5%	12.7%	6.6%	16.2%
2008	60.9%	19.7%	6.0%	13.3%
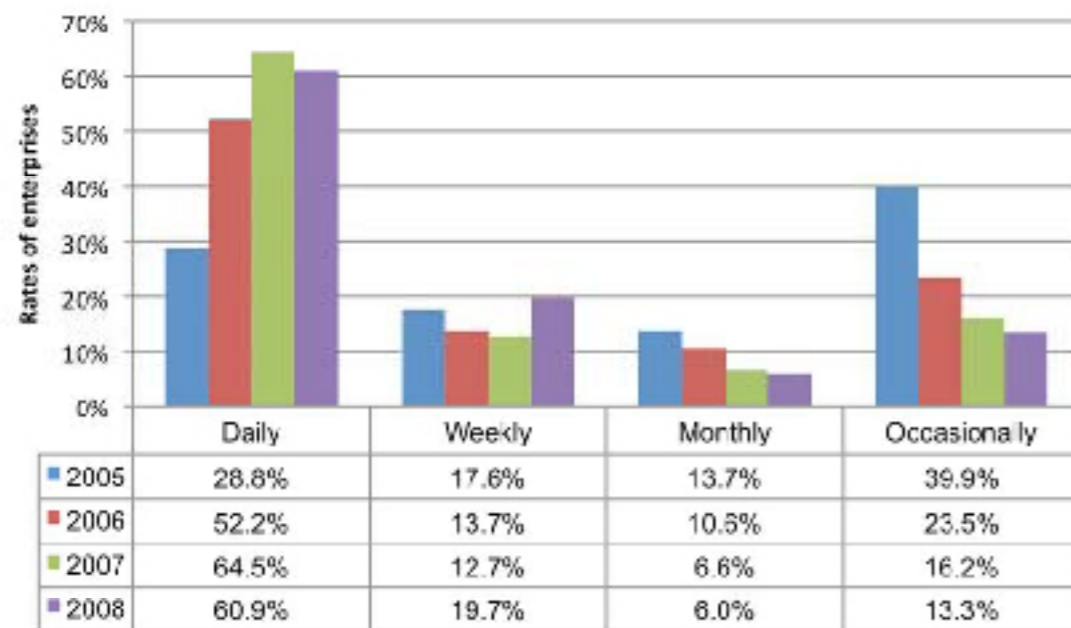
Nearly all enterprises that update websites frequently have staffs that are particularly responsible for e-commerce. Conversely, 70% of enterprises that update websites irregularly do not have such specialized staff. As a result, if enterprises are concerned and wish to deploy e-commerce efficiently, they are in the demand for personnel that are responsible for this matter.

3. Participation of enterprises in e-marketplaces

Among 1638 surveyed enterprises, 12% have taken part in domestic and international e-marketplaces as compared with 10.2% in 2007 and 7.9% in 2006.

Figure IV.14
Rates of enterprises taking part in and signing contracts through e-marketplaces in 2008
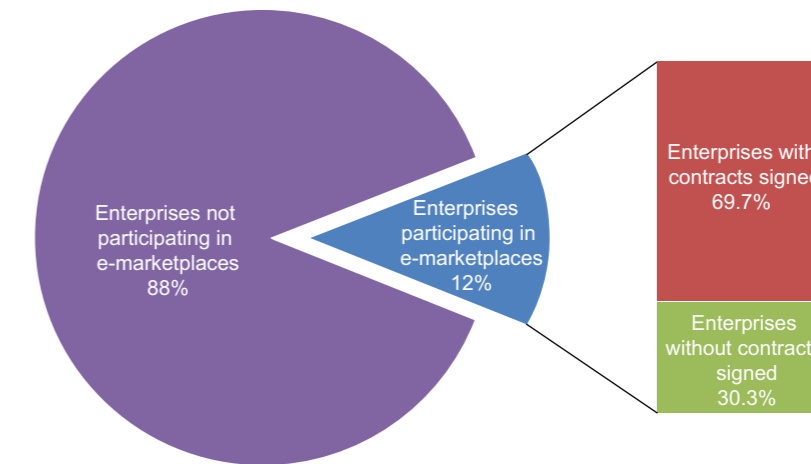
The ratio of enterprises that succeeded in signing contracts increased compared to that of 2007. In 2008, among the enterprises that participated in e-marketplaces, 69.7% have scored contracts through these marketplaces, compared to only 63% in 2007. This reflects an apparent effect of e-marketplaces' participation on enterprises.

Figure IV.15
Scales of enterprises taking part in e-marketplaces
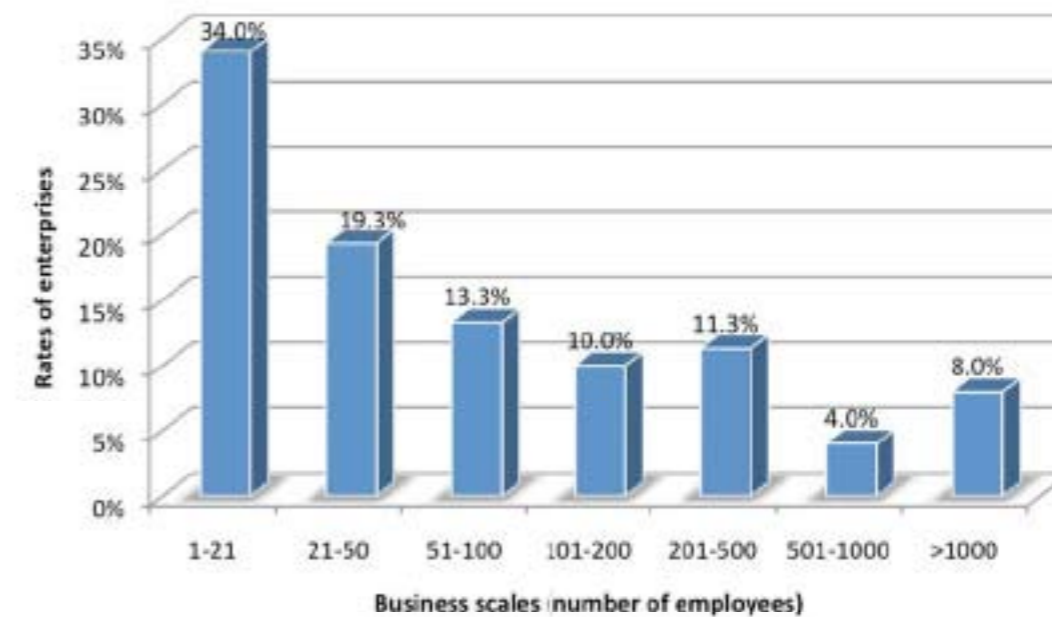
Comparing the scales of enterprises that take part in e-marketplaces, there appears the inverse ratio between the scales and the number of enterprises. The smaller the enterprises are, the more likely they involve in e-marketplaces. Small and medium enterprises have made the best of e-marketplaces in building their reputation and improving competeness, especially when there are a number of B2B e-marketplaces that support enterprises without charges.

III. EFFICIENCY OF E-COMMERCE APPLICATION

The efficiency of e-commerce application in enterprises is examined based on its investment cost and total revenue of enterprises. Thereby the correlation of investment and revenue are carefully considered in order to assess the actual effectiveness of e-commerce in enterprises.

1. Investment on e-commerce

The investment trend on e-commerce in enterprises has stayed rather steady. The rate of investment in 2008 is similar to ones in 2006 and 2007 at between 5% to 15%, which are the normal percentages in the region. 48% of surveyed enterprises spent less than 5% of total operation cost on IT and e-commerce application, 38% have the investment rates around 5 to 15% and 13% have this rate of more than 15%.

Table IV.8
Changes in IT and e-commerce application in enterprises from 2005 to 2008

Rates of investment	2005	2006	2007	2008
Under 5%	82,4%	48,3%	50,0%	48,7%
5%-15%	14,0%	38,1%	36,1%	38,3%
Above 15%	3,6%	13,6%	13,9%	13,0%

Even though the investment rate remained stable, the investment structure has experienced noticeable changes. Software has become more and more essential, accounting for 46% of investment cost for IT and e-commerce. The entire rate of investment on hardware dropped from 55% in 2007 to 39% in 2008. The rate of training also decreased to 15%.

Figure IV.16
Structure of IT and e-commerce investment by enterprises in 2007 and 2008
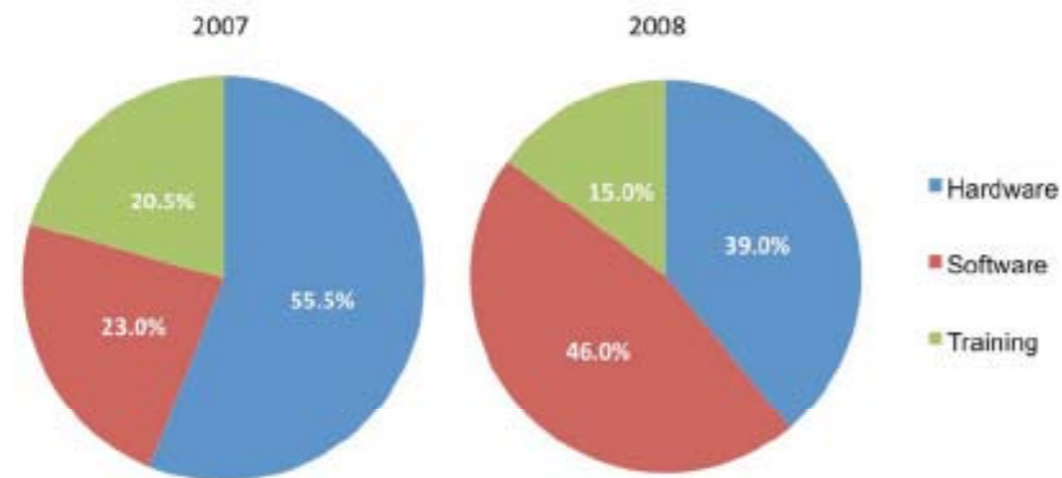

Based on this structure, it can be concluded that the infrastructure needed for IT and e-commerce application has started to stabilize and develop in depth. Enterprises are more aware about investing in software to better exploit hardware, which had been invested during the earlier periods.

2. Revenue from e-commerce

Together with the fact that more and more enterprises have established ordering channels through electronic means, the rates of revenue from e-commerce have experienced positive evolutions. In 2008, 25.7% of enterprises have the rate of revenue from e-commerce at less than 5%, 38.7% have this rate at between 5 to 15% and this figure is larger than 15% among 35.6% of enterprises.

Figure IV.17
Structure of enterprises' revenue from e-commerce in 2008
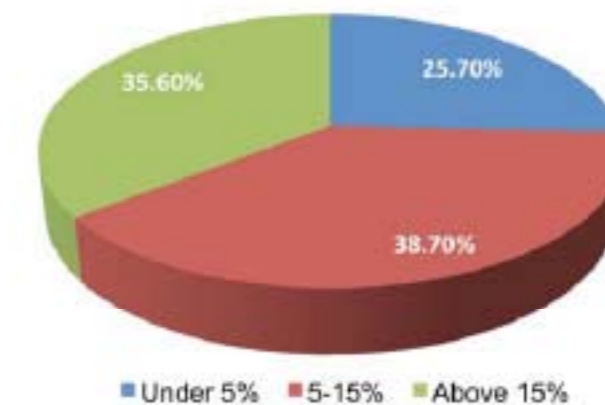
Approximately 75% of enterprises have the rate of revenue from e-commerce at more than 5% of the total revenue. At the same time, 56.3% of enterprises believe that revenue from ordering via electronic means will increase. Only 6% of them believe in the opposite.

Table IV.9
Forecast of enterprises on revenue from e-commerce

Year	Increasing	Falling	Unchanged
2008	56.3%	6.2%	37.5%
2007	62.5%	3.3%	34.2%
2006	57.4%	4.3%	38.3%
2005	37.2%	1.3%	61.5%

In terms of structure, revenue from B2B e-commerce transactions continued to be dominant in value, with 67% of revenue from e-commerce are brought in by B2B orders. However, B2C transactions rate remained at around 33%, showing that the balance between B2B and B2C e-commerce transactions may be established in the future.

Figure IV.18
Comparison between enterprises revenue from B2B and B2C

■ B2B ■ B2C
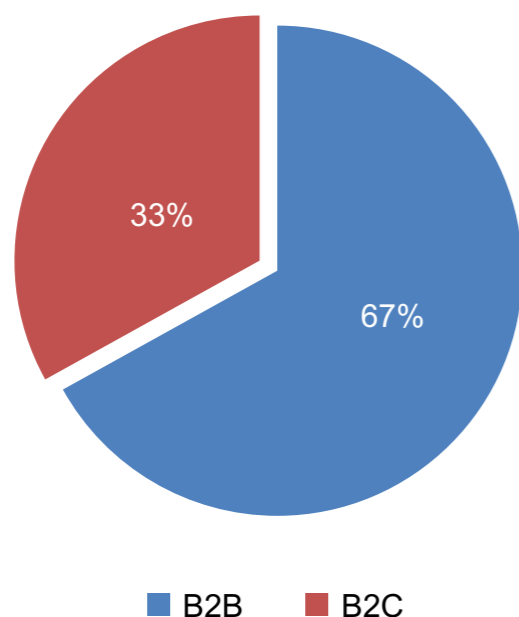
The revenue rate from B2B of enterprises that take part in e-marketplace is 72%, higher than the rate 65% of enterprises that do not. In contrast, the revenue rate from B2C of enterprises that take part in e-marketplace is 25%, lower than the rate 37% of enterprises that do not.

3. Human resource for e-commerce

In 2008, the issue of human resource thoroughly affects the readiness, application and efficiency of e-commerce in enterprises.

According to 2008 survey result, 34% enterprises have staffs that particularly responsible for e-commerce, with the average rate of 2.6 people per business. Compared to 2007, the rate of enterprises having the staff that particularly responsible for e-commerce and the average rate of e-commerce specialized employee per business virtually remains unchanged.

The survey questionnaire also bring out the questions regarding the IT and e-commerce education methods to assess the human resource readiness of enterprises. The on-site education method still predominates with 56.4% of enterprises applying it. 30.3% of enterprises apply the method of sending labors out for education and 7.8% of business open training course for employees. 26.5% enterprises do not have any education method for employees.

Figure IV.19
E-commerce education methods applied by enterprises in 2008
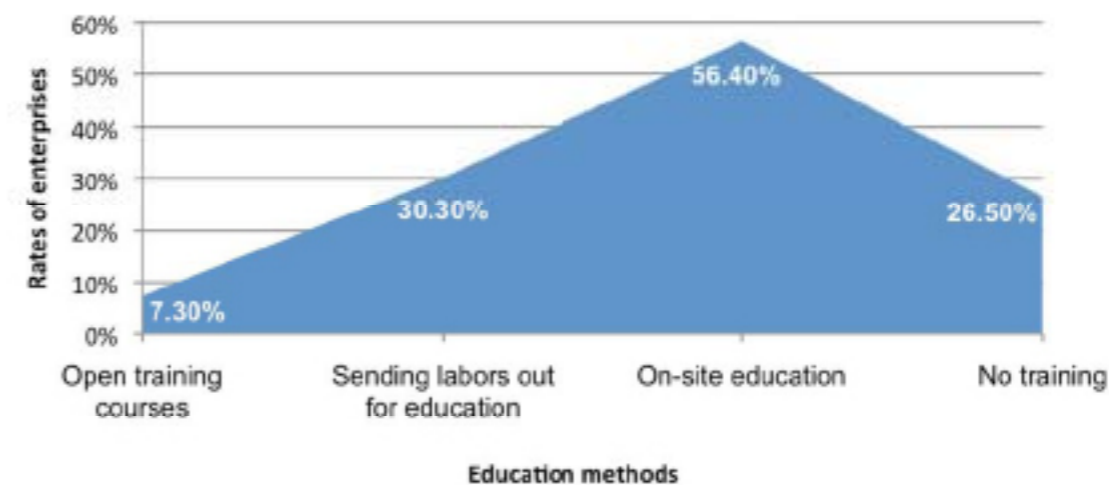
Regarding the scale of enterprises, all enterprises apply the on-site education method. The open training course and sending labors out for education method are nearly applied in enterprises that have more than 50 employees. Small enterprises predominate the enterprises that do not have any education method for employees.

Figure IV.20
Education methods
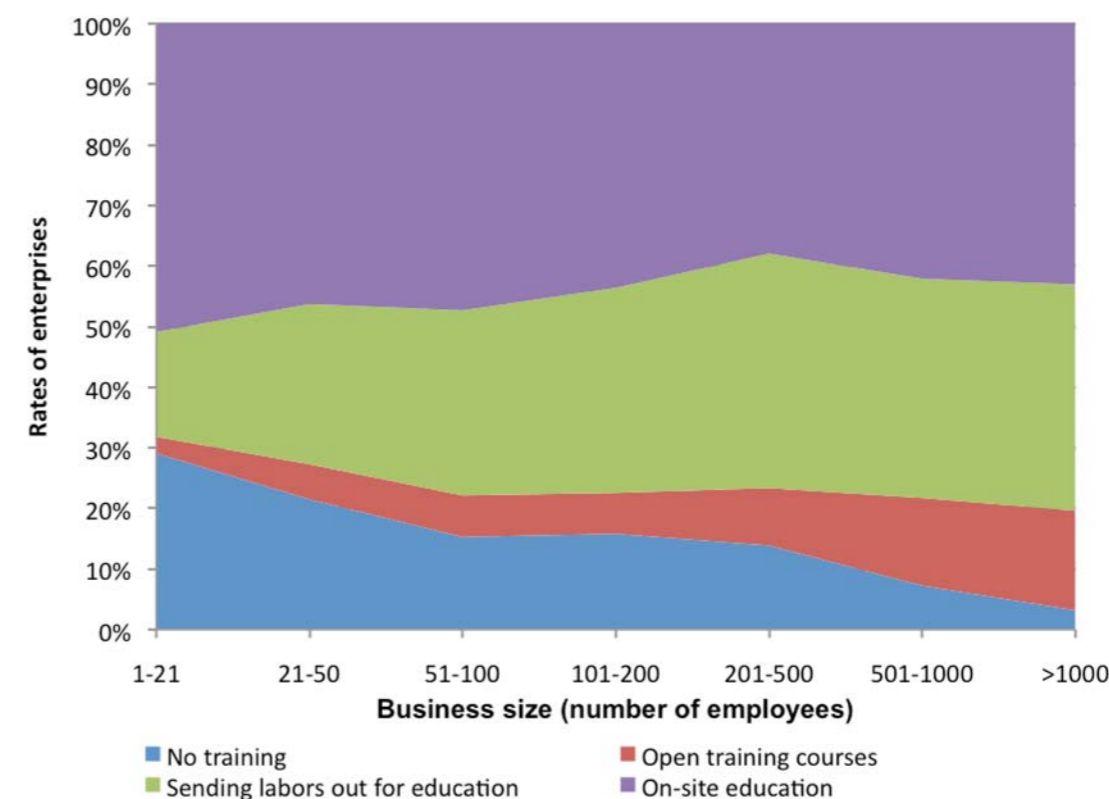
The investment rate for education of enterprises is 15% in 2008, decline rapidly compared to the investment rate of 20.5% for education in 2007.

However, enterprises that want to apply ecommerce have a real need for staff that is particularly responsible for e-commerce, especially in the enterprises that have a websites, take part in e-commerce marketplace, or conduct e-commerce projects. According to surveyed result, 67% of enterprises having websites, 72.6% participating in e-commerce marketplace, and 56% conducting e-commerce applying projects have staff that is responsible for e-commerce.

Figure IV.21
Demand for e-commerce specialized staff

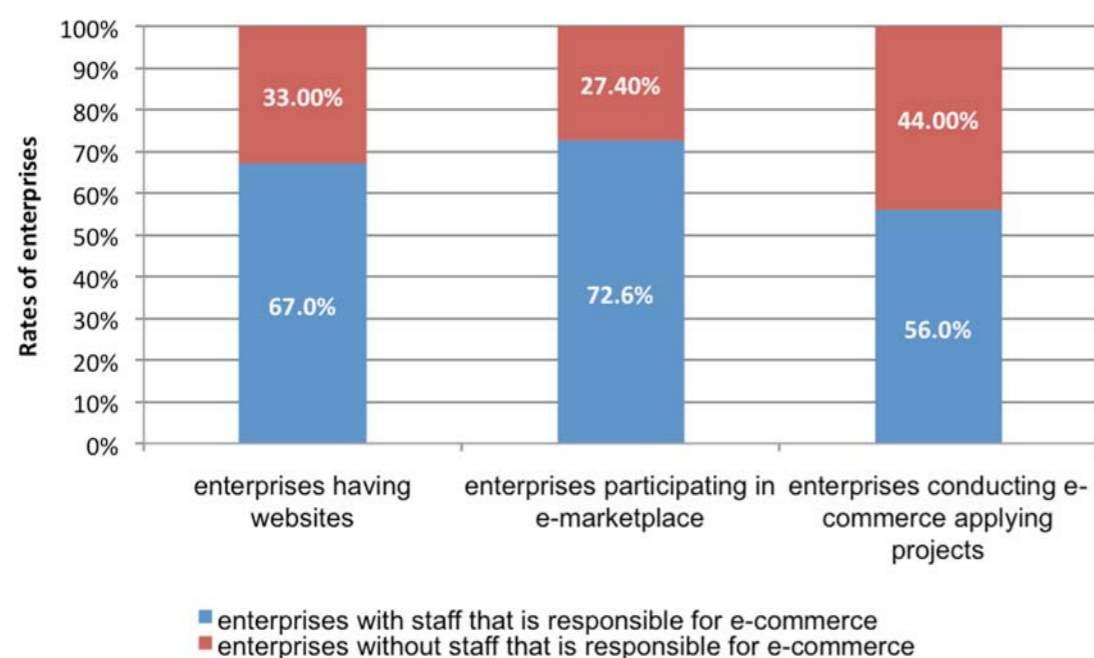In the term of relation between e-commerce responsible staffs and revenue from e-commerce, 77.2% of enterprises that have decreased revenue and 70% of enterprises that have unchanged revenue do not have staffs that are particularly responsible for e-commerce. On the other hand, 56% of enterprises that have increased revenue from e-commerce have staffs that are particularly responsible for e-commerce. This express the important role of staffs that are particularly responsible for e-commerce in enterprises. Many universities and colleges anticipated the need of enterprises and opened regular e-commerce education program. This is an encouraging sign for enterprises. When those students graduate, they will become the e-commerce cadre in enterprises.

4. Impacts of e-commerce and remaining obstacles

E-commerce positively affects the activities of enterprises. However, some obstacles still exist.

The difference between the average points for each obstacle is subtle. In the other hand, the most problematic issue in the past year, "the low awareness of enterprises and people" decline dramatically from 3.32 in 2005 to 2.43 in 2008.
The issue that enterprises consider the most problematic to application of e-commerce is the ICT infrastructure with the average point 2.68. It indicates that ICT infrastructure, though improved, still has many problems such as lagging and slow bandwidth and does not satisfy the customers.

The second obstacle is payment system with the average point of 2.64. It contradicts to the fact that many online payment solutions have been deployed in 2007. The technological problem of integrating those solutions into website has been solved. Because of that, the real obstacle comes from customers. The system is ready, however, customers are not ready for it.

Table IV.10
Obstacles to e-commerce application in enterprises through the recent years

Obstacles	2005	2006	2007	2008
ICT infrastructure	2.81	2.22	2.32	2.68
Payment system	3.27	3.19	2.84	2.64
Legal and policy	3.11	2.64	2.55	2.57
Business Environment	3.09	2.45	2.48	2.49
ICT human resource	2.95	2.45	2.54	2.49
Awareness about e-commerce	3.32	3.23	2.74	2.43
Security	-	2.78	2.90	2.37
Average	3.09	2.71	2.62	2.52

Though the average point of all obstacles are still high (2.52 on the scale of 4), it has continuously decreased through the years, also, the disproportion in average point between obstacles have been evened out. It means the environment for e-commerce has become more favorable.

The awareness of enterprises on the efficiency of application of e-commerce has become more clearly. Enterprises gave highest point (2.91) for the impact "build the business' reputation" of e-commerce. The second highest is "attract new customer" and the third highest is "expand customer relation channels".

Table IV.11
Effects of e-commerce application in enterprises through the recent years

Effects	2005	2006	2007	2008
Build the business reputation	-	2.78	2.90	2.91
Attract new customers	3.27	3.19	2.84	2.76
Expand customer relation channel	3.32	3.23	2.74	2.70
Improve business competitiveness	2.81	2.22	2.32	2.55
Reduce cost	3.09	2.45	2.48	2.51
Increase revenue	2.95	2.45	2.54	2.50
Increase sales	3.11	2.64	2.55	2.48

Two effects "expand customer relation channel" and "attract new customers", which business gave highest points in the previous years, have gradually decreased. Two increased effects are "Build the business reputation" and "Improve business competitiveness ". It reflexes the fact that awareness of business changed from short-term effects to long-term effects.

IV. SPECIALIZED E-COMMERCE BUSINESS MODELS

Apart from building a website to broadcast image, supporting customers and conducting electronic transactions, there is another way to apply e-commerce, which is operating e-marketplaces.

1. Business to Business e-marketplace (B2B)

From the first appearance in 2003, the number of B2B e-marketplaces grew rapidly in the 2 years of 2005-2006. However, the growth speed decreased in 2007 and the number of e-marketplaces started to reduce in 2008. The e-marketplaces that still operating face many challenges on the need of quality improvement, feature expansion and professionalism raising to prevail in the increasingly competitive environment.

Until now, the main feature of B2B e-marketplaces in Vietnam is information publishing. There virtually is no e-marketplace, which has functions to help business negotiate, conduct transaction, contract and observe the contract implementation process. However, facing the pressure of competition in the global economic integration, operation of Vietnam B2B e-marketplaces significantly changed in 2008. The e-marketplace administrators attempted to improve interface and diversify services to create more chances for members to approach market and raise transaction volume.

E-marketplace modes of operation also changed in 2008. Previously, most of e-marketplaces operated on the non-profit basis, with the aim to help enterprises to get acquaintance with e-commerce and create new commerce promotion channel. At the present, the e-marketplace owners face the need to make profit and generate revenue to ensure the sustainable improvement in the future.

After a booming period from 2005 to 2007, 2008 is the year when B2B e-marketplaces in Vietnam began to decelerate in order to stabilize their modes of operation and seek new directions in activities. In spite of the reduction in quantity, the remaining B2B e-marketplaces are believed to develop substantially in depth, contributing to growth of B2B e-commerce in Vietnam, heading toward a focused, high quality and professional orientation in the future. This also reflects the development trend of e-commerce in general and B2B e-commerce operation in particular, which was examined in practice of more experienced countries such as Korea and China.

2. Business to consumer e-marketplaces model (B2C) and Consumer to consumer model (C2C)

In Vietnam, there is no well-defined difference between B2C and C2C models. E-marketplaces working in this sector coordinate flexible services for businesses, organizations, small shops and individuals. Despite the low values of transactions, B2C and C2C e-marketplaces have pervaded the market and helped bringing e-commerce application to people, creating modern shopping habits for the society.

Table IV.12
B2C and C2C websites were ranked in the list of top 100 websites in Vietnam ranked by Alexa on 15/12/2008

Website	Alexa Rank	Model	Mode of operation
Vatgia.com	18	B2C	Retail
Thegioididong.com	47	B2C	Retail
123mua.com.vn	55	B2C and C2C	Retail
Muare.com	59	B2C and C2C	Forum information exchange
Rongbay.com	60	C2C	Classified ads
Enbac.com	64	C2C	Classified ads
Chodientu.vn	84	B2C and C2C	Retail
Muaban.net	98	C2C	Classified ads

In 2008, while numerous of B2B e-marketplaces slowed down their activities, B2C and C2C marketplaces saw many fast and solid improvements in different aspects. The volume of access and transactions rose significantly showing the expansion of Vietnam e-commerce, at the same time enhanced and strengthened the positions of Vietnam e-marketplaces. Whereas there was no e-commerce website in the list of leading websites in Vietnam during the previous years, in 2008, 7 B2C and C2C e-marketplaces appeared in the top 100 websites with the highest access capacity according to Alexa's statistics.

Figure IV.22
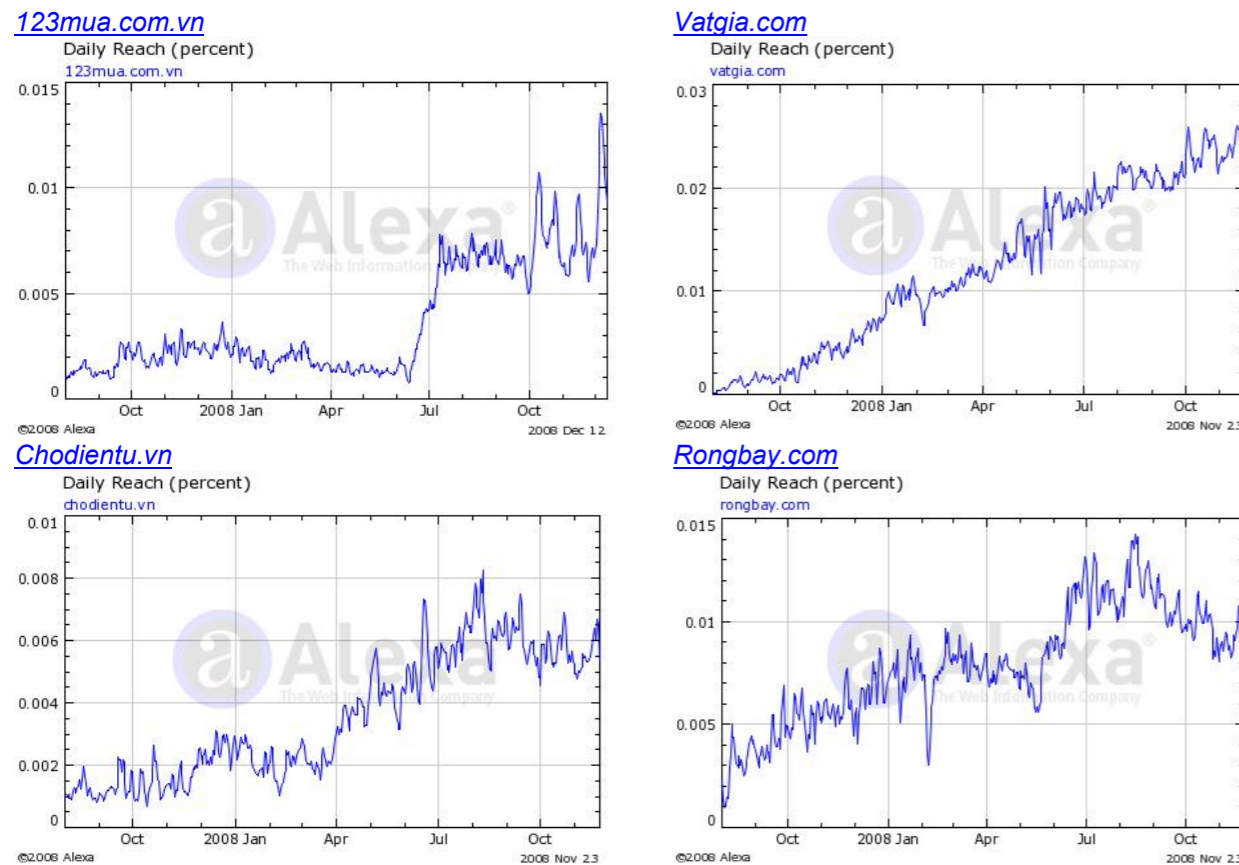***Diagrams of access rates (growth) of four e-commerce websites in 2008 – by Alexa on 15/12/2008***

123mua.com.vn

Vatgia.com

Chodientu.vn

Rongbay.com

The above graphs show the high and firm growth speed in terms of access rate of several outstanding B2C and C2C in 2008. This explains the gigantic progress in rankings of e-commerce websites among the list of leading websites in Vietnam by Alexa. The tendency of expansion is not only shown in the correlation among websites in different areas for instance general information, search engines, online games and movies and music download, but also reflected in activities of each individual website.

Table IV.13
123mua.com.vn (grew rapidly in 2008)

Information	2007	2008
Mode of operation	B2C (Selling good to enterprises)	B2C (expanded for small shops and individuals)
Rank by Alexa	294 (12/2007)	53 (12/2008)
Access rate		Increased by 20 times
Number of participated enterprises and individuals	70 businesses/orgs	7500 kiosks (show-cases)
Number of displayed products		Increased by 20 times
Number of transactions		Increased by 100 times

Looking at the organization of the top B2C and C2C e-marketplaces, it is possible to see that the application of e-commerce features is fairly simple. The majority of enterprises operating these markets also admit that high access rate and transactions are mainly from personal columns (classified ads/small ads), exchanging and community areas. Professional staff for this type of websites is still rare. Nevertheless, the approaching method chosen by current e-marketplaces is suitable for the development level of Vietnam market plus the common rule of e-commerce development in the world. The activities of exchanging information and connecting e-commerce communities in even primitive forms such as personal columns (small ads) and price comparison will generate new habits for consumers, create customer communities and reaffirm the positions of e-commerce enterprises in the market. Through the effort of increasing the access rate at the beginning by establishing uncomplicated e-commerce models, the B2C and C2C e-marketplaces are helping foster the pervasion of e-commerce in the society as well as build up a prospective market for Vietnam e-commerce.

Box IV.1
Some new B2C and C2C websites having high growth speed in Vietnam

Although being established in 2007, *www.rongbay.com* and *www.enbac.com* – two websites run by Vietnam Communications Corporation (VCCorp) – grew impressively in 2008 to become big e-commerce websites in Vietnam as regards to good purchasing, classified ads and auction.

Rongbay *(www.rongbay.com)* is a website concentrating on classified advertisements among the e-commerce websites system of VCCorp. Introduced in June 2007, *rongbay.com* is currently ranked 59 by Alexa with the monthly average page view of 17.5 million. Rongbay applies the intelligent classification technology, which provides exclusive small ads for the most prestigious websites in Vietnam namely Dantri, Thanhnien online and Vnmedia. Its access rate by in end of 2008 increased 30% as compared to that in 2007.

Enbac *(www.enbac.com)* is a website focusing on purchasing and online auction. All members of enbac.com are able to create their own kiosks with various information and eye-catching images. Illustrated pictures for products can be seen on the website, flash or by Piclens. By installing Piclens, customers can view the pictures in their best quality. Currently, *enbac.com* is the only e-commerce website in Vietnam that applies this advanced technology. Established in June 2008, *enbac.com* has already had an impressive growth with about 16 million page views and the monthly access rate of 2 million.

In the middle of December 2007, VCCorp introduced a new entertainment website for teenagers called *www.kenh14.vn*. The access rate of Kenh14 has increased 150% monthly and reached the page view of 60 million users per month, which is 13 times greater than its rival Hoahoctro online, a 16 year trademark. Since April 2008, the number of its advertising partners and sponsors has risen 30% each month.

Even though B2C and C2C simple e-commerce services like small ads, information exchange, and price comparison are still dominant, numerous of enterprises are striving to develop more professional e-commerce models. Together with the notable improvement of payment infrastructure, many enterprises have attempted to integrate online payment functions to complete another stage of transactions of parties in e-marketplaces. In addition to that, the task of building up customized kiosks for members is also maintained by enterprises to head towards goods purchasing in larger scales and more a professional manner.

Box IV.2
Effort in expanding professional B2C and C2C models at chodientu.vn

Chodientu started its changes and development in 2008 by introducing the online payment system for international credit and debit cards with brands such as VISA, MASTER, JCB, AMEX and DINERS, which are active immediately after the users make a payment. At that time, the website of VISA organization in Asia put Chodientu in the first place of TOP 3 "Verified by VISA" while global MASTERCARD confirmed Chodientu as the first-ranked website in the list of TOP 5 reliable websites for transactions in Vietnam. (Others include prestigious names in the tourism industry for example Jetstar Pacific Airlines and VietTravel)

In June 2008, Chodientu cooperated with eBay group and became the 40th market that marked the presence and official operation of eBay in the Vietnam market. In September 2008, Chodientu launched another website under the same trademark for the domestic electronic market at *www.chodientu.vn*, admitted the eBay trademark to the website and introduced innovations heading towards building a social shopping network that would fit the characteristics of the market in Vietnam. All members including irregular sellers and buyers are provided with a free basic shop that can be easily customized and individualized, along with a number of interaction and information exchanging features.

In December 2008, Chodientu and eBay experimented (Close-Beta) the shopping service for purchasing imported goods directly from American eBay to Vietnam at *http://cbt.chodientu.vn*. Payments are made via an intermediary called NgânLượng. vn (established according to PayPal) instead of having to open a PayPal account. This model leads to many opportunities of buying low price products and goods that are not available in Vietnam. The exportation of goods to eBay in other countries is being experimented with the assistance of Intel Group in order to keep on the successes of eBay in India and Thailand.

In 2008, a large number of marketing activities, seller development, promotions and other interesting social/community programs. Together with other major events of the year, the cooperation with big partners like Lenovo, IBM and Samsung made online auction a phenomenon that caught attention from community and was a good foundation for training and instruction for the e-commerce community.

The year of 2007 was finished with 22 thousand new members registered to the website whereas this figure was 82 thousand in 2008 (increased by 4 times), boosting up the total number of members at Chodientu to 187,114 users. Its growth rate has constantly risen and been is ranked 84th in Vietnam. This is a very promising sign, especially when e-commerce is still new in Vietnam and the model of Chodientu , which is online shopping like eBay, is facing many obstacles, compared with others which doing direct transactions such as small ads and price comparison.

The non-stop effort of improving and professionalizing the services of e-marketplaces has brought about noticeable trading effectiveness in terms of target customers, number of transactions and revenue from e-marketplaces. The expansion in quantity shown in the statistics of access rate, number of members, list of products and number of transactions is

usually seen as a tool to assess the performance of a website. Nevertheless, in order to the stable and substantial development, e-commerce websites need to make constant revenue for enterprises. Regarding this aspect, there were many positive progresses of several B2C and C2C e-marketplaces in 2008.

Box IV.3
Business figures of vatgia.com increased drastically in 2008

Established in the middle of 2007, *vatgia.com* has taken many big strides in 2008 to become one of the leading B2C e-marketplaces in Vietnam.

Vatgia.com currently has 150,000 official members. In 2008, *vatgia.com* applied the service charge to twice as much this in 2007 but the number of new member registered still constantly increased each month. Along with the enlargement in the number of members, there are also 30 new shops and 500 new products on the website each day.

In 2008, the access rate of vatgia.com is 250,000 times per day. As compared to that in 2007, the monthly access rate raised by 15% to 20% on average in 2008. In direct ratio to the access rate, the number of transactions also increased 15%, in which the percentage of successful transactions is 85%.

The growth in revenue of *vatgia.com* in 2008 boosted 200% as compared to the figure in 2007. *Vatgia.com* is now ranked 17th among top 100 websites in Vietnam by Alexa and at the same time takes the lead in the field of e-commerce websites.

In 2008, a number of leading e-commerce enterprises in the world started to deploy their operation in Vietnam in order to occupy the domestic market. Entered Vietnam since 2006 and 2007 through some simple structured websites with Vietnamese as the interface language, Yahoo and Google speeded up their activities in 2008 by providing particularized services for the Vietnamese speaking society. Especially, advertising services for enterprises in Vietnam or aiming at Vietnam market are were also applied on the instruments provided by Yahoo and Google, which brought initial incomes for enterprises from this potential e-commerce market.

Box IV.4
Yahoo strengthens its activities in Vietnam market in 2008

Vietnam is a potential place for affluent companies like Yahoo and Google to develop a market for online advertising and digital services, providing a market with nearly 20 million Internet users (the majority is young people). In August 2007, the representative office of Yahoo was opened in Ho Chi Minh City. Mr. Vu Minh Tri was then assigned to the position of general manager (CEO) of Yahoo Vietnam in April 2008.

In a very short time, a variety of new services was released aiming at Vietnam market, for example: Vietnamese-encoded Yahoo websites together with other digital services, cooperation with newspapers to deliver information in Vietnamese at *www.yahoo.com*. vn and cooperation with MobiFone to release a search engine for mobile phones called OneSearch.

Yahoo has recently announced four Vietnamese enterprises to be its authorized agencies in Vietnam namely Admax, FPT, GapIT and Golden group. These partners are going to promote and sell a large number of Yahoo online advertising of products to other Vietnamese enterprises and brands.

The mentioned activities show that Yahoo has strong determination to control (occupy) and intensify its operations in Vietnam – a fast-growing and potential telecommunications market – in order to achieve its business goals.

In 2008, eBay – a leading B2C and C2C e-marketplace in the world – took a further step into Vietnam market. Although the eBay Vietnamese homepage was set up in 2007, eBay had not actually deployed its activities aiming at the domestic market until the middle of 2008, when its leaders decided to establish partnership with Chodientu - an e-commerce website. This strategic decision might help eBay approach the market further and at the same time save its resources, shorten the beginning and promote its partner's ability.

Box IV.5
The strategic progress of eBay into Vietnam market in 2008

On 17th June, eBay officially announced partnership with e-commerce website Chodientu *(chodientu.vn).*

According to that, Chodientu was changed into website operated in association with eBay. It was also enhanced with new features that allowed enterprises and individuals in the whole country to make domestic as well as international transactions via the connection with other global eBay websites.

This agreement makes Vietnam the 40th market in which eBay has its official presence and operation.

After a year of official operation, eBay's trademark in Vietnam seemed to be too dull compared with its universal brand. Leaders of eBay hoped to improve the situation by joining hands with a domestic e-commerce website to achieve its target in the market with more than 20 million Internet users.

Mr. Dan Neary, eBay vice president, who is in charge of emerging markets stated that eBay believed this cooperated website would provide new economic opportunities for sellers and buyers in Vietnam, helping them make trading transactions not only in their domestic market but also over the world using eBay network.

The collaboration with eBay also brought considerable benefits for Chodientu (developed and managed by PeaceSoft and invested by IDG). "Through this agreement, the combination of our knowledge of domestic market and the in international trade expertise of eBay will create the best e-commerce experience for the Internet users community in Vietnam" – Mr. Nguyen Hoa Binh, general manager (CEO) of PeaceSoft company said.

Source *: http://www.laodong.com.vn/Home/cntt/2008/6/93509.laodong*

The cooperation between eBay and a Vietnamese website is a good signal for e-commerce in Vietnam. E-commerce is, more vigorously than any industry, influenced by international competitive pressure in its home soil. Therefore, the fact that foreign services providers chose to cooperate with domestic companies to access Vietnam market has developed the position of Vietnam enterprises in the global market. Furthermore, the presence of eBay also helps to promote the benefits of e-commerce application in the society, gain consumers' trust and confidence and create good conditions for Vietnam enterprises to move towards advanced e-commerce models in the world.

In conclusion, the picture of B2C and C2C development in 2008 recorded many positive changes. Together with the growth of access rates and number of transactions, e-marketplaces are being improved in quality, reflected on the development and professionalization of business models and e-commerce services. In addition to that, the appearance of several famous international e-commerce brands has created motivation for Vietnam e-commerce to improve its competiveness and to catch with regional and global e-commerce development level.

V. OUTSTANDING E-COMMERCE APPLICATIONS

Due to the impact of the global and domestic economic downturn, there were differences in the e-commerce application developments among industries. It also happened because of the characteristics and development process of each business sector. Business sectors applying information technology and e-commerce in operation such as online shopping, airline tickets and advertising still had high level of e-commerce application. At the same time, other sectors seemed to have no changes in e-commerce development compared to that in 2007. However, there were sectors, for instance stock markets, which grew fast in 2007 but slowed down their e-commerce application in 2008 due to difficulties in doing business. According to the survey, among all business sectors that applied e-commerce in 2008, two sectors that stood out with their outstanding performances are passenger transportation and online retails.

1. E-commerce application in passenger transportation

In the sector of passenger transportation, e-commerce has been applied gradually in many different forms, particularly in rail and air transportations.

In November 2008, Saigon Railway Company built up plans for booking and selling tickets for Vietnamese Lunar New Year 2009 via its website *www.vetau.com.vn*. Even though the program was delayed due to technological reasons, this signal showed that Vietnam railway industry had made the effort to apply e-commerce in its business.

While e-commerce application in rail transportation was still in its early stage, this has been implemented for many years in air transportation at different levels.

According to the international common development laws, the first e-commerce service applied in air transportation in Vietnam was flight searching and online booking. Customers are able to search for information of flight schedules, seat classes, ticket prices and other details on the airlines' websites as well as booking their seats online. Benefits of this service include the initiative in searching for information, time and cost saving and no complicated contact problems when booking busy flights.

Table IV.14
List of airlines in Vietnam providing information searching and online booking services

No.	Airlines	No.	Airlines
1	Vietnam Airlines	8	Malaysia Airlines
2	Aeroflot	9	Jetstar Pacific
3	Cathay Pacific	10	Thai Airways
4	China Airlines	11	United Airlines
5	China Southern Airlines	12	Japan Airlines
6	Eva Airways	13	Qantas Airways
7	Korean Air	14	Singapore Airlines

In 2008, another e-commerce service that was largely implemented by airlines in Vietnam was e-tickets. In accordance with the regulations of International Air Transport Association (IATA), airlines had to applied e-tickets service to all of their flights by the end of 2008. As a result, all airlines in Vietnam replaced paper tickets by e-tickets during 2008.

Table IV.15
E-tickets programs of airlines in Vietnam

Program (Contents)	Vietnam Airlines (VNA)	Jetstar Pacific (JPA)
Schedules	7/2008, VNA completed its e-tickets implementation	3/2006, JPA started selling e-tickets
Number of routes	36 international routes and 27 domestic routes (include routes exploited by VASCO)	7 domestic routes and 2 international routes from Ho Chi Minh City to Bangkok and Singapore
Other details	10/2008, VNA had Interline e-tickets with 59 partner airlines (24 in Asia, 25 in Europe, 5 in America, 4 in Australia and 1 in Africa)	JPA also implemented e-tickets selling in domestic flights in Australia and other international flights that were of other Jestar airlines from Australia to over 40 destinations in the world.

Source: *Vietnam Airlines and Jetstar Pacific Airlines*

Jetstar Pacific Airlines (previously Pacific Airlines) is a leading airline in e-ticket implementation in Vietnam. The company has issued e-tickets in several flights since February 13th 2006. Up to now, all booking, buying, ticket printing and payment activities of Jetstar are carried out via the Internet. The effectiveness of e-tickets is strongly affirmed after 2 years of application.

According to the statistics of Jetstar Pacific Airlines, while the revenue from selling e-tickets on *www.pacificairlines.com.vn* was 800 billion VND in 2007, this figure for the first 6 months of 2008 was over 500 billion VND, in which the income from direct payments on the Internet was approximately 100 billion VND. It is forecasted that the revenue of Jetstar through *www.jetstar.com.vn* at the end of 2008 will exceed 1,200 billion VND, in which online payment will contribute 250 billion.

Source*: Jetstar Pacific Airlines*

After two years of the implementation of online ticket selling, Jetstar Pacific Airlines has gained remarkable achievements. In 2007, the first year of selling tickets on the website, the number or clients that used this service accounted for 70% of the total number of customers. In 2008, this figure went up to 77%. This reflected the fact that the amount of online tickets not only made up the majority of issued tickets but also boosted after two years. Along with the increase in the number of online tickets sold, the rate of online payments also raised quickly. In 2007, 14% of tickets sold on *www.pacificairlines.com.vn* were paid online, whereas this figure reached 19% in 2008 on *www.jetstar.com.vn.*

The implementation of e-ticket selling can be considered as a complete B2C e-commerce process, in which all stages from selecting goods, buying, payment and delivery are carried out on the Internet. This model not only brings economic benefits to enterprises but also creates modern shopping habits and builds consumers' trust. This has been proven by the fact that *www.jetstar.com.vn* of Jetstar Pacific Airlines was voted by the consumers most outstanding e-commerce website in 2008 through a program organized by Vietnam E-commerce Development Centre (EcomViet) – Ministry of Industry and Trade and Vietnam E-commerce Association in November 2008.

Table IV.16
List of the outstanding e-commerce websites in 2008 voted by consumers

No	Website
1	*www.jetstar.com*
2	*www.25h.vn*
3	*www.vinabook.com*
4	*www.megabuy.vn*
5	*www.travel.com.vn*
6	*www.thegioihoatuoi.com.vn*
7	*www.saigontourist.net*
8	*www.goodsmart.com.vn*
9	*www.linhperfume.com*
10	*www.golmart.vn*
Total ~ 10.000 votes	

In spite of having a step behind Jetstar Pacific Airlines, Vietnam Airlines conducted a significant plan for e-ticket selling in 2008 in order to meet the deadline required by IATA. By the end of 2008, Vietnam Airlines had replaced paper tickets by e-tickets in all of its flight routes. At present, Vietnam Airlines is prepared to operate its online ticket program in the first half of 2009.

The first stage

Vietnam Airlines basically completed the process of replacing paper tickets by e-tickets in all of its domestic and international flight routes, including ones exploited by Vietnam Aviation Service Company (VASCO). After finishing the ticket replacement process as well as the implementation of e-tickets in all ticket offices, Vietnam Airlines has started its training sessions at every agency and ticket office with the aim of providing essential skills and the process of replacing and publishing e-tickets. This will help to implement the program rapidly over all ticket distribution network. As the process require a certain adaptation time, on particular flights especially international ones with more than two routes, customers who buy tickets from Vietnam Airlines agents still receive paper tickets. However, all paper tickets will be changed into electronic ones in a short period.

The second stage

Vietnam Airlines began to sell online tickets on the website since December 2008. By June 2009, all other services for customers will be established on the website. Vietnam Airlines plans to apply the online payment method with five popular types of cards (VISA, MasterCard, American Express, JCB and Dinners Club). By means of this method, customers will be able to use their cards to make payments on the website of Vietnam Airlines after filling all required information about their personal accounts. Vietnam Airlines commits that every step of this payment method is secured, which guarantee the convenience and maximum benefits of clients. All personal information will be kept safe and confidential; therefore, customers can rely on this method absolutely.

Source*: Vietnam Airlines*

On December 15th 2008, Vietnam Airlines officially opened the tested version of its e-commerce website with online ticket function. Since the implementation of online ticket selling is still in the testing process, customers have not been able to buy and pay for tickets directly on the website. They can now select and book domestic flights operated by Vietnam Airlines online and then go to buy and make payments at ticket office.

Figure IV.23
Vietnam Airlines e-ticket sample

Two years of e-ticket selling implementation has shown the obvious benefits of this application for airlines. Nevertheless, there remain issues that need to be resolved with the purpose of accomplishing this model as well as spreading this service largely in Vietnam.

Table IV.17
Advantages and disadvantages of e-ticket implementation in Vietnam

Advantages	Disadvantages
Saving costs: The average amount of cost that is saved by an e-ticket is 10 USD Costs of equipment and materials for printing paper tickets are also saved Management process is simplified, requires less human resources	**Customers habits and behaviors:** Customers need to change their habits from using paper tickets to e-tickets Customers are concerned about not holding any physical object showing that they actually buy the tickets. They are also worried about problems that might happen during the procedures at airports and that their personal details are not properly secured.
The safety issue: There is no need to worry about losing, forgetting tickets or problems encountered due to damaged tickets (ripped, dirty tickets, unclear information)	**Payment problems:** Causing inconvenience for customers when payments have to be made in ticket offices or via authorized banks Causing difficulties for airlines to issue VAT invoice when required by customers.
After-sales services: Records of customer data on the system are clear and accurate, thereby it is easy to re-book tickets, change class of seats, change flights or return tickets	**Technological infrastructure:** Inadequate infrastructures might lead to problems while making transactions

Source: *Vietnam Airlines and Jetstar Pacific Airlines*

Despite the mentioned obstacles, the advantages brought to enterprises from selling e-tickets cannot be denied. In the future, airlines based in Vietnam, both domestic and international ones, all have plans to strengthen the implementation of e-tickets and online tickets.

2. E-commerce application in electronic products retailing

In the sector of online retail in Vietnam, there are two main types of websites. The first type is general retail websites, which are similar to an online super market including the selling of electronic products. The second is websites established by businesses that concentrate on selling only electronic products. Whereas the websites that are operated as online super markets

cannot meet the demand of buying electronic goods and related services, the specialized ones run by electronic companies are far more professionalized.

Websites of electronic companies are the combination of e-commerce and traditional commerce. In other words, enterprises that build up and manage these websites normally have their shops in the market. The websites are established in order to promote the image of enterprises together with products introduction.

Table IV.18
Some websites selling electronic products online

No	Website	No	Website
1	www.thegioididong.com	8	www.dienthoai.com.vn
2	www.nhatcuong.com	9	www.quangmobile.com.vn
3	www.nama.com.vn	10	www.hpstore.vn
4	www.maytinhxachtay.com	11	www.thegioinotebook.com.vn
5	www.sieuthilaptop.vn	12	www.vctel.com
6	www.trananh.vn	13	www.dangkhoa.vn
7	www.tuankiet.vn	14	www.vinhtrinh.vn

The websites selling electronic products online are mainly focused on mobile phones and electronic devices for offices. Now, the majority of these websites do not have sufficient functions of a standard e-commerce website as their online ordering and payment systems have not been invested properly. Nevertheless, the benefits of these websites from which enterprises have gained are undeniable.

Box IV.8
Business figures of Dang Khoa IT Plaza

In the first 9 months of 2008, the revenue of Dang Khoa IT Plaza went up by 160% compared to that in 2007. It is predicted that the total revenue in 2008 will double the figure in 2007 (150 billion VND). Among the customers, 35% purchase the products directly at Dang Khoa IT Plaza after looking for information on the website *www.dangkhoa.vn*, or order via telephone and have the goods paid and delivered to them at home.

The revenue from transactions via e-commerce websites has constantly increased even though they still accounted for a minority of the total sales of enterprises. In 2008, the access rate to these websites went up considerably, led to the rise in the number of online orders and revenue.

Since electronic devices are usually considered as high-tech and pricy goods, customers tend to choose the products directly at the shops rather than buying them via websites. The figures above show that customers' worries and doubts have been replaced gradually by their interest and readiness for online purchasing.

Box IV.9
Business performance and e-commerce strategies of www.thegioididong.com

Average monthly statistics of *www.thegioididong.com* of up to October 2008.

Access rate: 18,000 times

Online orders: 2,500 – 3,000, in which the number of successful orders made up 10 – 20%.

Revenue: 1.2 – 1.5 billion VND.

Thegioididong.com is developing its online payment system to reassure the connections with all online payment services. It is estimated that *thegioididong.com* will complete connecting with pay gate of banks in Vietnam that provide these services.

The development of online selling reflected not only on the revenue gained from e-commerce websites but also on the professionalism in organizing these websites. Enterprises have paid much attention to the development and upgrading their websites to bring more convenience for customers and improve interaction function between the websites and their users.

Box IV.10
Improvements of dangkhoa.vn in 2008

Realizing the importance of a website, Dang Khoa changed the interface and structure of its website entirely to be:

- More user-friendly and simple

- Frequently updated with prices

- Frequently updated with products

- Allow customers to search for online warranty

- Support customers (guidance on solving problems)

Dang Khoa also guarantees the accuracy of information published on the website *dangkhoa.vn.* There is no difference between the details displayed on the website and the authentic information of all products.

In conclusion, the operation of online shops selling electronic devices developed very firmly in 2008. Two main reasons that lead to the positive result are the rising reliability of online shopping in the eyes of customers and the improvement of enterprises' policies in attracting more consumers to buy online.

RECOMMENDATION

RECOMMENDATION

The result of the 2008 survey on e-commerce application shows that Vietnam e-commerce has now entered the stage of new development and will create profound changes on social - economic activities in Vietnam in the near future.

However, the reality of e-commerce development in 2008 also shows many drawbacks that involved parties from state administrative agencies, enterprises to consumers need to overcome. To successfully realize the goals of the Master Plan for E-commerce Development for the 2006 – 2010 period, in addition to continue implementing the recommendations propounded in e-commerce report 2007, in 2009 we need to focus on the implementation of the following measures:

I. RECOMMENDATIONS FOR STATE AGENCIES

1. Deploying the ecommerce legal texts

By the end of 2008, all the decrees guiding the E-transaction Law and most of the decrees guiding the Law of Information Technology have been promulgated. State administrative agencies also issued circulars, guidelines on those decrees including Circular 09/2008/TT-BCT dated 21/07/2008 of the Ministry of Trade and Industry guiding the e-commerce decree on providing information and electronic contracting via e-commerce websites, Circular 12/2008/YY-BTTTT dated 30/12/2008 of the Ministry of Information and Communication guiding the implementation of some contents of Decree 90/2008/ND-CP dated 13/08/2008 of the Government on anti-spam mails.

However, e-commerce is still a new sector in Vietnam and based on advanced technology. In order to bring these legal texts into social life and create favorable management environment and effective support for enterprises, the state agencies need to exert more efforts to implement the promulgated laws. During the process of implementation, it is necessary to further promote awareness of the legal texts among enterprises in order that they can understand and effectuate the promulgated laws properly, considering it as the key stage to deploy and complete e-commerce legal framework.

2. Supporting enterprises on applying E-commerce

The result of survey of Ministry of Trade and Industry in recent years showed that up to the end of 2008, most enterprises at all levels have deployed e-commerce applications. The investment in e-commerce has changed from the investment for hardware such as computer, network infrastructure, etc… to the investment for software applications. The benefit of applying e-commerce applications has been more specific and tends to increase.

In Decree 189/2007/ND-CP dated 27/12/2007, the Government assigned the Ministry of Trade and Industry the to perform the function of state management on e-commerce and establish the E-commerce and Information Technology Agency to assist the Minister of Industry and Trade to implement that function. One of the important tasks of the Agency is to support e-commerce application.

Since every business sector has its own characteristics, to improve the quality of supporting enterprises in the near future the E-commerce and Information Technology Agency needs to cooperate closely with business associations and local state administrative agencies responsible for e- commerce (Provincial Department of Industry and Trade) in order to build up and deploy activities to support enterprises in every specific business sector.

3. Promoting awareness raising activities and training on e-commerce

From 2006 until now, the awareness raising activities have been promoted strongly by the state agencies, press and many enterprises. Up to now, the awareness of enterprises and consumers of e-commerce benefits have evolved remarkably. In the period of 2009-2010, the awareness rising activities need to focus on major obstacles to e-commerce participation by both enterprises and consumers such as the issue of data privacy, online shopping habits, using cards…Vietnam needs to further promote awareness of data privacy issues among organizations, enterprises and citizens. Especially, Vietnam needs to put TrustVn into operation as soon as possible.

According to the survey of the Ministry of Trade and Industry, in recent years, the education organizations were active in official education on e-commerce. However, the developments of education on e-commerce now are in the spontaneous stage without due attention of related state agencies. Therefore, in the coming time, the Ministry of Trade and Industry and the Ministry of Education and Training needs to cooperate closely in estimating human resource demand and reassessing e-commerce education quality to promote e-commerce education activities, meeting the increasing demand for professional human resources. Universities, colleges and business community need to build up organically relationship between supply of and demand for e-commerce human resources.

4. Enhancing international cooperation on e-commerce

From 2006 until now, Vietnam has actively and gradually participated in e-commerce multilateral forum, including APEC, UN/CEFACT, UNCITRAL, UNCTAD, etc… and also in bilateral cooperation with countries, territories such as United States of America, China, Taiwan, South Korea…

During 2009-2010 period, Vietnam needs to further strengthen its participation in multilateral international organizations, especially in APEC, UNCITRAL, and WTO in order to support and complete the national e-commerce legal framework, implement effectively international commitments on e-commerce. In 2009, Vietnam needs to actively join in APEC Privacy Framework to help Vietnam enterprises gradually approach the international e-commerce. Establishment and popularization of national electronic data interchange standards in harmony with international standards plays an important role in developing e-commerce of our country in the coming time. Therefore, Vietnam needs to take part in the activities of The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT).

Bilateral cooperation with nations which are advanced on e-commerce and have large trade and investment relationships with Vietnam (such as United State of America, Japan, Korea, etc…) need to further enhance to look for solutions to help business cut of transaction and administrative cost, improve competitiveness in the context of global economic downturn. Besides, Vietnam needs to promote the implementation of e-commerce commitments in the free trade area agreement, firstly to deploy mutual recognition of certificates of origin with

South Korea in AKFTA framework.

In addition, Vietnam also needs to support enterprises, associations to take part in the international e-commerce organizations such as Asia Trustmark Alliance (ATA), Pacific Asia E-commerce Alliance (PAA), etc… gradually enhances the prestige of Vietnam e-commerce enterprises.

II. RECOMMENDATIONS FOR ENTERPRISES

1. Improving sense of e-commerce laws and regulations compliance

Vietnam E-commerce has now entered the stage of vigorous development. The legal framework related to the e-commerce was basically formed and continuously updated. E-commerce application in the business and production of enterprises tends to increase. In order to grasp timely and comply with the law, enterprises needs to stay abreast with new regulations related to online business activities, including those on electronic documents, online conclusion and performance of contracts, brand name and domain name, administrative sanctions, data privacy protection, dispute settlement, etc…

In addition, enterprises need to actively engage in the policy making process by discovering and reporting to state authorities on new problems arising in business and production activities. Today, according to the Law of issuing legal texts, before promulgating the drafting agency must make public draft legal text for comments. Enterprises, therefore, need to actively protect their interest by providing inputs for the draft legislation related to e-commerce.

2. Reinforcing the manpower sources for e-commerce

Results of the 2008 survey of the Ministry of Trade and Industry showed that most enterprises have been deploying and applying e-commerce at different levels and many of them have employees responsible for e-commerce.

E-commerce is the business model based on modern technology so it requires the employees have both IT and commerce knowledge. Therefore, in order to promote investment effects, e-commerce applications, Vietnam enterprises need to quickly reinforce human resources in this sector. Besides temporary solutions such as sending employees to participate in e-commerce short-time program or inviting lecturers to train on the premises, etc…one of the suitable ways to reinforce professional human resources is to associate with education organizations to specify the manpower sources needed for e-commerce and train employees of enterprises accordingly.

3. Participating in e-marketplaces

According to the results of the surveys on e-commerce application in 2008 and in recent years, participating in e-marketplace yields great benefits with low investment in both labor and infrastructure. However, in 2008, there are only 12% enterprises taking part in e-marketplaces, not increased significantly compared with 10% by 2007. In the current stage, most Vietnam enterprises are small and medium, and not affordable to invest in e-commerce applications. Therefore, it is highly recommended that SMEs actively participate in B2B and B2c e-marketplaces of Vietnam as well as of other countries to take full advantage of e-commerce in marketing, transaction, and seeking customers, etc…