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EXPLORING BEST PRACTICES OF E-COMMERCE APPLICATION IN SMTEs IN THE APEC REGION

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APEC Tourism Working Group
&
Ministry of Culture and Tourism of Korea

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APEC Tourism Working Group (TWG02 / 2004T)

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Executive Summary

The creation of the network and the virtual space that stem from the Internet has rapidly shifted the paradigm of our society from industrial to information. Internet-based e-business is moving the commercial system to the digital system. This means that e-business is becoming the core of the global economy, affecting not only a handful of IT industries, but all economic activities, i.e. the engine of economic growth has changed from atom to bit –the effect called the "digital revolution."

Under the digital economy, the tourism industry must adapt to the new business paradigm. At the center of the tourism industry lies small and medium enterprises. According to APEC SME Working Group (2002), small and medium enterprises constitute 98% of total enterprises and 60% of civil sector employment in the APEC economy. Moreover, they occupy 30% of direct export and about 50% of sales and added value. But most small and medium enterprises are less competitive because they do not have a solid understanding of how they can use IT and lack confidence in the benefits that will be gained through using IT. Therefore, it is imperative to understand the current status and potential of e-commerce for SMTEs to present successful samples in order to promote investment into informationalization and to maximize e-commerce usage for SMTEs. This is the purpose of the study.

E-commerce may be defined as a business process of dealing with commercial activities through the Internet or other ICT. E-commerce may be classified as B2B (business to business), B2C (business to customer), C2B (customer to business), or C2C (customer to customer) depending on the transaction parties, recently expending to B2E

(business to employee) and B2G (business to government).

According to a 2002 survey by the International Telecommunication Union, the number of Internet users is about 600 million people, which account for 10% of the total population around the world. What is noteworthy here is that Latin America and Asia show a rapid growth of 35% each year during the 2000-2002 period. The number of Internet users per ten thousand people in Latin America and Asia are 558 and 669 respectively, which is one-tenth the level of North America; however, these two regions show a high rate of informationalization after 2000. Synthesizing the results leads to four groups, such as “Leader” (i.e. U.S., Singapore, Canada, Chinese Taipei, Korea, Australia, Hong Kong, Japan, and New Zealand), “Competitor” (i.e. Malaysia, Chile, Thailand, China, and Mexico), “Challenger” (i.e. Philippines, Indonesia, Peru, Russia), and “Preparer” (i.e. Vietnam, Brunei, Papua New Guinea).

Among the respondents, two companies successfully performing e-commerce and informationalization were selected for an in-depth research. It would be desirable is to be able to introduce any and all cases in all industries and in all APEC nations. For benchmarking purposes here, the selected case should be one that achieved successful innovation by means of IT as a strategic tool with lasting results. For many SMTEs that were introduced as successful IT examples or that received good marks from website evaluations, they lost their competitiveness within two or three years thereafter.

The factors contributing to Hanatour’s success may be summarized as follows:

1. The CEO recognized the need of informationalization and e-commerce. The CEO’s recognition of market change lead to the decision to introduce IT;

2. Decision-making for introducing IT was timely (around the time of IMF bailout). Most companies downsize during an economic crisis such as the IMF bailout, but drastic investments may bring about an opportunity for taking a dominant position in the market.

3. A business model was constructed to effectively utilize information and a relationship network. This provides an effective connection between the advantage of IT and distribution channel of tourism products, i.e. agency. Hanatour's system disseminates the influence of IT to its small- and medium-sized travel agencies.

What Tourexpress offers to SMTEs is:

1. a business model for online travel agencies with respect to investment and the method of partnership;

2. a possibility of success of online retail travel agencies without branches or agencies.

In an era of knowledge and information, companies have a new market called virtual space. This new market requires a company to change and to innovate. A customer becomes a new customer in an electronic commerce market, and a commodity can be purchased online, and therefore, a new profit model is necessary. However, it is a very difficult assignment for a company because IT and electronic commerce can result in many unintended repercussions. Therefore, this study was carried out by interviewing small and medium enterprises in order to provide helpful suggestions regarding IT and challenges with electronic commerce and execution. The followings are suggested from the results.

1. Aggressive public information about a success story

2. IT consulting

3. ASP supporting

4. Education and raising awareness

5. Tourism Information Expert

Chapter 1. Introduction

1. Background

Certainly when the Internet first appeared, and even when it was combined with World Wide Web technology in mid-1990s, one could not imagine the extent to which the information technology ("IT") would affect the daily economic activities of people. Alan Greenspan, U.S. Federal Reserve Board Chairman, said in 1998, "the innovation which we call IT has started to change how business is conducted and how values are created in ways not anticipated less than five years ago." He mentioned that the dramatic improvements in computing power and communication and information technology appear to have been a major force behind the positive trend in macro-economic environments like the black-ink budget, high-growth, and low-interest rate, enabling the economic recovery to take place after the crisis 1980s (The Emerging Digital Economy, 1998).

The creation of the network and the virtual space that stem from the Internet has rapidly shifted the paradigm of our society from industrial to information. Internet-based e-business is moving the commercial system to the digital system. This means that e-business is becoming the core of the global economy, affecting not only a handful of IT industries, but all economic activities, i.e. the engine of economic growth has changed from atom to bit –the effect called the "digital revolution." Under the digital economy, the tourism industry must adapt to the new business paradigm. With the development of rapidly changing management environment and IT, IT in business

management has become indispensable, not optional (Clemens & Kimbrough, 1986). IT changes the way the tourism industry is managed, from distribution channels to service delivery methods and contacts with customers (Bush, 1998), providing an opportunity as well as a threat to tourism service providers. Any prior suggestion that IT would not be needed in the tourism industry because of the industry's focus on people has been eradicated, as the tourism industry and IT are now even seen as ideal partners (WTO, 2001). According to the U.S. Travel Industry Association (2003), around 64 million tourists in the U.S. obtained necessary information on their destination and checked the costs and schedules of their trip via the Internet in 2002, which was a 400% growth over the previous three years. This trend of growth is occurring simultaneously in different parts of the world.

Not only in the APEC region, but also throughtout the world, the tourism industry is viewed as one of the three industries that will play a key factor in the 21st century economy. According to World Trade Organization (WTO)'s projections (2000), the number of tourists in the world will reach 1.6 billion in 2010, and the profits of tourism will reach $1.5 trillion. Currently, the tourism industry creates 100 million jobs in the APEC region, and will create 20 million more jobs (WTTC, 2002). Tourism industry is a national strategic target industry, surpassing the new industries like information communication or traditional manufacturing such as the automobile industry.

At the center of the tourism industry lies small and medium enterprises. According to APEC SME Working Group (2002), small and medium enterprises constitute 98% of total enterprises and 60% of civil sector employment in the APEC economy. Moreover,

they occupy 30% of direct export and about 50% of sales and added value. Small and medium enterprise refers to all enterprises with less than 500 employees. Despite the importance of the small and medium enterprises in a national economy in respect to the number of businesses and employees, they usually encounter many difficulties in conducting business, such as skyrocketing exchange rates, decrease of overseas demand, over-competition, low sales, depression, and consecutive bankruptcy of large enterprises, thus suffering difficulties in informationalization. Unlike large enterprises, most small and medium enterprises are less competitive because they do not have a solid understanding of how they can use IT and lack confidence in the benefits that will be gained through using IT (OECD, 1998).

Thus, although APEC member nations promote to support Small and Medium Tourism Enterprises (SMTE) for “improving the competitiveness of SMTEs through informationalization”, no methodology is presented as to how to promote them and its possibility. For example, e-commerce, a transaction method in the information society, is an efficient and strategic tool for transacting such products as tourism, but it is only used to make a simple promotional website or reservation list for SMTEs and not fully utilized to its capacity. Therefore, it is imperative to understand the current status and potential of e-commerce for SMTEs to present successful samples in order to promote investment into informationalization and to maximize e-commerce usage for SMTEs.

2. Goal of Research

To support SMTEs in the APEC region concretely and realistically, this study,

through literature review and survey, tries to present the concept and classification of e-commerce and to research the actual condition of e-commerce in the world and in the tourism industry.

This study also tries to find Best Practices by focusing on SMTEs that utilize e-commerce successfully in the APEC region, which Best Practices may be benchmarked to inspire SMTEs in the APEC region to informationalize and to facilitate them to find adequate method to do so. This study tries to analyze cases in which e-commerce is successfully implemented to improve sales and competitiveness, and to help SMTEs to have a new recognition of the different appraoches to e-commerce.

The findings of this study will be as follows:

1. The current status of e-commerce among SMTEs: This study provides, to the SMTEs, systematic data of the e-commerce environment surrounding the SMTEs by collecting statistics already published;

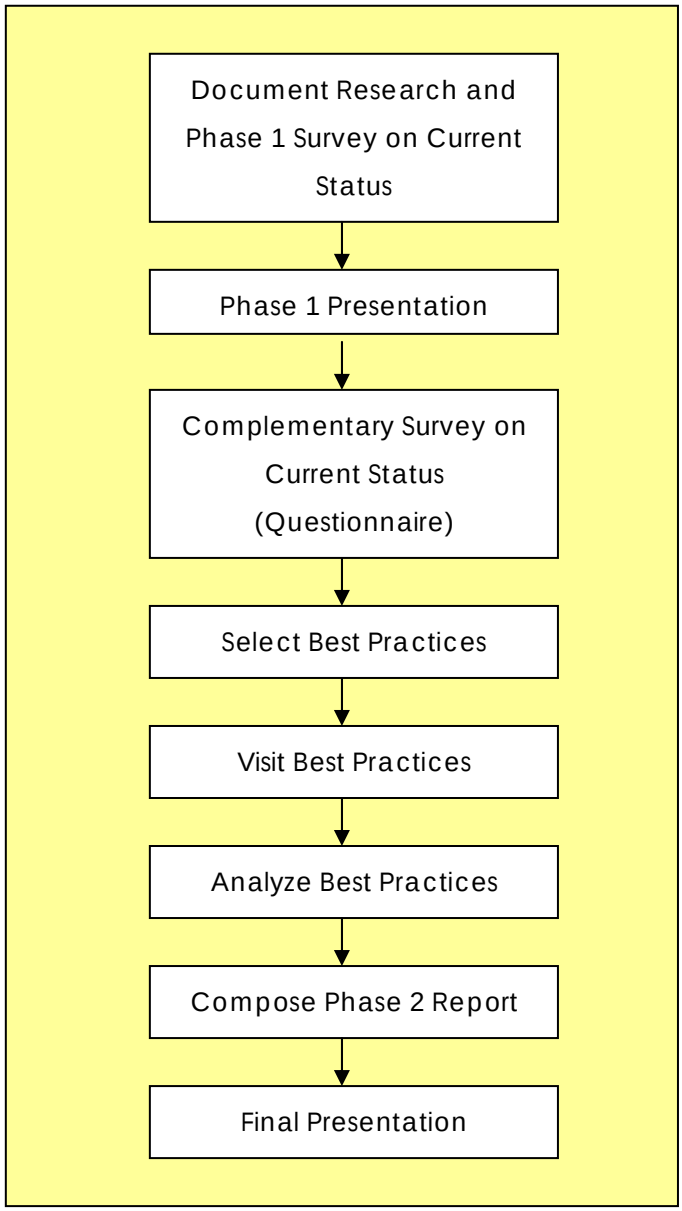
2. The basis of government support to SMTEs: This study allows government to understand SMTEs' needs for e-commerce and to analyze various problems in e-commerce industry to alleviate such problems;

3. Benchmarking through analysis of best practices and cooperation of APEC member nations: This study provides actual cases for benchmarking through in-depth research of good SMTEs, which may be used as an investment comparison index for SMTEs introduced with e-commerce, and may be used as base material for development of the tourism industry in the APEC region through sharing such findings with APEC member nations.

3. Methodology

The methodology used herein extends to literature research, a survey, and in-depth interviews. First, literature research provides a theoretical basis for surveys and in-depth interviews, including the concept and the classification of e-commerce, preparation of the questionnaire, and decision on the criteria to analyze best practices. The ideal samples for the survey should be all SMTEs in APEC member nations, but time and distance limits the samples to 50 SMTEs among tourism companies in APEC member nations, to which detailed questionnaires were sent out. On the basis of the material obtained by the survey, SMTEs for in-depth interviews were selected, and in-depth interviews with such companies that agreed to participate were carried out. In-depth interviews were generally conducted by a face-to-face interview, except where such was impossible, in which case a written interview was conducted instead. Through qualitative research like face-to-face and written interviews, Best Practices were constructed. On the basis of the results of the survey and in-death interviews, policy recommendations for SMTEs in APEC member nations were made.

<Figure 1> Flow of Research



Chapter 2. Literature Review of E-commerce and Tourism Industries

1. The concept and the classification of e-commerce

E-commerce consists of two terms: electronic and commerce. The most popular definition of e-commerce is “to purchase or sell products and service via the Internet.” (Shim et al. 2000). However, e-commerce is much more than purchasing and selling products. It comprises of any and all activities concerning purchasing and selling, including financial transactions, business data exchange and communication between consumers and suppliers. Thus, e-commerce may be defined as a business process of dealing with commercial activities through the Internet or other ICT (U.S. Department of Commerce, 1999).

The idea and practice of e-commerce has been developing for decades. In the 1950s, IT was used to operate companies’ internal business processes by means of a mainframe installed in the computer department. Thereafter, with the introduction of technologies for PCs or workstations, or a client/server structure, IT was adapted to the companies’ overall business structure, which brings about an era of connecting different companies through a network. An inter-organizational information system, now called B2B, accelerates the information flow through the network to create various strategic values. EDI (electronic data interchange) in the 1970s and CALS (commerce at light speed) in the mid-1980s forecasted the e-commerce era in the near future. CALS implication of commerce at light speed means that the information flow in business became the core of the competitiveness. Then, the “speed” of business transactions and

decision-making became recognized as one of the main factors of competitiveness, and thus emphasized. However, despite such recognition, IT was accessible only by large companies due to the huge costs, expenses and the difficulty of utilizing IT for lay users.

The web technology in the mid-1990s dramatically changed the Internet so that lay people could use it without difficulty. With the advent of the Internet, companies secured, at no charge, a bilateral communication channel for the first time since society became industrialized. Such change meant that internal management or back-office-centric IT has been developed to connect the entire value-chain of companies, including a digitalized front-office.

E-commerce may be classified as B2B (business to business), B2C (business to customer), C2B (customer to business), or C2C (customer to customer) depending on the transaction parties, recently expending to B2E (business to employee) and B2G (business to government).

2. E-commerce Environment in the APEC Region

2.1 Number of Internet Users in the APEC Region

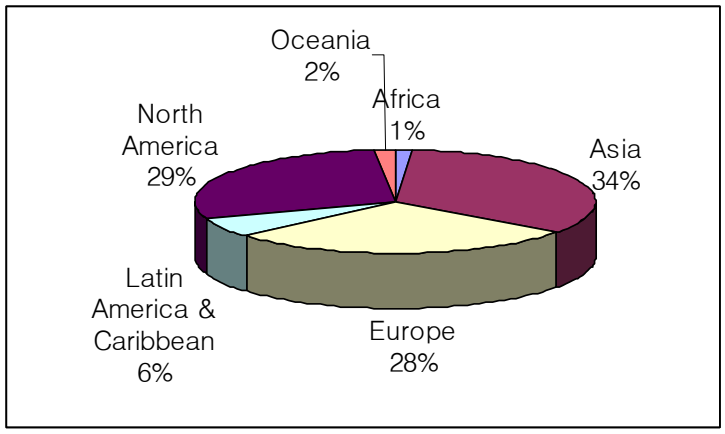
According to a 2002 survey by the International Telecommunication Union, the number of Internet users is about 600 million people, which account for 10% of the total population around the world. It is expected that the number will reach 950 million people by the end of 2004 (Global Reach, 2003). Asia shows the biggest Internet population, followed by North America and Europe.

< Table 1 > Number of Internet Users per Region (Unit: 1,000)

	2002	2001	2000	% change 2001-2002	% change 2000-2001	per 10,000 people 2002
Africa	7,940	6,510	4,559	22.0	42.8	100
Asia	201,079	150,472	109,257	33.6	37.7	558
Europe	166,367	143,915	110,824	15.6	29.9	2,079
Latin America, Caribbean	35,459	26,163	17,673	35.5	48.0	669
North America	170,200	156,823	136,971	8.5	14.5	5,322
Oceania	10,500	9,141	8,248	14.9	10.8	3,330
Total	591,567	493,024	387,531	20.0	27.2	972

Source: ITU (2003) & UNCTAD (2003)

<Figure 2> Number of Internet Users per Region



However, North America shows the largest number of Internet users per ten thousand people, 5,322, followed in order by Oceania, Europe, Latin America, Asia, and

Africa. What is noteworthy here is that Latin America and Asia show a rapid growth of 35% each year during the 2000-2002 period. The number of Internet users per ten thousand people in Latin America and Asia are 558 and 669 respectively, which is one-tenth the level of North America; however, these two regions show a high rate of informationalization after 2000. For two-thirds of APEC nations which belong to Latin America and Asia, tourism companies face an important change in their competitive environment.

Compared to the number of Internet users in APEC nations, China shows the greatest change. China invests several million dollars in developing the foundation of Internet facilities, and a considerable figure in the growth of the number of Internet users in 2006 is expected to be Chinese (Global Reach, 2003). Besides, Asian and Latin American nations such as Thailand, Singapore, Russia, and Mexico among other APEC nations that show great changes. The biggest number of Internet users per ten thousand people is shown in Korea. In a relatively short amount of time, Korea disseminated an information network throughout the nation, exceeding the U.S. in this respect. These results mean that commercial activities in the APEC region have rapidly extended to the realm cyberspace after 2000, and that tourism companies should have to prepare for commerce in cyberspace, e.g. establishing a profit model, developing products, and setting up marketing strategy.

<Table 2> Number of Internet Users of APEC Nations (Unit: 1,000)

	2002	2001	2000	% change 2001-2002	% change 2000-2001	per 10,000 people 2002
Australia	8,400	7,200	6,600	16.67	9.09	4,272
Canada	15,200	14,000	12,971	8.57	7.93	4,839
Chile	3,102	3,102	2,537	-	22.26	2,014
China	59,100	33,700	22,500	75.37	49.78	460
Hong Kong	2,919	2,601	1,855	12.21	40.22	4,309
Indonesia	4,000	4,000	2,000	-	100.00	191
Japan	57,200	48,900	38,000	16.97	28.68	4,493
Korea	26,270	24,380	19,040	7.75	28.05	5,519
Malaysia	6,500	6,500	4,000	-	62.50	2,731
Mexico	4,663	3,636	2,712	28.27	34.04	458
New Zealand	1,908	1,762	1,515	8.29	16.30	4,844
Peru	2,000	2,000	800	-	150.00	766
Philippines	2,000	2,000	1,540	-	29.87	256
Russia	6,000	4,300	2,900	39.53	48.28	409
Singapore	2,247	1,700	1,300	32.18	30.77	5,397
Chinese Taipei	8,590	7,820	6,260	9.85	24.92	3,825
Thailand	4,800	3,536	2,300	35.75	53.74	776
U.S.	155,000	142,823	124,000	8.53	15.18	5,375
Vietnam	-	-	1.85	-	-	-
Brunei	-	10.23	-	-	-	-
Papua New Guinea	0.9	-	-	-	-	-

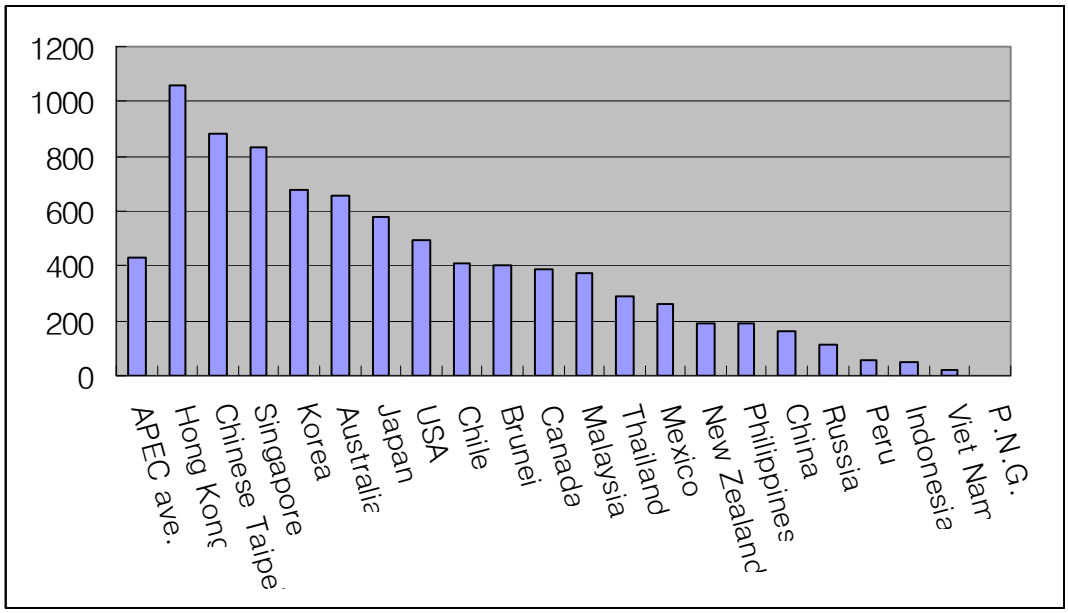
Source: UNCTAD (2003), APEC (2003)

Note: For Vietnam, Brunei, and Papua New Guinea, the percentage of Internet users among the total population.

2.2 Infrastructure of Information Communication

Gradually substituting the present e-commerce that provides commerce service via a wired network by means of PCs or fixed terminals, mobile phones wireless technology provide an infrastructure for future e-commerce, M-commerce. As in many markets, the dissemination rate of mobile phones is similar to or greater than that of PCs or TVs, and it is expected that wireless equipment will occupy a dominant position in Internet access in almost every nation. E-commerce via wireless networks such as wireless Internet deviated from the existing e-commerce. Thus, future e-commerce shall should consider M-commerce.

<Figure 3> Number of Mobile Subscribers Per 1,000 People



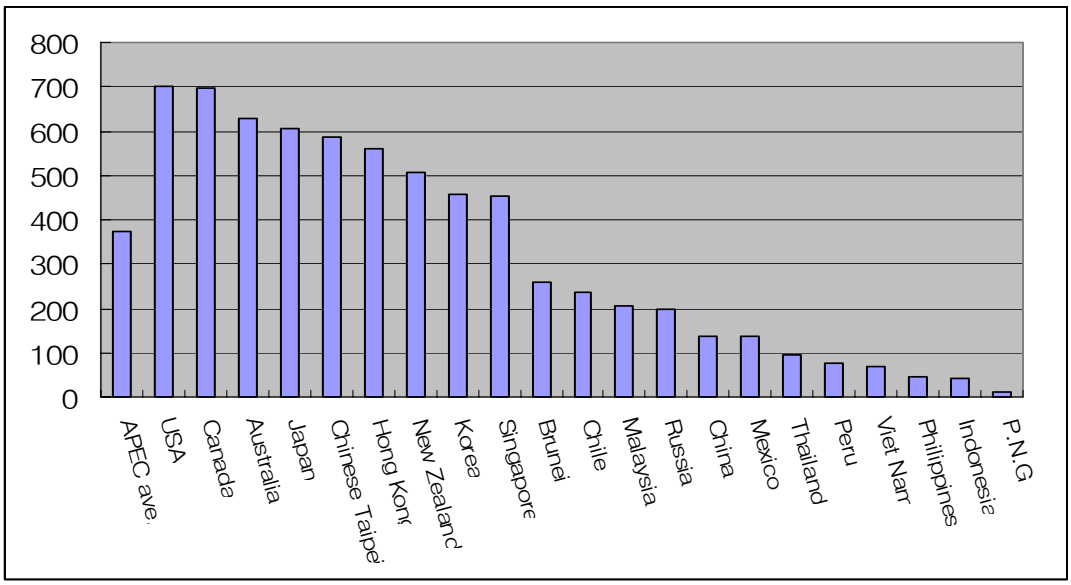
Source: APEC (2003) KBE Indicator

The number of mobile subscribers per 1,000 people is largest in Hong Kong, at

1056, followed in order by Chinese Taipei (881), Singapore (831), Korea (679), and Australia (657). Ten other nations including Thailand show fairly a low number comparing to the average of the APEC region (434).

The number of telephone mainlines per 1,000 people in the U.S. is 701, followed in order by Canada (696) and Australia (630). Twelve other nations including Brunei show a fairly low number compared to the average of the APEC region (373).

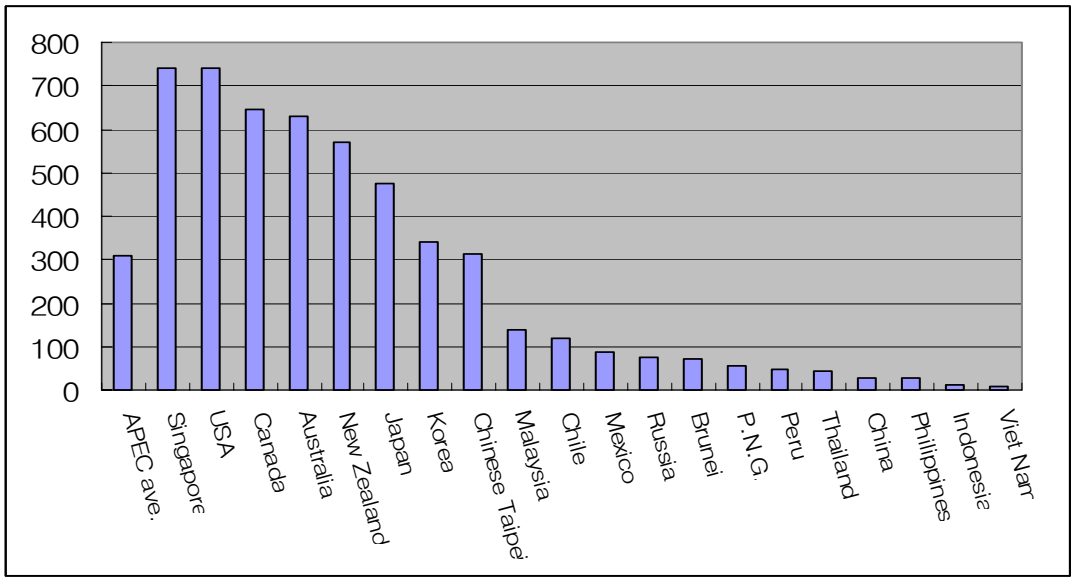
<Figure 4> Number of Telephone Mainlines Per 1,000 People



Source: APEC (2003) KBE Indicator

The number of computers per 1,000 people is largest in Singapore (740) and the U.S. (739), followed by Canada (647), Australia (630), and New Zealand (571). Thirteen other nations including Malaysia show a lower number than the average of the APEC region.

<Figure 5> Computers per 1,000 people



Source: APEC (2003) KBE Indicator

2.3 Ratio of E-commerce

According Emarketer's research, e-commerce around the world was a 23.3 billion dollar industry in 2000, exceeded 1.4 trillion dollars in 2003, and is expected to rise even more rapidly in the near future.

<Table 3> International E-commerce Scale (Unit: $billion)

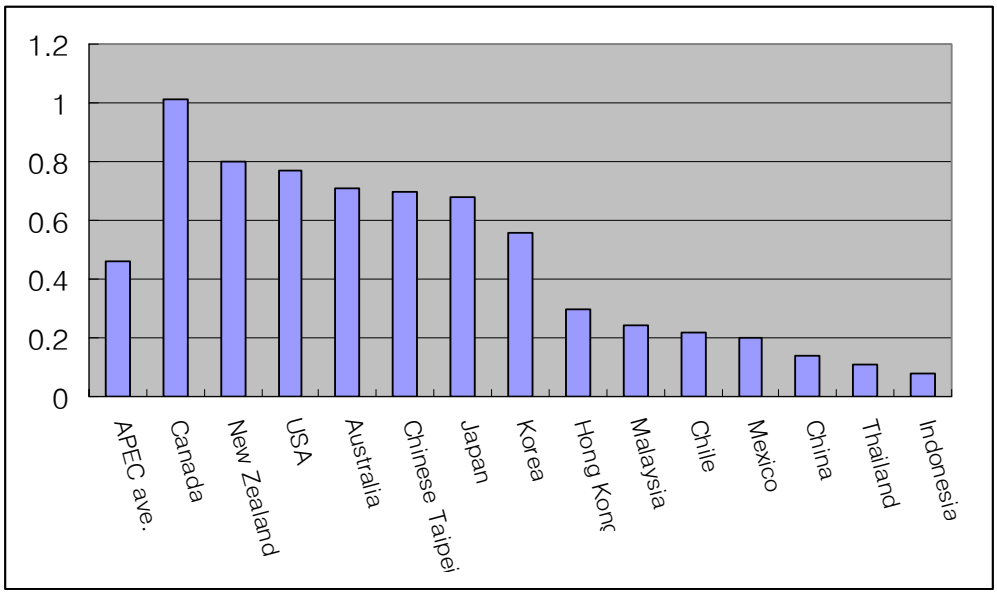
	1999	2000	2001	2002	2003
Amount	105.7	233.4	443.9	805.1	1442.8

Source: Emarketer

The ratio of e-commerce among total commerce in the APEC region was largest in

Canada (0.71%). The average in the APEC region was 0.46%, and countries such as New Zealand (0.8%), the U.S. (0.77%), Australia (0.71%), Chinese Taipei (0.7%), Japan (0.68%), and Korea (0.56%) show a relatively high ratio of e-commerce. However, for now, the ratio of e-commerce to total commerce is relatively small. No data could be collected for Brunei, Papua New Guinea, Peru, Philippines, Russia, and Vietnam.

<Figure 6> The Ratio of E-Commerce Among Total Commerce



Source: APEC (2003) KBE Indicator

2.4 Overall Evaluation of the E-commerce Environment

The number of Internet users and the current status of network or computer dispersion are a quantitative evaluation of e-commerce environment. Lately, *World Economic Forum and Economist*, the British economic weekly, has conducted a synthetic evaluation of the e-commerce environment around the world by means of NRI

(Network Readiness Index) and ERI (E-readiness Index).

<Table 4> Network Readiness, E-Readiness of APEC Nations

Country	NRI score	NRI rank	ERI score	ERI rank
U.S.	5.79	1	8.43	1
Singapore	5.74	2	8.18	5
Canada	5.44	3	8.20	3
Chinese Taipei	5.31	4	7.43	8
Korea	5.10	5	7.8	6
Australia	5.04	6	8.2	2
Hong Kong	4.99	7	8.2	4
Japan	4.95	8	7.07	9
New Zealand	4.70	9	7.78	7
Malaysia	4.28	10	5.55	12
Chile	4.14	11	6.33	10
Thailand	3.80	12	4.22	14
China	3.70	13	3.75	17
Mexico	3.63	14	5.56	11
Philippines	3.25	15	3.93	15
Indonesia	3.16	16	3.31	18
Peru	3.10	17	4.47	13
Russia	2.99	18	3.88	16
Viet Nam	2.96	19	2.91	19

Source: UNCTAD (2003)

NRI is “the level of preparation by the state or the community involved in or benefited by the development of ICT” (Dutta, Lanvin & Paua, 2003), which measures the environment, the preparation, and the utilization of ICT. The environment means the

level of support for development and use of ICT by policy, legal system, and infrastructure. The preparation means the capacity of investment of individual, company, or government in ICT, and the utilization means measuring the frequency of utilization of such.

ERI, although similar to NRI, is the measurement of the degree that Internet-based opportunity contributes to the market, stressing the economic adaptability of ICT (Economist Intelligence Unit, 2003). ERI is a consolidation of six items including connectivity, business environment, legal and systemic regulation, e-commerce acceptability of consumers and companies, support for E-service, and socio-cultural infrastructure.

Synthesizing the results leads to four groups, such as “Leader” (i.e. U.S., Singapore, Canada, Chinese Taipei, Korea, Australia, Hong Kong, Japan, and New Zealand), “Competitor” (i.e. Malaysia, Chile, Thailand, China, and Mexico), “Challenger” (i.e. Philippines, Indonesia, Peru, Russia), and “Preparer” (i.e. Vietnam, Brunei, Papua New Guinea). This result looks much like the number of Internet users and mobile subscribers, and computer dispersion.

<Table 5> Classification of APEC Nations Per E-commerce Environment

Leader	Competitor
U.S., Singapore, Canada, Chinese Taipei, Korea, Australia, Hong Kong, Japan, New Zealand	Malaysia, Chile, Thailand, China
Challenger	Preparer
Philippines, Indonesia, Peru, Russia	Vietnam, Brunai, Papua New Guinea

3. Literature Review of Tourism Industry and E-commerce

3.1 Informationalization of Top 500 U.S. Companies

Advanced nations, including the U.S., publish research reports that show the level of informationalization each year. These report the result of responses of IT personnel of companies to questionnaires to measure the level of informationalization.

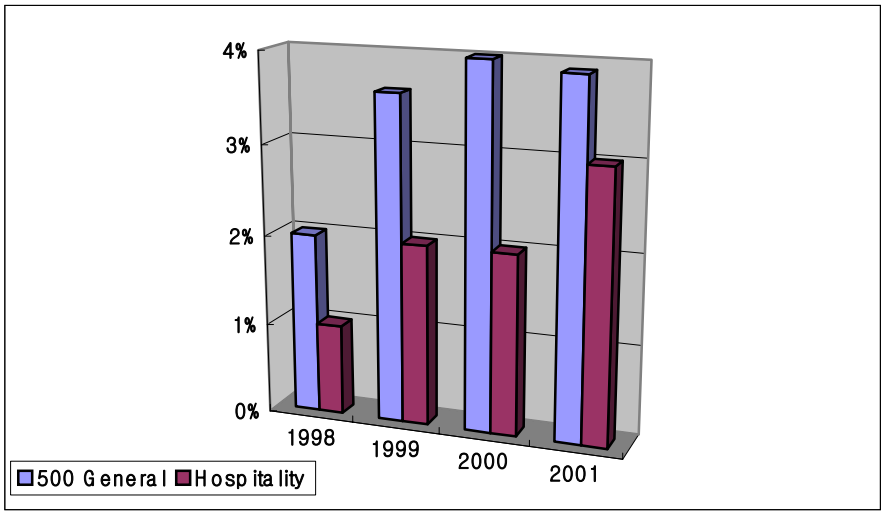
InformationWeek, a leading U.S. magazine in IT, publishes a report entitled *Information Week 500*. Selecting the top 500 companies with more than 100 million dollars in annual sales volume in 25 industries which are known to renovate continuously in respect to technology or management, this report, through a questionnaire that asks the size of the IT budget, the area of IT investment (equipment, personnel, R & D, etc.), the operation method of e-business, client service via IT, relationship with suppliers via IT, and the level of the IT department or IT-related outsourcing, discloses the rank of informationalization of each company per industry.

According to this report, the IT budget of the top 500 companies in the U.S. records 4% of sales volume from 2000 and on. This tells us that despite the economic recession, Top 500 companies are concerned with and continue to invest in IT. Moreover, actual investment in IT has increased 9.4% on average, with the top 100 companies investing 4.9% of sales volume.

Of the industries, IT investment in the tourism industry is a little lower than the average, as it is 3% of sales volume. However, compared to the level of investment in IT before 2000, the gap with the average is getting smaller. This may suggest that IT

investment in tourism industry has been actively made from 2000 on.

<Figure 7> IT Investment Against Sales Volume of U.S. Companies



This result is confirmed by Meta Group's report. While the IT investment in information communication, transportation, and construction is showing a decreasing trend, the IT investment in tourism shows a largely increasing trend. This concurs with the thought that IT investment in tourism became full-fledged after 2000, a later start comparing to other industries.

In a survey regarding E-Business, the ratio of tourism companies that responded that they benefited from e-business was higher than in other industry. About 71% of tourism companies responded that they can profit from e-business, which is fairly higher than the average response from all industries, 47%, which shows the recognition of tourism companies that e-business is an adequate profit-model for tourism.

<Table 6> Up and Downs of IT Investment Per Industry throughout the World

Industry	Average of IT Spending Change in $ 2000-2001(%)
Information Technology	-22.22
Financial Service	-10.94
Construction & Engineering	-7.49
Transportation	-7.28
Telecommunications	-4.38
Media	-2.44
Manufacturing	-1.20
Retail	-0.09
Professional Services	1.32
Food & Beverage	1.72
Healthcare	2.62
Insurance	3.39
Hospitality and Travel	10.04

Source: 2003 Worldwide IT Benchmark Report, Meta Group

Out of the IT budget of tourism companies, the expenses for purchasing hardware is about 18%, similar to the industries' average (19%). The expenses incurred for R&D in 2001 is about 4% of the total investment, a little lower than the industries' average (5%).

We may understand the level of informationalization of leading tourism companies from the report concerning e-business of multinational hotels conducted by Arthur Anderson in 2001. Consisting of U.S., European and Asian hotels at 66%, 24% and 7% respectively, this study reveals that 58% of the population responded that they

constructed infrastructure and strategy for e-commerce. Construction of infrastructure and strategy for e-commerce is initiated more in large enterprises.

The area where the hotels apply e-business is primarily sales and marketing, followed by distribution, employment, and purchasing, in that order. The most promising web-based e-businesses are expected to be sales and marketing, data warehousing, reservation, profit management system, purchasing and EIS (Executive Information System), and B2C or B2B. The B2C or B2B, although e-business is not applied as much, are expected to show about 44%-52% growth in the next several years.

The B2B market will be initiated at a very high rate in the future, and it is said that the size of it is incomparably bigger than B2C. So, as e-procurement is expected to rise rapidly, 18% of the hotels responded that they offer e-procurement on the Internet currently.

3.2 Best Practice of Sales Efficiency Improvement

The major purpose of introducing IT is to improve efficiency in operation, and one of the best practices of is found in HOTELEXPERT of Barbizon Hotel and Empire Hotel New York. These hotels have used logbooks in the past to record opinions, needs or complaints of guests, whether the customer's needs were satisfied, or if satisfied, how many were satisfied and how long did it take, though it was very difficult to understand the nature of the complaints due to illegible handwriting. So to standardize the record of customers' complaints and sales activities and to overcome the aforementioned difficulties, these hotels developed a centrally controlled database, i.e. HOTELEXPERT.

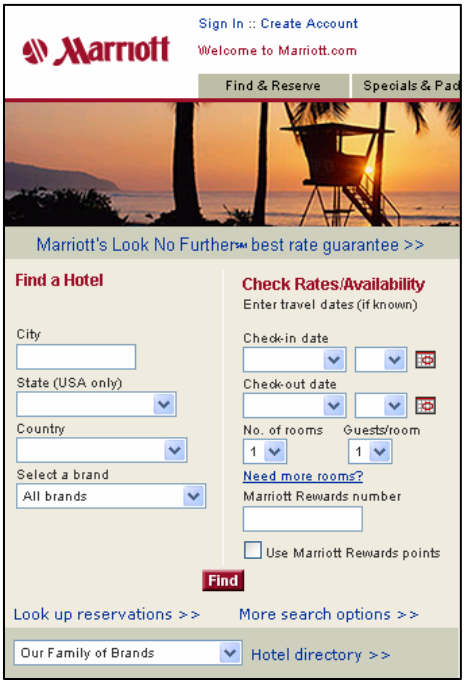
Connected via LAN, this system is accessible anytime by phone or PC anywhere in the hotel and is equipped with an alarm function to give notice to proper employees or managers to automatically inform them of the task they must accomplish. If any assigned work is not done promptly, the system reports thereof to the manager in charge. This system enables the hotel to provide efficient and quality service and to facilitate overall facility operation, which in turn brings about a 30% return visit by customers and a cost savings of about $750,000 over three years due to improved productivity.

Carlson Hospitality Worldwide is one of the latest additions to online reservation systems. Unlike other hotels that develop a reservation system by changing some aspects of an airline reservation system, Carlson Hospitality Worldwide developed a wholly new system for hotel reservation. This system was designed to furnish specific information adequate for each hotel and to function better than the revised airline reservation system. In addition, as it was linkable with GDS (Global Distribution System) earlier than the other systems, this system allows more benefits with lower costs than that of other hotels compared to the average system of the hotel industry. In particular, the cost of Carlson's reservation system is 2% of sales volume, which is a relatively low ratio compared to the average ratio of the 21 leading hotels' at 3.4%. In addition, research conducted in 1997 found that Carlson's reservation system was ranked first in the factors contributing to guest room occupation among other things.

With Carlson, the company recognized for best practices in IT investment is Cendant Corp., a gigantic hotel franchiser. The MIS functions of 6,000 franchisees of Cendant converge to the huge database of Cendant. This system, called “Power Up,” consists of four functions, “Guestroom Management System,” “Central Reservation System”, “Communication via Internet” and “Marketing.” Connected to other computer systems of Cendant, “Power Up” allows the Brand Support Team of headquarters to be linked to franchisees and facilitates data collection of each franchisee hotel through a database in order to allow direct marketing to target customers. After introducing the system, the average guestroom rate of Cendant hotels rose $8, which was returned to customers by better services utilizing this highly functional database.

Faced with the limits of acquiring marketing information from customers, Inter-Continental Hotels & Resorts, developed a central system called “Global 2000” that collects and records such information as the period of stay of guests, travel type, and services used by each guests. This system is a marketing database linked to the Guestroom

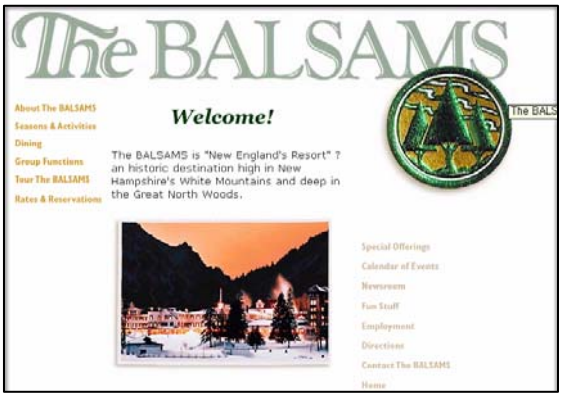
Management System and Reservation System used by Inter-Continental hotels worldwide. With this system, Inter-Continental Hotels & Resorts curtailed mailing expenses to target customers and induced them to spend more with an in-depth analysis. In addition, more customers participated in the guest loyalty program, and effects of new advertisement of hotels were better measured.



Marriott hotel's revenue management system aids comprehensive analysis of each type of market (i.e. travelers for leisure, travelers for business) concerning reservation type, price sensitivity, and stay type. This system plays an important role in maximizing sales of guestrooms, increasing 1%-3% of sales volume and allowing each hotel to acquire the guests' personal information for marketing purposes and for accelerating target marketing by informing the hotels of the period during which guestroom occupation was low. Customers also benefit from this revenue management system, i.e., above all, they are more likely to be accommodated in a room they want, and the price-sensitive customers may be accommodated during the off-peak season, avoiding peak season.

3.3 Best Practices of Customers Service Improvement

The Balsams Grand Resort Hotel is a representative hotel attempting to improve



services by collecting the guests' information. Since this hotel is located far from a metropolitan area, it is important to make one-time guests to visit repeatedly. The managers of this hotel introduced the guest history program in order to provide custom-made services on the basis of the personal information of guests. This program with a real-time mode, as one of the first developed programs with artificial intelligence, collects personal information of guests or potential guests. The information collected includes date of previous visit, guestroom type and number, guestroom rate paid, housekeeper and serving team for the guestroom in which the guest stayed, guests' dining preference, and leisure activities like golf or ski. Such information is closely linked with the operation of the resort and provided to meet all needs of customers. After introducing the system, the Balsams Grand Resort Hotel saw as major improvement of guestroom occupation, and 85% of customers were repeat visitors or, if they were newcomers, were introduced by previous guests.

Fairmont Hotel, to provide consistent and better services, installed a system at the concierge desk to make the concierge input information of guests. This system maintains such data as newspaper selection of each guest, breakfast menu, or wake up calls, and distinguishes VIP guests and considers guests' dining preference. After using this system, the satisfaction rate of guests with the concierge went up to 90%.

IMPAC Hotel installed a kiosk with touch screen instead of the traditional guest comment card. This system solved the previous problem of taking a long time to collect

and analyze guests' response, which prevented the hotel from instantly improving guest satisfaction with prompt action, and made it possible to deal with guests' complaints promptly. This system induces guests to answer a series of questions, which draws their attention as well as allowing them to evaluate all departments of the hotel. The information collected then forwarded to the general manager and to the headquarters every night to allow them to take prompt action. After introducing this system, IMPAC Hotel was able to improve customer service and to dramatically shorten complaint resolution time.

Radisson Worldwide has been deeply concerned about maintaining a relationship with travel agencies more than any other hotel company and developed a program called "Look to Book" to gain a dominant position through such relationship. This system supports a real-time reservation check with the travel agency and an immediate reward for performance. With this system, travel agencies may be rewarded with a free hotel pass or a travel gift voucher according to the accumulated points of their performance. About half of the travel agencies use this system, with which Radisson soared to an annual total reservation of $100 million.

3.4 Best Practices of E-Procurement Partnerships

Partnerships between businesses to create digital markets that provide various products and services offer another potential option to tourism. Deutsch Bank reports that the size of the e-procurement market in tourism including apparatus and equipment, renovation, and food and beverages soars to $6 billion in the U.S. and $10 billion worldwide.

In the tourism industry, it is expected that about $350 million to $400 million in the U.S. and $700 million worldwide is saved through efficient supply-chain transactions by e-commerce. In one year, more than $2 billion in the U.S. and more than $1 billion of procurement will be made by e-commerce. Regardless of size, tourism companies are trying to lower the unit price of items they purchase and to occupy a dominant competitive position through efficient e-procurement.

About Avendra LLCV

Avendra LLC is the leader in professional procurement services company serving the North American hospitality and club industries. An independent company, Avendra was established to save its customers money, time and effort. By combining the significant volume of its customers' purchases (approximately $2 billion in 2002) with the operational knowledge and expertise of its experienced staff, Avendra creates purchasing programs that offer its customers the right product and service at highly competitive prices. The company is headquartered in Rockville, Md. and has regional offices throughout the United States and Canada. For more information, please call toll free, (866) AVENDRA, visit www.avendra.com, or e-mail inquiries to info@avendra.com.

Of the major hotels, Marriott, Hyatt, Bass, Club Corp and Fairmont developed an e-procurement system, called Avendra, to establish an online procurement network and to simplify procurement activity. This kind of partnership between competitors is a method of improving promptness and efficacy of customer service in a new market and is expected to offer the participating hotels considerable added value. Avendra offers a

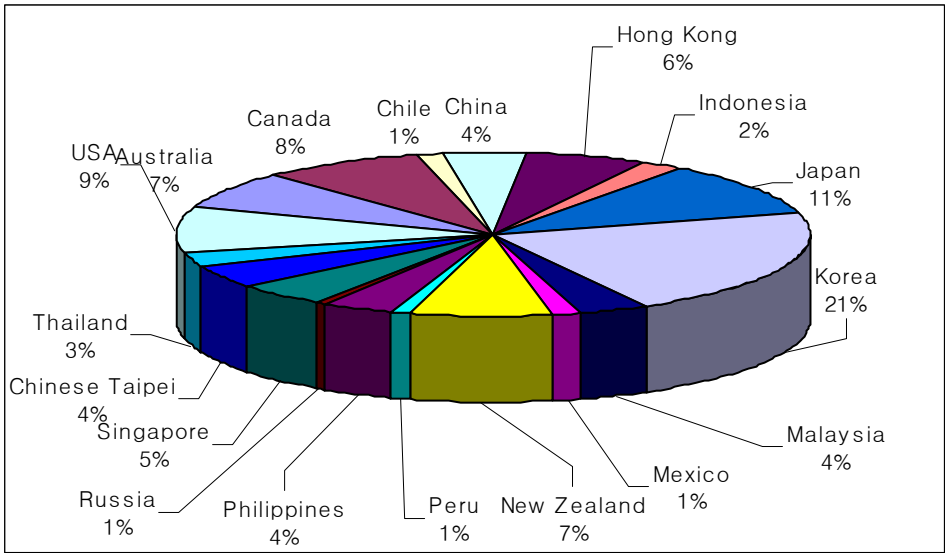
central procurement system for the five participating hotels and their franchisees, which is accessible anytime from more than 4,000 hotels around the world and through which the procurement equivalent of about $1 billion is made. In addition, this system is used by about 500 non-participating hotels and is to be extended to other non-participating hotels. Currently, in Avendra, about 500 suppliers supply about 700,000 items.

Chapter 3. Findings of Empirical Research

1. Outline

The survey was conducted by sending questionnaires to 50 tourism companies in APEC nations via e-mail addresses collected through web surfing, excluding renowned hotel chains, or large hotel companies or their subsidiaries such as tourism companies or renowned Internet portals. For Brunai, Papua New Guinea, and Vietnam, not enough e-mail addresses were collected, so they were excluded from the survey. The responses were asked to be completed by managers or IT personnel. One hundred sixty-six units (18.4%) out of 900 units were ultimately used for analysis. The following is the distribution of samples used for analysis.

<Figure 8> Distribution of Samples



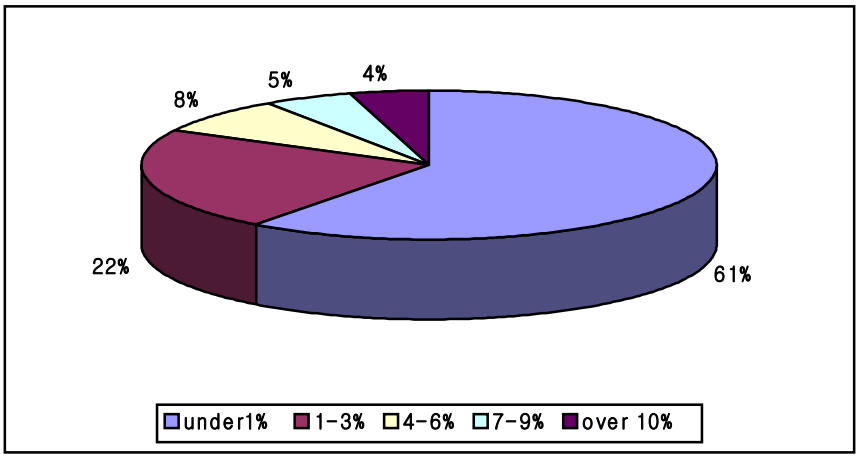
2. E-commerce Environment of Tourism Companies

2.1 IT Investment Volume

The questions regarding IT investment volume of APEC nations compared to sales volume were asked. Most SMTEs in the APEC region invested a small percentage of sales volume in IT. It is found that the overwhelming majority invests less than 1% of total sales in IT, and a few companies invest about 1% to 3%.

This is a substantially low figure compared to the average 3% investment of U.S. tourism companies as presented by *InformationWeek*'s survey, even if we take into consideration that the top 500 companies of *InformationWeek* are quite different from SMTEs in APEC.

<Figure 9> Ratio of IT Investment per Sales



The reason for this is because of the structural feature of SMTEs, as previously pointed out in an APEC study of e-commerce of SMTEs. With a relatively small capital

compared to large companies, SMTEs cannot afford a huge investment from the beginning, which in turn results in not being able to enjoy the advantages and competitiveness resulting from IT investment. Thus, SMTEs are in need of an IT introduction plan that is most beneficial with the least cost, which should be sponsored by governmental policy.

In addition, if the suitability of investment was proven or if the effect of information system is verified, it is necessary to give a challenging stimulus by discovering successful cases to change the unenthusiastic attitude to investment.

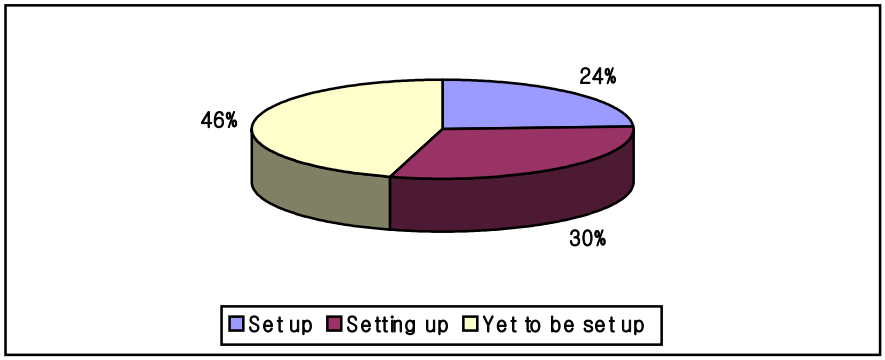
2.2 Setting up an IT Investment Plan

The companies that set up an IT investment plan account for 24% of the total. IT investment should be preceded by an IT strategy, which reflects a vision of and enables effective informationalization and leads to a highly strategic performance. After 2000, the leading companies in IT show a trend to set up an evaluation method to verify the effect of IT investment before making investment. This is because it is necessary to measure the exact consequence of IT investment and to verify its suitability, for it involves a huge amount of resources and should be performed strategically. This type of evaluation helps the companies to find out how the proposed IT strategy affects the whole business and how it helps to attain the business target.

However, this might lead people to believe that SMTEs make decisions on informationalization without a strategic plan. What is necessary and advisable is that SMTEs should make a professional design while taking a broad view before making IT

investment.

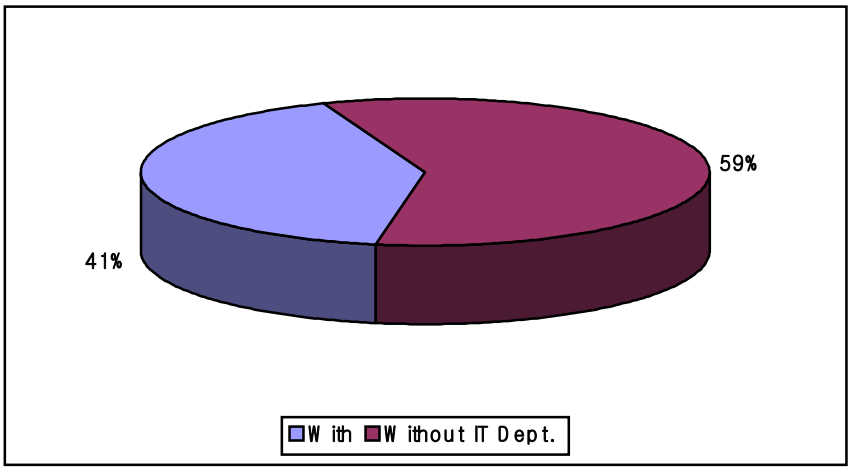
<Figure 10> IT Investment Plan



2.3 IT Department

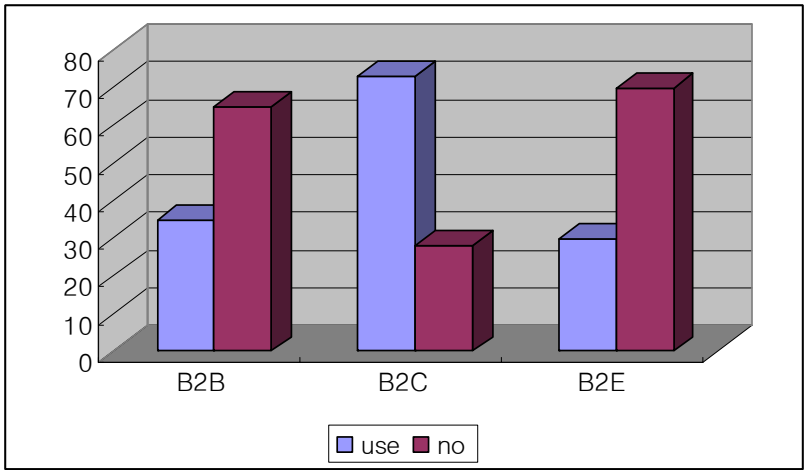
If there is a department in charge of IT in the company, this signifies that IT in that particular company plays an important role. Particularly for a company in the tourism industry, which has been recognized as a service industry and of which most employees are service personnel, organizing a department in charge of IT means to employ outside experts. This may be deemed as a substantial reorganization for them, and the IT experts who understand the tourism industry are scarce. Currently, SMTEs with an IT department account for 40% of the total, which means that they lack the recognition of the relationship between competitiveness and IT and are most likely to solve technical problems through outsourcing.

<Figure 11> With or Without IT Department



2.4 Status of E-commerce Utilization

<Figure 12> Status of E-commerce Utilization



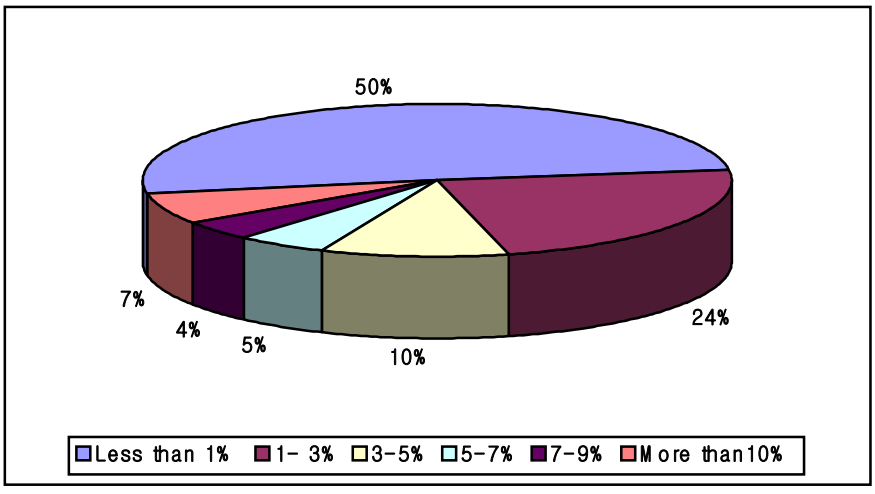
The survey showed that they used e-commerce in sales, marketing, and services in B2C (Business-to-Customer), but not as much in B2B (Business-to-Business) or B2E (Business-to-Employee). In particular, in B2B, more tourism companies did not use e-commerce than currently using it or planning to use it, which tells us that B2B are the

key to activating e-commerce among tourist companies. The volume of B2B around the world is four times as big as B2C, and the gap is expected to widen even more. In addition, it is highly desirable to provide information on tourism products in the tourism industry; knowledge sharing is crucial to success. Thus, enlarging the use of B2B and B2E in e-commerce is desperately needed.

2.5 Ratio of E-commerce per Sales

Of total sales, sales volume through e-commerce in most companies accounts for less than 1%, showing sluggish e-commerce. However, tourism companies with more than 10% of sales from e-commerce account for 7%, allowing for the possibility of stimulating e-commerce. It means that SMTEs frequently engage in B2C e-commerce activity with a small profit.

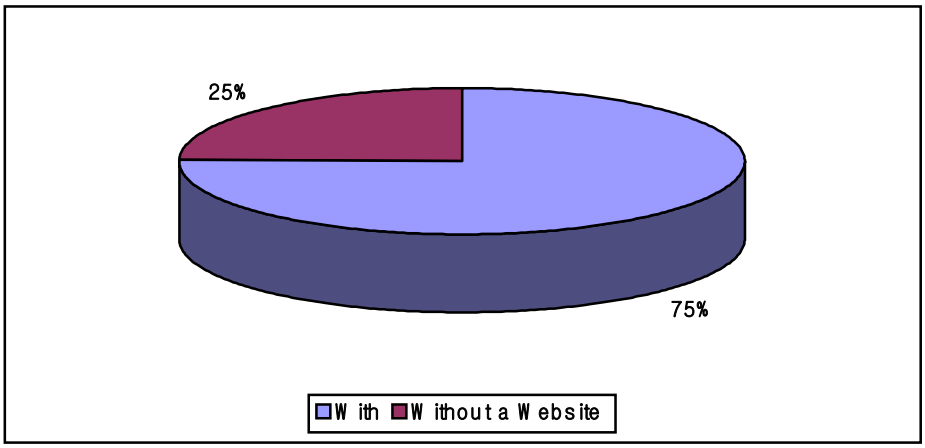
<Figure 13> Ratio of E-commerce Sales



2.6 Website

Seventy-five percent of respondents have websites. As mentioned above regarding sales or utilization of e-commerce by tourism companies, we may conclude that this result means that many, if not all, are simply promotional websites.

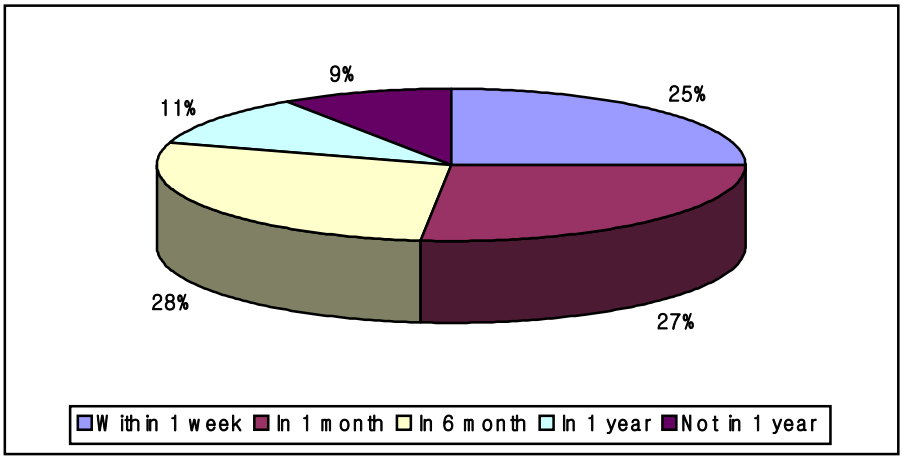
<Figure 14> With or Without a Website



2.7 Website Update period

Among tourism companies with websites, 52% of them update their websites once a week to once a month. Those that update at least once a week, which is relatively frequent, account for 25%. However, about 47% do not update at all for more than six months, which suggetss that it takes an extremely long time to provide new information through updates of websites and to heighten their usage as well as to launch one. In other words, if the websites are used not just for promotional purposes, but also for e-commerce, the update period will be shortened.

<Figure 15> Website Update period



Chapter 4. Best Practices of E-commerce for SMTEs

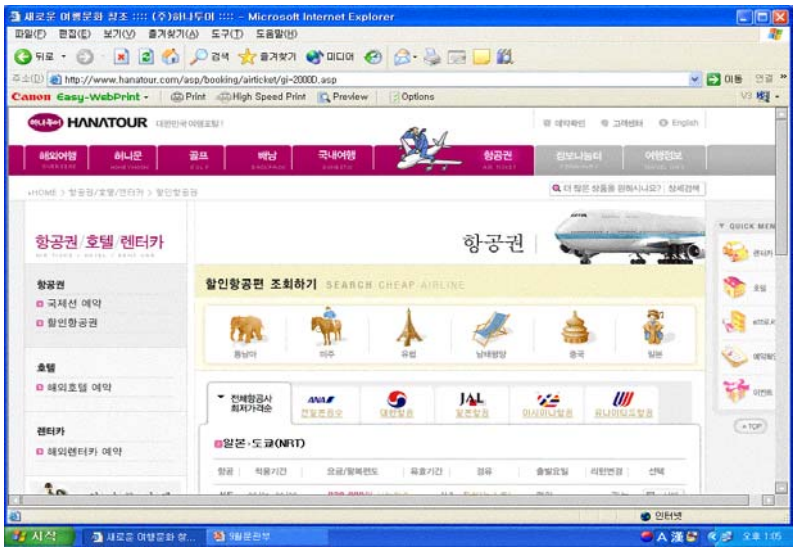
Among the respondents, two companies successfully performing e-commerce and informationalization were selected for an in-depth research. It would be desirable is to be able to introduce any and all cases in all industries and in all APEC nations. For benchmarking purposes here, the selected case should be one that achieved successful innovation by means of IT as a strategic tool with lasting results. For many SMTEs that were introduced as successful IT examples or that received good marks from website evaluations, they lost their competitiveness within two or three years thereafter.

The selected companies were:

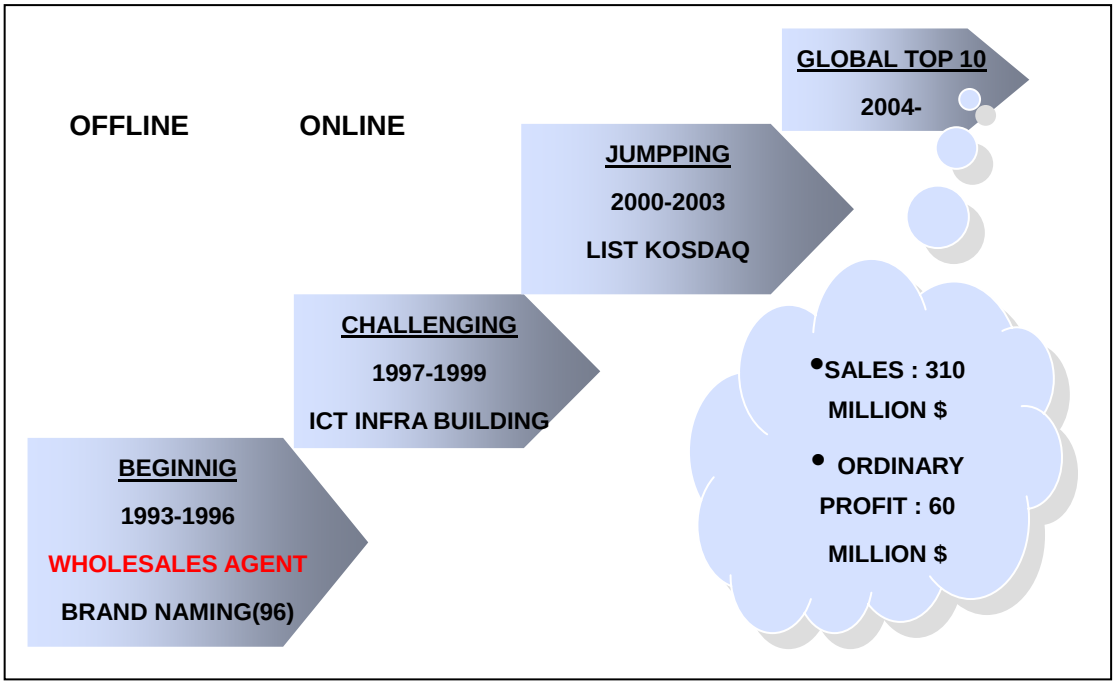
1. The respondent(s) made a rapid growth in sales or business dimensions with the introduction of IT and e-commerce;

2. The successful respondent(s) started offline and started online (one of each).

1. HANATOUR (Korea)



<Figure 16> Growth of Hanatour



Hanatour, which used to be an offline travel agency, became one of the biggest travel agencies in Korea with the introduction of e-commerce. Hanatour started as

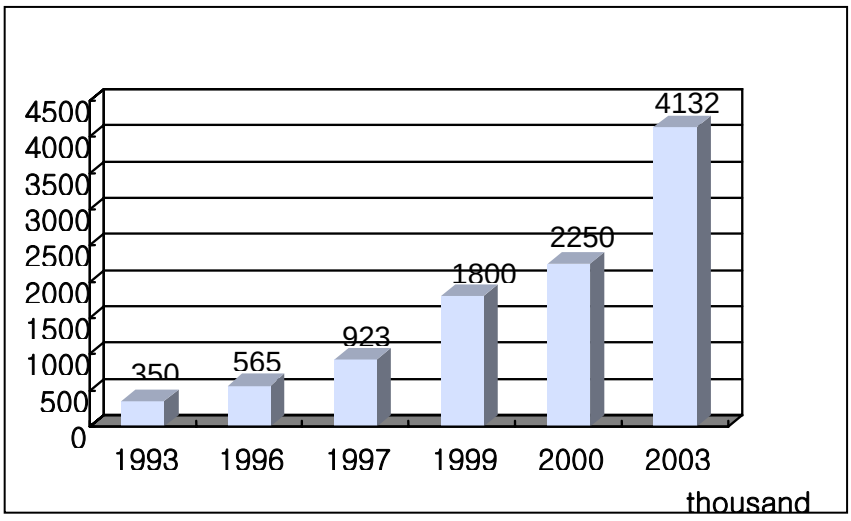
Kookjin travel agency in 1993 and in 1997, when Korea was under the IMF bailout, was renamed Hanatour and started wholesale and constructed IT, using the CEO's strong determination and a strategic plan for information technology.

Based on that, Hanatour has defended its highest market share since 1999, and became the first tourism company listed in KOSDAG in 2001. No other tourism company has been listed even to this date. For reference, there are approximately 8,300 travel agencies in Korea.

With the goal of entering into the Global Top 10 this year, it plans to achieve 300 million dollars of sales, 60 million dollars of gross income, and serve 4.49 million outbound travelers in 2010.

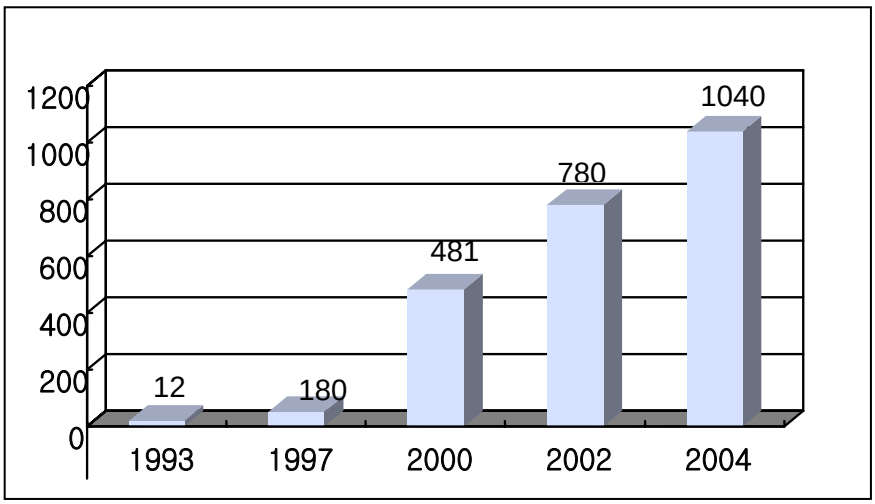
Hanatour started its business with $350,000 in capital, but now has $4.1 million in capital due to the rapid growth after the 1997 IT infrastructure construction.

<Figure 17> Capital



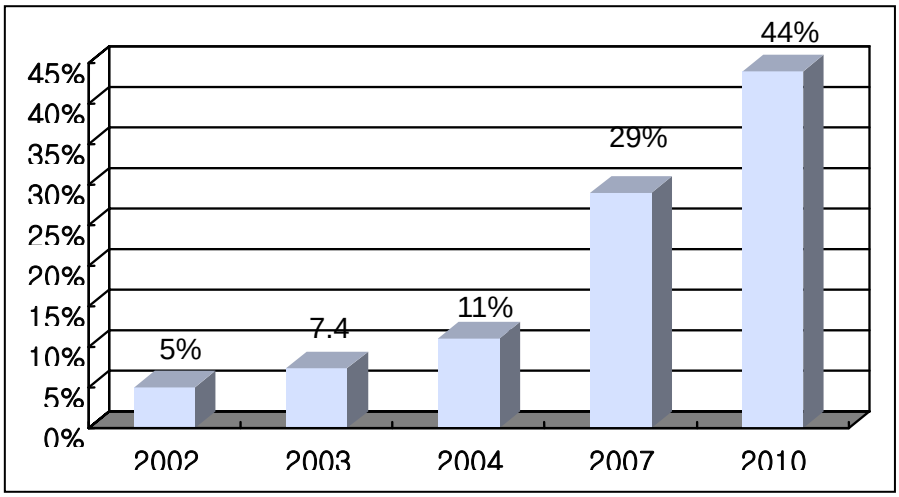
It has also seen the rapid growth of its work force since 2000, and now pulled itself out of SMTE.

<Figure 18> Work force



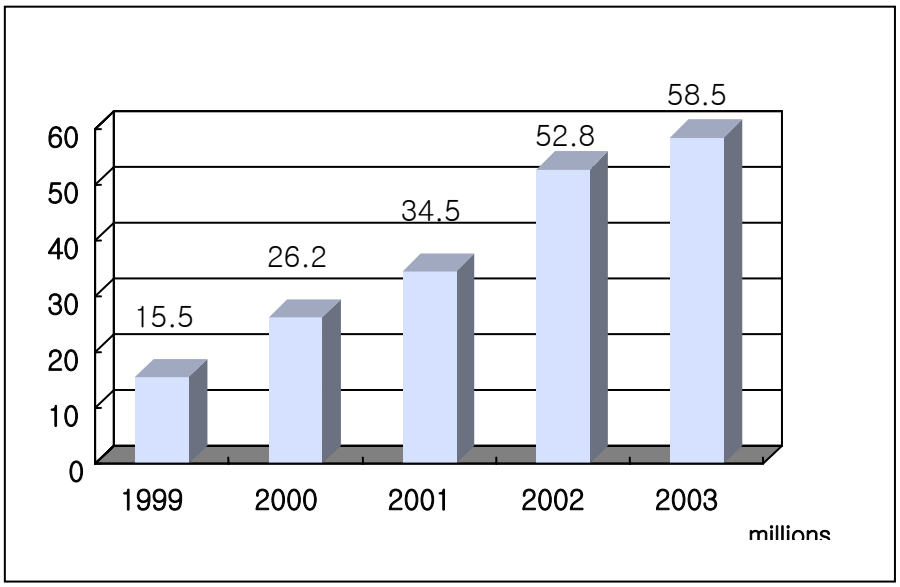
Target market share for 2004 was 11%, and Hanatour attained that goal without much difficulty.

<Figure 19> Market Share



Sales volume last year was $60 million, with $10 million growth each year since the introduction of IT.

<Figure 20> Sales Volume



Hanatour has entered into an agreement with 4,500 agencies out of 8,300 agencies, has nineteen domestic branches, twelve overseas branches, and eight subsidiaries. The twelve overseas branches conduct local tours for outbound tourists from Korea to countries where the branches are located. Forty-five hundred agencies sell Hanatour's products and provide all services to customers on behalf of Hanatour. It made a GSA agreement with eleven foreign companies including Trek America, Amtrek, Star Cruise, Royal Caribbean Cruise, Eurailpass, JR pass, and Alamo Rent-a-Car. It also made strategic partnerships with thirty domestic companies, including BC Card, Samsung Card, Hana Bank, LG Eshop, Hanson CSN, Emart, etc.

It cooperates with other companies through system linkage and joint development, and makes reference to certain companies such as Alamo Rent-a-Car before it changes

its system or rate schedule. Besides, its website is linked to more than 1,000 sites, and some GDS vendors take initiative in offering the partnership.

<Table 7> IT Transition of Hanatour

First 1997-1999	Second 2000-2003	Third 2004 -
CEO DOS Client/Server Delphi intranet	CIO GUI Client/Server Galileo API Intra-extranet	CIO GUI Client/Server ERP Web-based

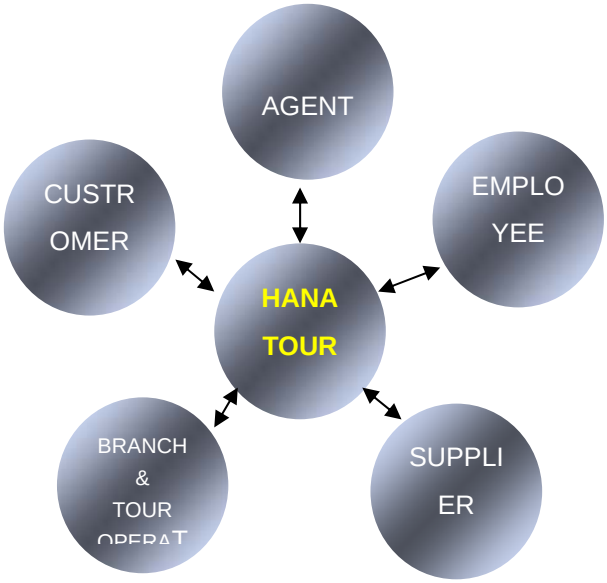
From the DOS-based business management system for internal purposes, it turned to a GUI-based one and constructed a web-based database and system, tourtotal.com, which was opened to the public in 2000. Now its systems are integrated with hanatour.com, the same as its brand name.

Hanatour's IT investment is supervised by IT Planning HQ, which is divided into planning, Internet, multimedia, and system management business departments, to which 50 (5%) out of 1,000 employees are assigned to.

It uses e-commerce in B2B, B2C, and B2E and is connected to customers in the form of B2B2C, which means that all online services, including information provision and reservation, are conducted on hanatour.com. However, human services necessary for product sales are carried out by agencies. E-commerce in Hanatour accounts for 25% of total sales. Customers, agencies, employees, suppliers, branches and tour

operators are all connected to hanatour.com, which is called a web-based system.

<Figure 21> E-commerce Network



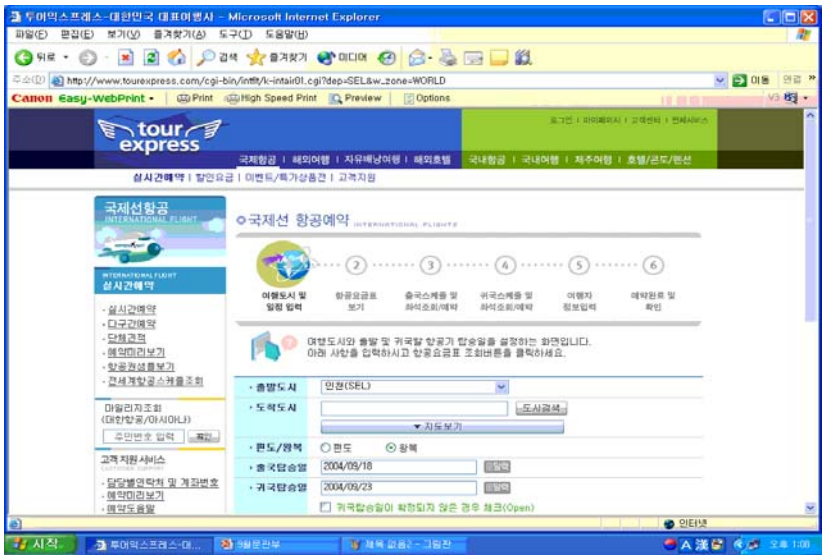
The factors contributing to Hanatour's success may be summarized as follows:

4. The CEO recognized the need of informationalization and e-commerce. The CEO's recognition of market change lead to the decision to introduce IT;

5. Decision-making for introducing IT was timely (around the time of IMF bailout). Most companies downsize during an economic crisis such as the IMF bailout, but drastic investments may bring about an opportunity for taking a dominant position in the market.

6. A business model was constructed to effectively utilize information and a relationship network. This provides an effective connection between the advantage of IT and distribution channel of tourism products, i.e. agency. Hanatour's system disseminates the influence of IT to its small- and medium-sized travel agencies.

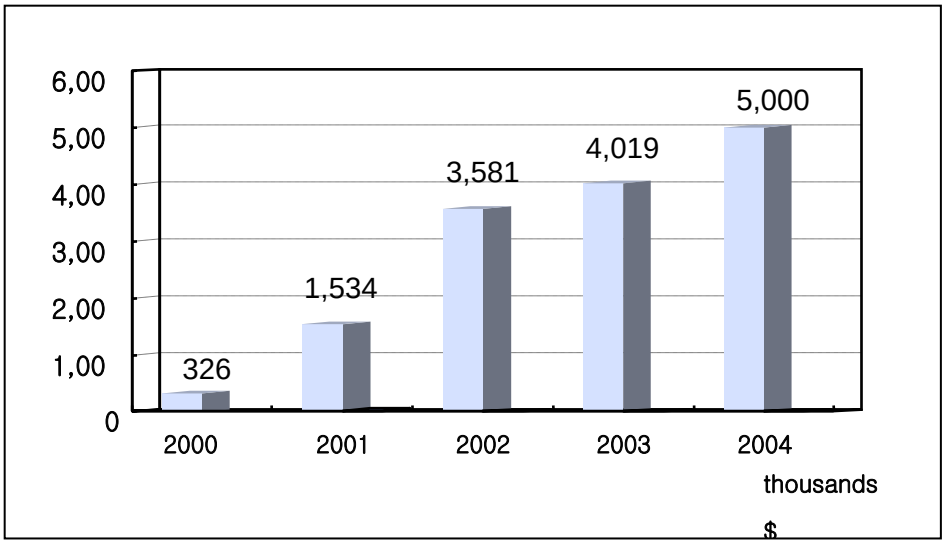
2. TOUREXPRESS (Korea)



Unlike Hanatour, Tourexpress began as an online travel agency. It invited investment from outside sources and developed the system for online retail travel agents from the outset.

Sales volume from the year 2003 was about $4 million and is expected to reach $5 million this year.

<Figure 22> Sales Volume



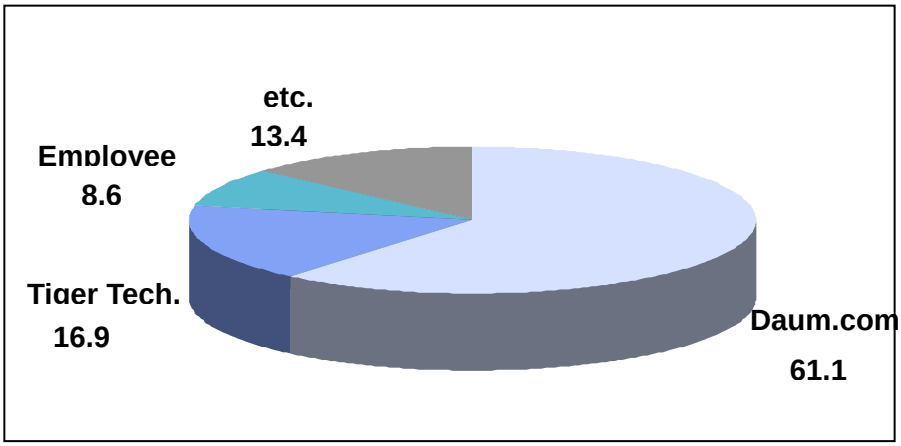
Tourexpress made strategic partnerships with ten domestic companies such as Daum.com, Auction, KB Card, Joins.com, E-post, Dongyang Magic, etc. Tourexpress supplies the system to such companies via ASP.

<Table 8> Growth of Tourexpress

	1999 Beginning	2004 Jumping
Capital ($)	300,000	1,477,000
Employee	10	94
IT Investment	100%	15%
E-commerce	B2C 98%	B2C 98%

Sponsored by $300,000 in venture capital in 1999, it began its business and opened its system in 2000 with a financial support of $300,000 from daum.com, the largest current shareholder, and now has five times as much capital as it did in 2000. Currently, it invests 15% of sales to system development, and its sales volume derived from e-commerce accounts for 95% of total sales. Last year, Tiger Tech, a U.S. venture capital firm, invested $400,000 in Tourexpress, and additional $200,000 was invested by daum.com. Daum.com is the largest portal, having as many members as any other site. Tourexpress is the only travel service provider on daum.com.

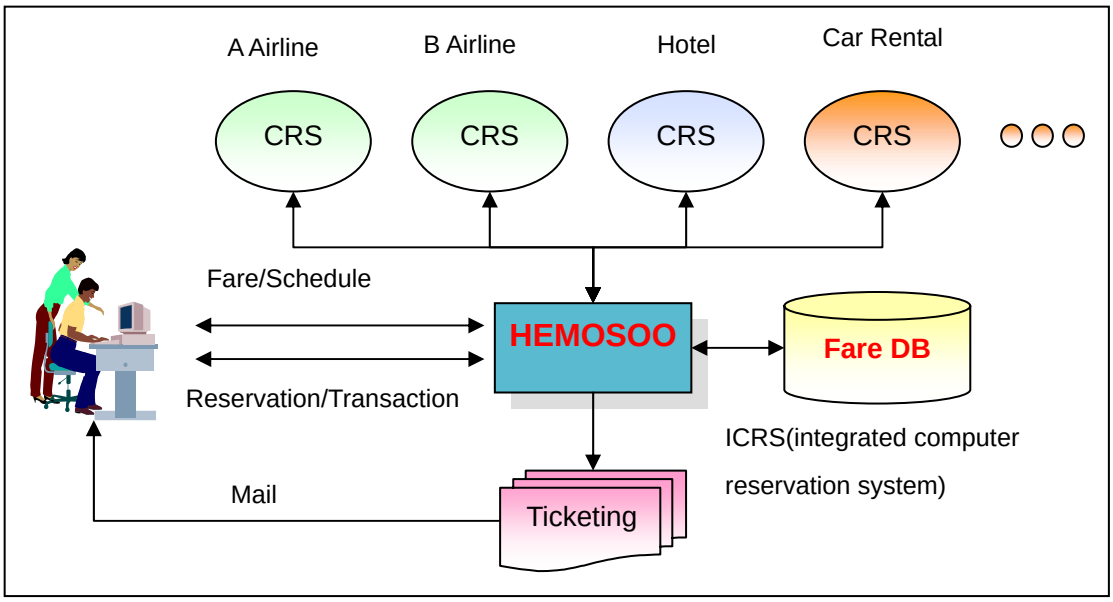
<Figure 23> Capital Structure



At the core of Tourexpress lies Hemosu, which is the name of the son of a god in a traditional legend. Hemosu is linked to the CRS of airlines, hotels, or rent-a-car agencies that have a rate database in its system so that customers, via Hemosu, can access suppliers they want. Hemosu is connected to foreign airlines, GDS, and suppliers from 60 countries, allowing a flexible search.

Once a custom makes a reservation after checking for availability and rates, the result is transmitted to the customer's mobile phone and e-mail and is stored in "My Page" on the Web, enabling the customer to reference it at any time. Recently, it has developed a wizard to do custom travel consulting to individual travelers, although it is restricted to Europe.

<Figure 24> Application of Tourexpress



What Tourexpress offers to SMTEs is:

3. a business model for online travel agencies with respect to investment and the method of partnership;

4. a possibility of success of online retail travel agencies without branches or agencies.

Chapter 5. Conclusion

In an era of knowledge and information, companies have a new market called virtual space. This new market requires a company to change and to innovate. A customer becomes a new customer in an electronic commerce market, and a commodity can be purchased online, and therefore, a new profit model is necessary. However, it is a

very difficult assignment for a company because IT and electronic commerce can result in many unintended repercussions. Therefore, this study was carried out by interviewing small and medium enterprises in order to provide helpful suggestions regarding IT and challenges with electronic commerce and execution. The followings are suggested from the results.

1. Aggressive public information about a success story

We have to find successful cases and make their stories known. SMTEs are reluctant to adopt IT and e-commerce because of huge investment without guarantee of the return on of investment. In the sample case, a CEO's vision and determination for investment and development played a key factor in the company's success. However, in most SMTEs, the companies greatly stress capital and abled employees in order to succeed. What they need often times is confidence in the investment they make. Hanatour and Tourexpress may be the good samples.

2. IT consulting

Second, SMTEs should be provided with consulting service for designing adequate IT infrastructure. Despite SMTEs' desire to offer e-commerce, they hesitate because they lack capital for investment expenses and cannot afford the business model. It is dangerous to imitate competitors or successful cases, for each business has its own needs and challenges. In addition, imitation only leads to overcompete.

3. ASP supporting

Third, it should be made possible for SMTEs to borrow a well-established system. The incorporation of airlines' CRS into GDS was because it was inefficient for each company to develop their own system. Even Microsoft and Oracle are participating in ASP, i.e. a rental service system via Internet, which is expected to increase in the future. Hence, SMTEs should not only support in development of their own system, but also be able to borrow an already existing system, and thereafter, when they have the experience and capability to do so, be encouraged to develop their own system. The companies in the cases introduced above provide their system in the form of ASP through the Internet.

4. Education and raising awareness

Fourth, a training program for employees should be implemented. Since most employees are trained as servicemen, most of them have very little understanding of IT.

5. Tourism Information Expert

Finally, experts on tourism and information shall be cultivated. An expert with knowledge in both the tourism industry and IT will furnish a new idea and business model to SMTEs that intend to use e-commerce. It is a good way to establish the tourism information major in university.

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