



Automation System in the Port Autonomous of Sihanouk Ville

by
Mr. Pisey Nhim

A Final Report of the Three-Credit Course
IC 6997 E-Commerce Practicum

Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Science
in Internet and E-Commerce Technology
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Project Title Automation System in the Port of the Sihanouk Ville


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ABSTRACT

Today, organizations use the information technology infrastructure capable of coordinating the activities of entire Organizations. PAS is considered as the organization that is very concerned about the technology in the organization. At the same time it faces a lot of problems in connection with the process of receiving information from its customers about the booking information and others about the customer survey. As a result, a website will be designed to support this kind of action.

The proposed website will be mainly for receiving the information from the customer and some of the information received will be used to support with the current system used in container clearance call SWSS (Single Window Service System). Meanwhile, the development of this project have to go through the analysis of the current problem of the port, marketing analysis, SWOT analysis, break-even point analysis in order to find the payback period of the project.

By building the website, the organization expects to boost up the number of customers and the number of visitors, which is the main point of improving the service and also the benefits to the organization.

ACKNOWLEDGEMENTS

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TABLE OF CONTENTS

<u>Chapter</u>	<u>Page</u>
ABSTRACT	i
ACKNOWLEDGEMENTS	ii
TABLE OF CONTENTS	iii
LIST OF FIGURES	vi
LIST OF TABLE	vii
I. INTRODUCTION	1
1.1 Background of the Project	1
1.2 Objectives of the Project	2
1.3 Scope of the Project	2
1.4 Deliverables	3
II. LITERATURE REVIEW	4
2.1 Development of Information Technology	4
2.2 Internet Marketing	5
2.3 Business Benefits Projected by Internet	6
2.4 E-Commerce Business Models	7
2.5 Classification of the E-commerce Field by the Nature of the Transactions	9
2.6 The Benefits and the Limitations of E-commerce	10
2.7 The Future trend of E-commerce in Service Field	14
III. EXISTING SITUATION ANALYSIS	17
3.1 Current Situation Analysis	17
3.2 Mission of PAS	23
3.3 Objective of PAS	23

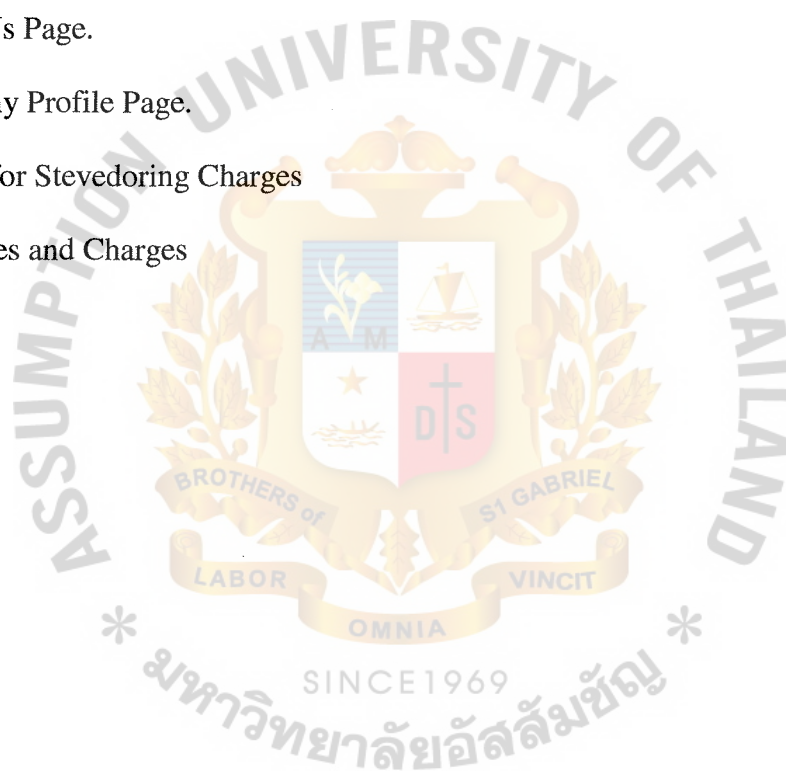
<u>Chapter</u>	<u>Page</u>
IV. MARKETING ANALYSIS	25
4.1 Market Target	25
4.2 Market Trend	25
4.3 SWOT Analysis	25
4.4 The 4ps of PAS Web Site	26
V. THE PROPOSED SYSTEM	29
5.1 Hardware Requirement	29
5.2 Software Requirement	29
5.3 Objectives of the Project.	30
5.4 Site Map	31
5.5 Home Page	32
5.6 Storage Facilities	33
5.7 Navigation	34
5.8 Lifting Facilities	35
5.9 About Us	36
5.10 Company Profile	37
5.11 Payment Method	38
5.12 Break-even Analysis	38
VI. ANALYSIS AND DISCUSSION	41
6.1 The Process of booking before having a Web Site	41
6.2 The New Support Web Site	41
VII. CONCLUSIONS AND FUTURE PLAN	42
7.1 Conclusions	42
7.2 Future Plan	43

<u>Chapter</u>	<u>Page</u>
APPENDIX A WEB INTRFACE DESIGE	44
BIBLIOGRAPHY	47



LIST OF FIGURES

<u>Figures</u>	<u>Page</u>
5.1 Site Map	31
5.2 Home Page.	32
5.3 Storage Facilities Page.	33
5.4 Navigation Page.	34
5.5 Lifting Facilities Page.	35
5.6 About Us Page.	36
5.7 Company Profile Page.	37
A.1 Tariffs for Stevedoring Charges	45
A.2 Port Dues and Charges	46



LIST OF TABLES

<u>Tables</u>	<u>Page</u>
5.1 Hardware Requirement	29
5.2 Software Requirement	30
5.12.1 Cost and Benefit Analysis	38
5.12.2 Payback Period	40



I. INTRODUCTION

1.1 Background of the Project

Port Autonomous of Sihanouk Ville is considered as the biggest port in Cambodia. It plays a very important role in economic growth of this country by providing the channel of import and export for all containers and cargoes. The port have been re-operated since 1980 after the ending the Khmer rouge rule. Since then the port operates in the market as the dominant firm in the market and it is the only port that belongs to the government and also the only port in Cambodia.

In 1997, after the Cambodia changed from Socialism to Democrat the government decided to put the port as public company that was ruled by the board of directors comprising half from the government and half from the private sector. As a result of government changing ruling policies, more and more private businesses have come to invest and operate in this country. Meanwhile, in transportation business some investors have come to Cambodia under the encouragement of the government to operate the private port.

After having other choices for their containers the customers started to complaint about the services in the port, especially the billing and invoicing services. It means that they will have to prepare a lot of documents and also they will have to meet with a lot of people to get the signature and approval from them.

After seeing that the container traffic through the port have dropped rapidly, the management called and had an urgent meeting with all the members of the board to discuss about the matter. As a result, all the members agreed that computer and the automation of the processing will help them with all these complaints and matters. After agreeing the board has granted some funds to create the IT team and also let them to create the system to help automate all these processes. Meanwhile, the IT team have

created the system call SWSS (**Single Windows Services System**) to make all the documents preparation in the port faster. It is not finished the customers sometimes want to pay and do some transactions on the internet. For instance, they want to send the document to the port and make it go directly to the SWSS. So in this project the researchers are willing to created a web-site for the port and make it usable for the SWSS as well as for the port officer to search for the information and doing some transaction on it. The website will be able to receive the document that is sent by the customer, for example, container list that will be exported or name of consignee who needs to pay for their imported containers. This information is needed by the operator and SWSS user to fill in the document as well as producing the invoice for the customer.

1.2 Objective of the Project

The objectives of this project are:

- (1) To create a web-site to support the SWSS for online customer support and transaction
- (2) To provide effective communication with clients

1.3 Scope of the Project

The project will cover all steps of development from analysis of the existing manual system to the using of SWSS and be ready to develop the website for supporting the SWSS. It will involve

- (1) A analysis of the process of documentation before using SWSS
- (2) A analysis of the process of documentation by SWSS
- (3) Analysis and design of the overall Port Autonomous of Sihanouk
Ville Web-site interface.

- (4) Development of the database system to store the information requested by the customer and also to send information by the customer to the SWSS.

1.4 Deliverables

Deliverables for this project will be as follows:

- (1) The final report covers the scope as afore mentioned above.
- (2) A complete project's report and prototype web application.
- (3) The complete and application of E-Commerce web-site consisting of the Port Autonomous of Sihanouk Ville information and the technical support for the SWSS through out the web-site as well as the database for receiving the document and verifying the authority of the user.
- (4) Power point presentation.



II. LITERATURE REVIEW

2.1 Development of information Technology

Communication is considered a tool that can lead one organization to become successful. In the past, people communicated with each other by letters. After that, the telephone was invented and it made people easier to communicate with each other. But that was not enough for human beings; some business organizations have found out that their operating expense become too high by using telephone all the time. And these problems become a major cause, which lead to the new invention of data transmission via the phone line known as Internet. It is an electronic network that enables people from different parts of the world to communicate with each other easily.

Most people will use Internet as a way to send mails to each other. E-mail is a new way of sending messages or letters. The message or letter that is going to be sent has to be typed on the computer by using the input device called the keyboard and sent to the other computer via the modem down to the telephone line. Meanwhile, others will use it as a means to search for most information they needed. Nowadays, there was about 3 billions pieces of information on the Internet. The World Wide Web is a way the people use to find or generate their data through the web-browser. Moreover, Internet has created a lot of new careers for human beings also. Many companies have reported their business to E-commerce and this is because they think that Information Technology (IT) in general and E-commerce in particular have become the major vacillators of business activities in the world today. Some researches have revealed that E-commerce will become a significant global economic element within 10 or 20 years.

(Turban 2002)

2.2 Internet Marketing

How significant is internet marketing to business? Today, the answer to this question varies dramatically according to who is answering. The world of marketing has two distinct meanings in terms of modern management practice. It describes:

- (1) The range of specialist marketing function carried out within many organizations; such functions include market research, brand/product management, public relations and customer service.
- (2) An approach or concept that can be used as the guiding philosophy encompasses all aspects of a business. Business strategy is guided by an organization's market and competitor focus and everyone in an organization should be required to have customers focus in their job.

Increasingly the importance of marketing is being recognized both as a vital function and as a guiding management philosophy within organizations. Marketing has to be seen as the essential focus of all activities within an organization. The marketing concept should lie at the heart of the organization, and the actions of directors, managers and employees should be guided by its philosophy.

As Internet grows very rapidly, many companies have applied it as an integral part of the modern marketing since:

- (1) It can be used to support the full range of organization functions and processes the deliver products and services to customers and other key stakeholders.
- (2) It is a powerful communications medium that can act as "corporate glue" that integrates the different function parts of the organization.

- (3) It facilitates information management, which is now increasingly recognized as a critical marketing support tool to strategy formulation and implementation.
- (4) The future role of the marketing should form part of the vision of a company since its future impact will be significant to most business.

Internet Marketing or internet-based marketing can be defined as the use of the internet and related digital technologies include the internet media and other digital media such as cable and satellite together with the hardware and software, which enable its operation and use. The term electronic commerce or E-commerce is often used in similar context to internet marketing and has become a standard term recognized for business transactions conducted on the internet. It is a term that encompasses a range of business activities such as selling online, online bill payments, home shopping/banking and improving marketing efficiency in dealings with suppliers and clients.

2.3 Business Benefits Projected by Internet

The internet can be used to achieve each of the four strategic directions as follow:
(Chffey and Mayer 2000)

- (1) Market penetration. The Internet can be used to sell more existing products into existing markets. This can be achieve by using the power of the Internet for advertising products to increase awareness of products and the profile of a company amongst potential customers in an existing market. This is a relatively conservative use of the Internet.
- (2) Market development: Here the Internet is used to sell into new markets, taking advantage of the low cost of advertising internationally without the necessity for supporting sales infrastructures in the customer's country. This is a relatively conservative use of the Internet; it does require the

overcoming of the barriers to becoming an exporter or operating in a greater number of countries.

- (3) Product development: New products or services are developed which can be delivered by the Internet. These are typically information products such as market reports, which can be purchased using electronic commerce. This is an innovative use of the Internet.
- (4) Diversification: In this sector, new products are developed which are sold into new markets.

2.4 E-Commerce Business Models

One of the major characteristics of E-commerce is that it enables the creation of new business models. A business model is a method of doing business by which a company can generate revenue to sustain itself. The model spells out how the company is positioned in the value chain. (Turban 2002)

- (1) Name your price: this model allows buyers to set the price he or she is willing to pay for a specific product or service
- (2) Find the best price: According to this model, a consumer specifies his or her needs and then the company locates the lowest price for that service or product.
- (3) Dynamic brokering: In the digital age, customers can specify requirements. These are Webcasted to service providers in an automatic invitation to tender. Bid can be automatically offered, amended, and considered, all without any additional input from the consumer.
- (4) Affiliate marketing: Affiliate marketing is an arrangement where a marketing partner (business, organization, or even individual) has an arrangement with a company to refer consumers to the company's Web site

so that a consumer can purchase a service or product. The marketing partner receives a 3 to 15 percent commission on the purchase price when a customer refers to the company's Web site makes a purchase there. In other words, a company can create a virtual commissioned sales force.

- (5) Group purchasing: Discounts are usually available for quantity purchasing. Using the concept of group purchasing, a small business, or even an individual, can get a discount. E-commerce has spawned the concept of electronic aggregation, where a third party finds the individuals or smalls, medium enterprises (SMEs), aggregates orders, and then negotiates (or conducts a tender) for the best.
- (6) Electronic tendering systems. Large buyers, private or public, usually make their purchases through a tendering (bidding) system. Now tendering can be done online, saving time and money.
- (7) Online auctions: Many buyers can go to the site and buy any product by auctions.
- (8) Customization and personalization: They are not new models; in fact they are as old as commerce itself! What is new is the ability to quickly customize and personalize products for consumers at price not much higher than that of the non customization counterparts.
- (9) Electronic marketplaces and exchanges. Electronic marketplaces existed in isolated applications for decades since 1999. E-marketplaces introduce efficiencies to the marketplaces, and if they are well organized and managed, they can provide benefits to both buyers and sellers.
- (10) Supply chain improvers: One of the major contributions of E-commerce is in the creation of new models that improve supply chain management.

2.5 Classification of the E-commerce Field by the Nature of the Transactions

A common classification of E-commerce is by the nature of the transaction. The following types of transactions are distinguished: (Turban 2002)

- (1) **Business-to-business (B2B):** All of the participants in the type of E-commerce are businesses or other organizations. Today most E-commerce is B2B; their transactions include the ISO transactions and e-market transactions between and among organizations.
- (2) **Business-to-consumer (B2C):** These transactions include retail transactions with individual shoppers. This business model is also called e-tailing.
- (3) **Consumer-to-consumer (C2C):** In this category, consumers sell directly to other consumers. Example includes individuals selling residential property, cars, and so on in classified ads. The advertisement of personal services over the Internet and the selling of knowledge and expertise online are other examples of C2C. In addition, several auction sites allow individuals to place items up for auction. Finally, many individuals use personal Web pages and portals as well as intranets to advertise items or personal service.
- (4) **People-to-people (P2P):** This type of transaction is a special type of C2C where people exchange CDs, videos, software, and other goods.
- (5) **Consumer-to-business (C2B):** this category includes individuals who use Internet to sell products or services to organizations. As well as individuals who seek seller, interact with them, and conclude transactions online.
- (6) **Intrabusiness (organizational) E-commerce:** This category includes all internal organizational activities, usually performed on intranets or corporate portals that involve the exchange of goods, services, or information among various units and

individuals in that organization. Activities can range from selling corporate products to employees to online training and collaborative design effort.

- (7) Business-to-employees (B2E): This is a subset of the intrabusiness category where the organization delivers services, information, or products to individual employees.
- (8) Government-to-citizens (G2C) and to others: In this type of the E-Commerce, a government entity buys or sells goods, services, or information to business individual citizens.
- (9) Exchange-to-exchange (E2E): Which the proliferation of exchanges and portals, it is logical for exchanges to connect to one another. E2E is a formal system that connects exchanges.
- (10) Collaborative commerce: C-commerce is an application of IOS for electronic collaboration between business partners and between organizational employees.
- (11) Mobile commerce: When E-commerce takes place in a wireless environment, it is called mobile commerce (m-commerce).

2.6 The Benefits and Limitations of E-commerce

The Benefits of E-commerce

Few innovations in human history encompass as many potential benefits as E-commerce does. The global nature of the technology, low cost, opportunities, to reach hundreds of millions of people, interactive nature, variety of possibilities, and resourcefulness and rapid growth of the supporting infrastructures result in many potential benefits to organizations, individuals, and society. These benefits are: (Turban 2002)

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Business to organizations

The benefits to organization are as follows :(Turban 20002)

- (1) Electronic commerce expands the marketplace to national and international markets. With the minimal capital outlay, a company can easily and quickly locate more than customers, the best suppliers, and the suitable business partners worldwide.
- (2) Electronic commerce decreases the cost of creating, processing, distributing, storing, and retrieving paper-based information.
- (3) Electronic commerce allows reduced inventories and overhead by facilitating pull type supply chain management. In a pull type system the process starts from customer orders and used just-in-time manufacturing.
- (4) The pull-type processing enables expensive customization of products and service competitive advantage to its implementers.
- (5) Electronic commerce reduces the time between the outlay capital and the receipt of products and services.
- (6) Electronic commerce supports business reengineering efforts. By changing processes, productivity of sale people, knowledge workers, and administrators can increase by 100 percent or more.
- (7) Electronic commerce lowers telecommunication cost
- (8) Other benefits include improved image, improved customer service, new found business partners, simplified processes, compressed time, increased productivity, eliminating paper, expending access to information, reduced transportation costs, and increased flexibility.

Benefits to Consumers

The benefits of E-commerce to consumers are as follows :(Turban 2002)

- (1) Electronic commerce enables customers to shop or do other transactions 24 hours a day, all year round, from almost any location.
- (2) Electronic commerce provides customers with more choices; they can select from many vendors and from more products.
- (3) Electronic commerce frequently provides customers with less expensive products and services by allowing them to shop in many places and conduct quick comparisons.
- (4) In some cases, especially with digitized products, E-commerce allows quick delivery.
- (5) Customers can receive relevant and detailed information in seconds, rather than days or weeks.
- (6) Electronic commerce makes it possible to participate in virtual auctions.
- (7) Electronic commerce allows customers to interact with other customers in electronic communities and exchange ideas as well as compare experiences.
- (8) Electronic commerce facilitates competition, with results in substantial discounts.

Benefits to Society

The benefits of E-commerce to society are as follows :(Turban 2002)

- (1) Electronic commerce enables more individuals to work at home and do less traveling for shopping, resulting in less traffic on the roads and lower air pollution.
- (2) Electronic commerce allows some merchandise to be sold at lower prices, so less affluent people can buy more and increase their standard of living.

- (3) Electronic commerce enables people in third World countries and rural areas to enjoy products and services that otherwise are not available to them.
- (4) Electronic commerce facilitates delivery of public service, such as health, care, education, and distribution of government social services at a reduced cost and/ or improved quality.

The limitations of E-commerce

The limitations of E-commerce can be grouped into technical and non-technical categories. (Turban 2002)

Technical Limitations of E-commerce

The technical limitations of E-commerce are as follows:

- (1) There is a lack of system security, reliability, standards, and some communication protocols.
- (2) There is insufficient telecommunication bandwidth.
- (3) The software development tools are still evolving and changing rapidly.
- (4) It is difficult to integrate the internet and E-commerce software with some existing applications and databases.
- (5) Vendors may need special web servers and other infrastructures, in addition to the network services.
- (6) Some Electronic commerce software might not fit with hardware, or may be incompatible with some operating systems or other components.

Non-technical Limitations

Non-technical limitations are as follows:

- (1) Cost and justification. The cost of developing E-commerce in-house can be very high, and mistake due to lack of experience may result in delays.

- (2) Security and privacy. These issues are especially important in the B2C area, especially security issue which are perceived to be more serious than they really are if appropriate encryption is used.
- (3) Lack of trust and user resistance. Customers do not trust an unknown faceless seller, paperless transactions, and electronic money. So switching from physical to virtual stores maybe difficult.
- (4) Other limiting factors. Lack of touch and feel online. Some customers like to touch items such as clothes and like to know exactly what they are buying.
 - (a) Many legal issues are as yet unresolved, and government regulations and standards are not refined enough for many circumstances.
 - (b) Electronic commerce is still evolving and changing rapidly. Many people are looking for a stable area before they enter into it.
 - (c) There are not enough support services.
 - (d) In most applications there are not yet enough sellers and buyers for profitable E-commerce operations.
 - (e) Electronic commerce could result in a breakdown of human relationships.
 - (f) Accessibility to the internet is still expensive and/or inconvenient for many potential customers.

2.7 The future trend of E-commerce in service Field

Electronic commerce is transforming industry and commerce. It shifts business focus from retail and physical stores to the virtual business. Every month, an estimated one million new internet users join the growing online community worldwide. Moreover, half a million new buyers enter the pool of some 10 million internet buyer's people who actually purchase something on the Net each month. In today's society, the

Internet is a huge part of everyone's lives. People do everything on the internet from looking up fun facts to buying presents and paying bills. Creators of E-commerce website are continually looking for ways to make their websites more user-friendly and easier to navigate. They want customers and business affiliates to be able to quickly locate the information or products that they are looking for. Under this section all the topic will focus on the future trend in E-commerce service that will help to improve web surfing for everyone:

- (1) A recent trend in the internet world is the emergence of blogs. A blog is a website where individuals or companies may quickly post thoughts, interact with people, get feedback, and more. They are popping up all over the place and discuss a very wide range of topics. Microsoft has recently revealed a plan to create and maintain blogs. It would be online software that customers would pay to use. The new technology, called MSN Spaces, would allow any person to create a blog and get linked to many other people and information. This will allow people to get product information from other customers and bring to their attention new website for purchasing products.
- (2) Another new development in E-commerce can be seen in the drug industry. Currently pharmacies are forced to fill out a number of paper forms each time they want to order a controlled substance. This is time consuming and slows the ordering down. There are forms that have to be signed and mailed to different locations before the order can be placed. Also, the process of filling out these forms and sending them mailing them around is costly, almost \$40 per transaction. Using the new electronic transactions would cost approximately \$9. The new ordering system, once in place, will allow the

agency to issue digital certificates to pharmacies and distributors who are authorized to order these drugs. The system will electronically review the orders and send the request to the agencies within 2 days. This will be a major advance for the pharmaceutical industry and increase the importance of the internet and E-commerce.

- (3) Search engine giants Google and Yahoo are making strides in a new direction. Both giants have recently added new video searches on their websites. Google new search finds excerpts from the closed caption content of television shows and bring up still photos from the shows. The Yahoo service brings back video clips but does not offer transcripts. This new technology is aimed at attracting new users and increasing advertising in the sites. The idea of video search is not news but will help market the services and increase advertising revenues.

The amount of business being done over the internet is increasing everyday. It is important that players in the E-commerce market stay up-to-date on the latest technologies to keep their customers and partners happy. With new software and applications being available all the time, it is a continuous job for website creators to keep on top. Overall, Electronic commerce is growing very fast and will be the engine for economic growth in the next country.

III. EXISTING SITUATION ANALYSIS

3.1 Current Situation Analysis

3.1.1 Legal/Institutional Framework of Port Autonomous

(1) Establishment of Port Autonomous

In 1961, the Port Authority of Sihanouk Ville was established by the Ministry of Public Works and Transport (MPWT) to operate and manage the port of Sihanouk Ville under direct control of MPWT which was one of major government ministries responsible for construction, administration and maintenance of such transportation as aviation, transportation by road, railway and river, ports and shipping, etc. The Port Authority of Sihanouk Ville is an implementing agency of the Royal Government.

Government was previously a subdivision of MPWT responsible for operation and maintenance of port facilities, navigational channels and docking operations including tug service in oil port. State-owned enterprises (SOEs) play the central role in Cambodia's planned economy. In the last decade since 1989, the Royal Government has progressed steady privatization of SOEs under the following scheme.

June 1989: Leasing of SOEs fixed assets of land and building to the private sector started

July 1991: Dissolution of SOEs by sale to private sectors started

January 1995: Details of how to sell off SOEs provided under the Law of Finance (1995)

June 1995: Inter-ministerial Committee in charge of Privatization established and chaired by the Minister of the Economy and Finance (MOEF) of whichn function are defined for;

- ☐ Overall planning of privatization
- ☐ Supervising asset evaluation of SOE by public tender, etc.

May 1996: Legal Framework for SOEs adopted, of which outlines are

- ☐ Government ministries must pull out from all commercial activities
- ☐ SOEs activities are limited to natural resource development, social infrastructure improvement and public undertakings

January 1998: The Law of Finance 1998 enforced, requiring that money earned through privatization of SOEs be spent for the promotion of further privatization.

(Source: Country Study for Japan's Official Development Assistance to the Kingdom of Cambodia; Institute for International Cooperation and Japan International Cooperation Agency, March 2002).

Simultaneously, Cambodia has initiated in earnest economic reform program after the election in May 1993. The reform program has moved the economic system of the country substantially towards a market economy, making a reduction in size of public sector for possible privatization. In line with the privatization of SOEs and the economic reform programs since 1993, a number of SOEs were substantially reduced through privatization or long-term leases to private sectors. The Public Enterprise Law was adopted as a framework of the privatization, which sets up responsibilities of public enterprises and the government, and puts public enterprises under the same legal framework as private sectors. The Port Authority of Sihanouk Ville was reformed under the Sub-decree No. 50/ANK regarding Creation of Port Autonomous of Sihanouk Ville (as abbreviated **PAS**) promulgated on July 17, 1998 and, presently, become a state-owned enterprise governed by the Law No. 0696/03 on Common Statute of Public Enterprises enforced on June 17, 1996. The Sub-decree prescribes that:

- ☐ The office shall be located in Sihanouk Ville,

- ☐ PAS is a legal entity with technical, administrative and financial autonomy,
- ☐ PAS shall be subject to provisions of the Sub-decree and shall comply with provisions of the Law No. 0696/03 regarding Common Statute of Public Enterprises and the Commercial Law.

In accord with the above Law No. 0696/03 and Sub-Decree No.50, the statute of PAS was enforced on June 22, 2001 which prescribes General Provisions, Capital of PAS, Board of Directors, General Directors of PAS, Management of PAS, Technical and Financial Protectorate of the Central Government, and Merging, Auditing or Privatizing of PAS, etc. It is stipulated that any merging and acquisition, spitting of PAS and privatization of PAS is decided by an issue of sub-decree under the proposal by ministers of MPWT & MOEF through approval of the Board.

(2) Missions & Duties of PAS

Under Article 2 of the Sub-decree No. 50/ANK, the major roles/services and the duties/responsibilities undertaken by PAS include the following;

Business Service Activities

- ☐ Shipping service, guiding sailing/berthing and logistic support for ships
- ☐ Loading, discharge, transshipment and transport of goods
- ☐ Maintenance, storage of goods, warehousing and docking
- ☐ Development and restoration of PAS existing infrastructure which needs to be extended duties and responsibilities
- ☐ To be responsible for management of safety, security and order in its port area
- ☐ To ensure the same principles and working policies as business enterprises do

- To effectively govern, lead and manage activities for improvement
- As a public entity, to receive from the government the powers and obligations to perform its legal activities

PAS has a long-term development plan for the target year 2015, which was formulated under the technical assistance of Japan International Cooperation Agency (JICA) in 1997. But, due to lack of building capability so far, any updated mid- or long-term development plan has not been established by PAS except for investment plan formulated by PAS itself at annual or short-term basis.

(3) Governance by Board of Directors

In accordance with Sub-decree No.50/ANK, the Board of Directors, who are selected and appointed as mentioned below, controls PAS on policy decision, financial commitment and other important aspects of business activities. The Board of Directors has seven (7) members. Of these, four (4) represent the central government (MPWT, the Council of Ministers, MOEF, and MOC), three (3) being selected from PAS (PAS personnel, PAS employee and Director General of PAS). The representative of PAS employees is selected among PAS employees through election. President Director General of PAS takes chairman of the Board position.

The members of Board of Directors are appointed on 3-year term by the Sub-decree, but this term may be terminated at any time and be renewed by sub-decree at the request of the Ministry or authority for which he/she represents. One public inspector is placed to assist PAS, who is appointed by the Sub-decree at the proposal by MOEF. The public inspector is entitled to attend the Board meeting but have no voting power.

The Board of Directors has full rights to make decisions on behalf of PAS on the enterprise related objects in accord with the law in force. The Board decision becomes valid by a majority vote of the members present in a meeting. Where there is an equality

of votes at a meeting, the Chairman has a casting vote. Annual enterprise project, which specifies investment program and reserved financing, funds for functioning enterprise, fees for port services and criteria for measuring economic /financial indicators of PAS, is subject to the approval by the supervisory ministries and MOEF.

3.1.2 PAS Organization and Management

3.1.2.1 Organization and Personnel Allocation

PAS is operated and managed under the control of President Director General and the three members of Deputy Directors General. Currently, PAS consists of 10 functional departments (5 administrative departments and 5 operational departments) in charge of the following functions. PAS is organized by a staff and labor force of 1,107 in total.

(Administrative Departments)

Billing Department:

With a total of 10 staffs, the major role is to issue invoices to external customers after receiving handling data on cargoes and vessels from other operational departments.

Finance Department:

This department handles external and internal account of payables/receivable affairs with a total staff of 16. The task includes recording and updating asset inventories of PAS.

Planning Department:

With a total of 7 staffs, this department prepares various financial and operational statistic data as well as budgeting plans for the coming years.

Marketing Department:

With a total of 4 staffs, major roles are to research possibilities for future port business expansion, and to build and to maintain relationships with external customers.

Administration and Personnel Department:

The roles are to take care of human resources and administrative affairs of PAS. Furthermore, this department is responsible for security and cleaning of the port by 172 staff including guards and workers.

(Operational Departments)**Harbor Master Department:**

This department performs ship's berthing and de-berthing operation including pilot's age, tugboat assistance and mooring services by a work force of 104 staff and workers including 27 of pilots.

Handling (Stevedoring) Department:

This department carries out ship's stevedoring operation for both general cargo and container ships as well as stripping works of LCL inbound containers at warehouses with a 339 staff and normal labor force. Besides 324 normal labors of PAS, there are 398 personnel of casual labors who belong to private companies to mainly work out for "Cement" handling of General Cargo ship operation.

Warehouse, Tally & Container Yard (CY) Department:

Tally works at ship's side or at warehouse for stevedoring ships or stripping LCL inbound containers are carried out by this department. Supervision of CY as well as warehouse operations for both receiving and delivering from/to vessels or outside customers is performed with a 150 staff force including tallymen and clerks.

Machinery Department:

This department consists of a group of operators to use such cargo handling equipment as Rubber Tired Gantry Transfer Cranes (RTGTCs), reach stackers, trucks or trailers for both general cargo and container ship operations. Their duties include

performing daily inspection works for equipment and machinery with a total of 184 staffs and drivers.

Technical Department:

The duties of this department are to construct and repair various port facilities including repair and maintenance of cargo handling equipment and machinery. Supplying PAS with such energy sources as fuel and electricity is taken care of by this Department with a 110 staff and specialist personnel.

The total number of PAS employees has remained almost constant since 1997. The share of employees below age 30 represents 7%. PAS personnel having engineer degree is 18 staff while those having bachelor degree is 45 staff, which seems rather too small considering the total number of employees and the scale of PAS organization.

3.2 Mission of PAS

The main missions of PAS are:

- (a) Serving the policy of the Royal Government in the development of national economy and poverty alleviation is our major obligation.
- (b) Improving service quality, reducing abnormal expenses.
- (c) Creating convenient opportunities for our customers.

3.3 Objective of PAS

The main objectives of PAS are:

- (a) PAS is a Public Enterprise Entity which is playing a major function in providing a comprehensive range of services such as bringing vessels in and out for offloading and loading including storage and transport of cargoes for customers from all social circles.

- (b) PAS is led by the Board of Directors which consists of one chairman and six members from the ministries concerned. The PAS's Board of Directors was appointed by the Head of the Royal Government of Cambodia.
- (c) PAS is becoming more and more important in conjunction with the competition for serving the interests of national and international economies.
- (d) PAS is presently stepping forward to be the logistics center which is an appropriate activity for serving the above economic currents.



IV. MARKETING ANALYSIS

4.1 Market Target

PAS in an organization mainly serving the transportation services. So the market target for this kind of business will be those companies and individual who interact with import and export business or private transportation companies.

Therefore some business like Shipping line, Transportation and consignee will be the market target of this organization.

4.2 Market Trend

According to the data from Ministry of Finance and Economic there is economic growth of about 4% percent for this year. So it seems to show that the container traffic will increase. At the same time there is some increasing number of new entrant into the market. Meanwhile, the competition in this industry will increase. But, the PAS some how got more competitive advantage than the other because we are at the good location for the ship traffic.

4.3 SWOT Analysis

Strength

- (1) It is the only deepest sea port in Cambodia. At the same time it has been operating longer than the other ports in this country.
- (2) Sihanouk Ville Autonomous Port can be considered as the first organization in this country to use high technological equipment and information technology to improve the service quality.
- (3) Because of longer experience in this business PAS have lower operating expenses than other organizations within the same business area.
- (4) More and more survey has been conducted to make sure that all the processes satisfy its customer.

Weaknesses

- (1) Most employees in this organization are not so familiar with the information technology.
- (2) Some processes in serving the customer of this organization seemed to be redundant.
- (3) Very low expertise in online business.

Opportunities

- (1) A growing number of people go online due to more ISP and low cost of internet.
- (2) It seems that more and more people are become interested in IT field.
- (3) The government's regulations also encourage people in this career to use new technology to innovate their business.
- (4) By using the new design website PAS have more time to serve their customers and will be able to response to the entire request on time.

Threat

- (1) More and more people have entered the transportation business (Port). Some of them are newly open so they have started to use the system in controlling all the processes since the beginning.
- (2) Some customers are not able to contact the port officer by using this online tool because some of them do not have interest or not even now what is internet.

4.4 The 4ps of Automation Web site.

Marketing plan is the essential part from the starting point. To overcome the competitor or to be the leader of the market and gain targeted market share are all based

on the well-prepared marketing mix and how effectively the Organization can archive them.

Product (Service)

The Automation System Website specialized in receiving the booking information from the customers and providing them back with the information that they want. Port Autonomous of Sihanouk Ville has provided the three main things for the customers. First, is providing the location for landing the Ships (Cargo ship, Container ship and Tourism's ship). Second, the Port has five warehouses provided for the Customers to stock their goods if they want. And third, is providing good services for lifting on/off the goods by using the machinery like (Crane, Stacker, Forklift, Rubber Tired Gantry Transfer Cranes, etc.) for the customers.

Price

Because there are varieties for price category for the service in the port we will include the entire price list in the Appendix A.

Place or Distribution

Because the Port is the big organization in Sihanouk Ville and in the business, we have our own physical location. The Port Autonomous of Sihanouk Ville is located in the center of the city and the only one port in Sihanouk Ville, so customers can easily go both to the sea and to the markets in center of the city. PAS provides not only offline business but also provides Internet and online catalog.

Promotion

The port has special promotions in many things for theirs customers. Not only for the old customers but for the new customers also. There are some promotion strategies for our Port's customer as below:

- (1) The Nation's ship would not be charged for berthing

- (2) 15% for the Container's ship.
- (3) Tourism's ship we have a special discount by taking only 4,000 US Dollars per day, instead of 20,000 US Dollars per day as before.
- (4) We discount 75 % for Cement's ship for landing per day.



V. THE PROPOSED SYSTEM

5.1 Hardware Requirement

For this project to be a success some of the hardware below will be needed for designing as well as for the implementation of the project after it completes:

Designing: the hardware below is in minimal requirement.

Table5.1 Hardware Requirements

HARDWARE	SPECIFICATION
CPU	Intel Pentium IV 2.66 GHz
Hard Disk	40 GB
VGA	128 MB
RAM	128 MB
Floppy Disk	1.44 MB
Keyboard	104 Key English
Mouse	Standard Mouse PS/2
CD R/RW/DVD	Combo Set

Implementation: for the implementation there will be a need for a server to handle the website and the traffic. At this time, I personally recommend the IBM Server X series for the implementation.

5.2 Software Requirement

In order to implement this project some of the software below will be needed for implementation.

Table5.2 Software Requirements

SOFTWARE	SPECIFICATION
Operating System	Window advance server 2003
Application Software	Microsoft SQL Server 2000,Adobe Photoshop CS, Macromedia Dream weaver MX, Macromedia Flash MX,
Browser	Microsoft Internet Explorer 6

5.3 Objectives of the project.

The main objectives of the above system are:

- A. Provide a more efficient system in the documentation procedures.
- B. Provide online enquiries on status of container/cargo to improve on the operational efficiency thereby enhancing the present service level.
- C. Reduce the turnaround time of a port user from the time he presents a Delivery Order to the time he leaves the port with his container/cargo.
- D. Eliminate the maintenance of manual records to determine the container/cargo balance and to keep track of the delivery list number issued.
- E. Eliminate the preparation and submission of the various reports to the Finance & Billing Office.
- F. Provide a standard container/cargo delivery procedure for the 3 CY and warehouse staff to follow.
- G. Reduce the time spent as well as to minimize mistakes made staff due to manual processing of delivery documents.
- H. Minimize any over or under collection of the port charges due to manual computations of charges.

5.4 Site Map

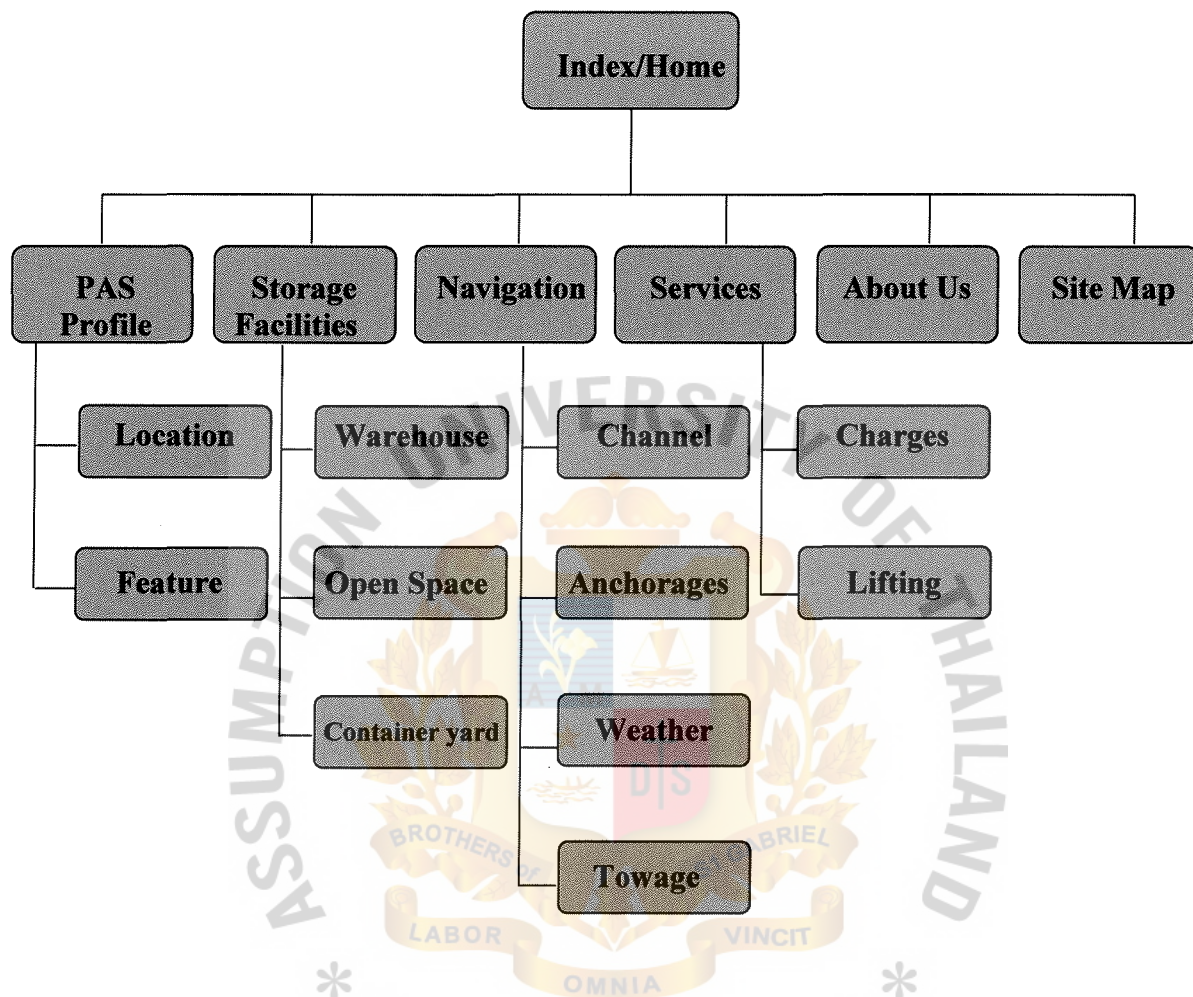


Figure 5.1 Site Map

5.5 Home Page

Figure 5.2 show Home Page of PAS. This page shows about the Logo and the Name of the PAS. The page also gives the link part that when the customers want to send the feedback and contact to our port. The page also gives you reliable Logistics and Shipping Lines in Cambodia. Moreover, this page show about the colors that they use to attracts the feeling of the customers and also to make the web site beautiful to look at.

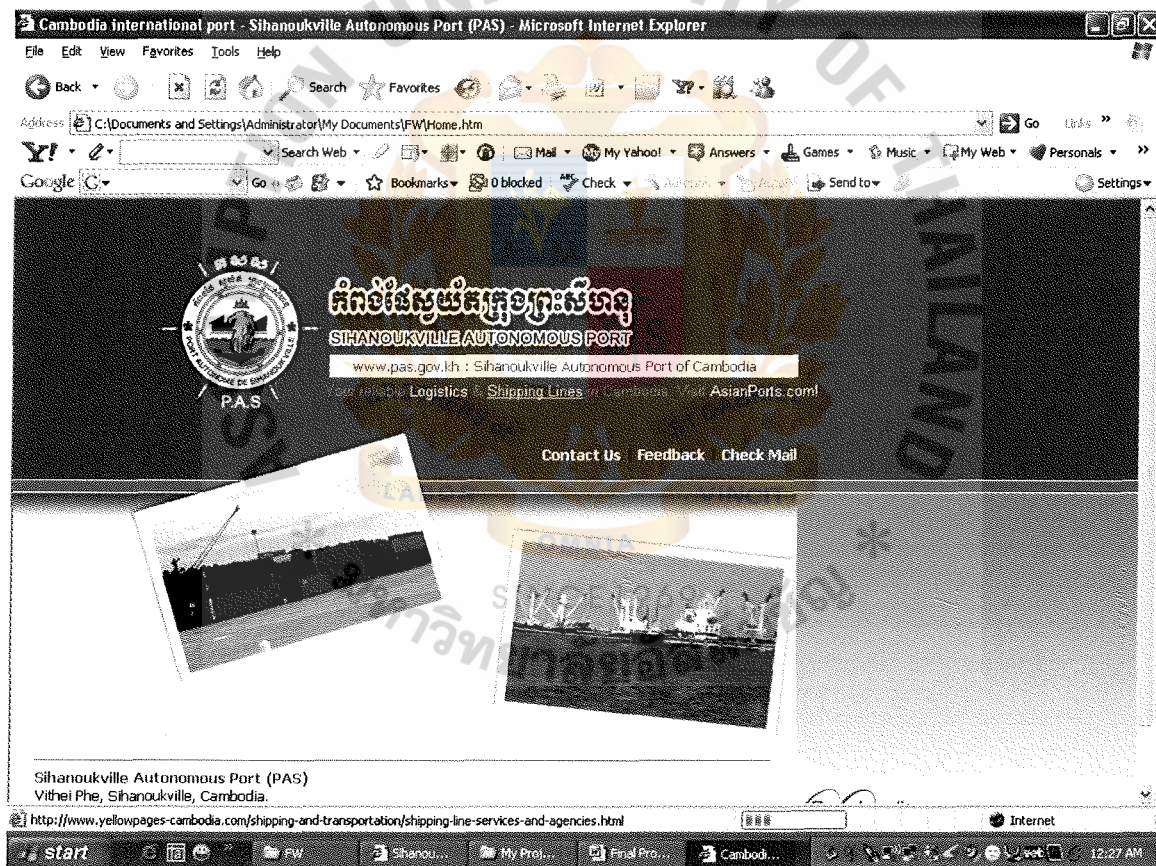


Figure 5.2 Home Page

5.6 Storage Facilities

Figure 5.3 show the Storage Facilities page. This page show the about the storage of the PAS that have three parts. The first part is about the warehouses. PAS have 5 warehouses with the total area of 36,000m² and total storage capacity up to 64,000 tons. Second is about the Open Space that the Open space area: 56,000m² with storage capacity up to 100,000 tons. Third is about the Container yard: 96,000m² with storage capacity up to 7,500 TEUs.

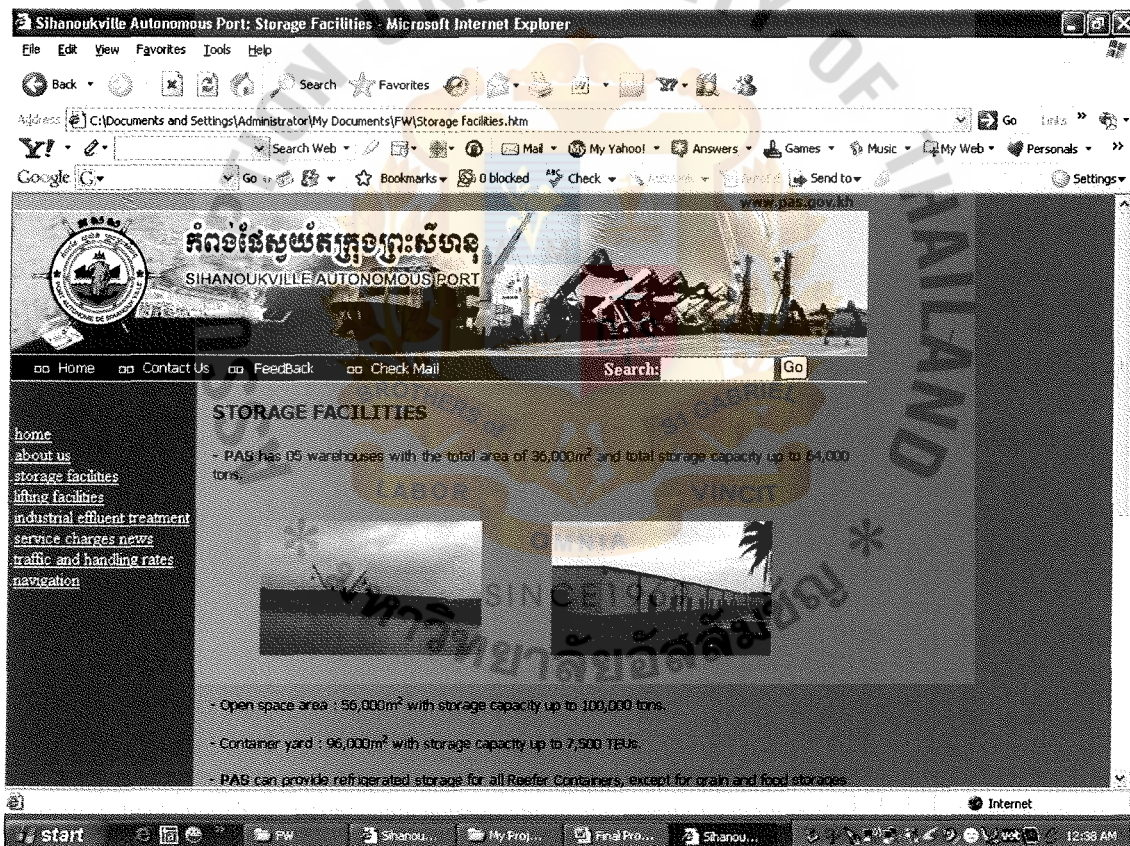


Figure 5.3 Storage Facilities.

5.7 Navigation

Figure 5.4 show the Navigation page. This page will show the information about the Channel, Anchorages, Weather Condition, and Towage of the PAS. Channel has three which are the southern channel, the northern channel and the tanker channel. The Anchorages also have three which are the southern anchorages, the northern anchorages and the tanker anchorages, and Towage is:

- Tug boat 1.800HP: 01 Unit
- Tug boat 1.600HP: 02 Units
- Tug boat 800HP: 02 Units
- Pilot boat: 01 Unit
- Mooring boat: 01Unit
- Speed boat: 02 Units

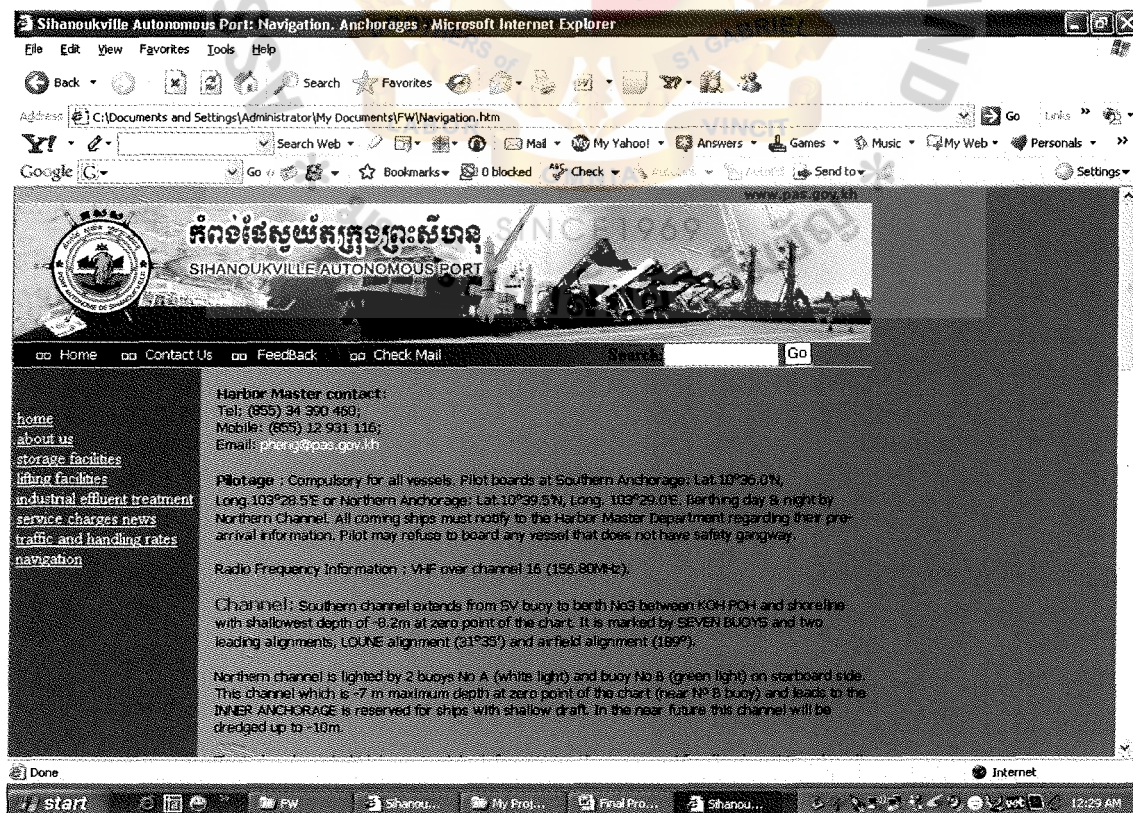


Figure 5.4 Navigation Page.

5.8 Lifting Facilities

Figure 5.5 show the Lifting Facilities page. This page will show about the service of lifting On-Off Equipment that PAS has. And give the picture of the equipment that are use for the operation in the port. And this page also gives about the port's working hours that are divided into three shifts:

- From 7:00 am to 11:30 am
- From 13:00 pm to 17:30 pm
- From 19:00 pm to 23:00 pm

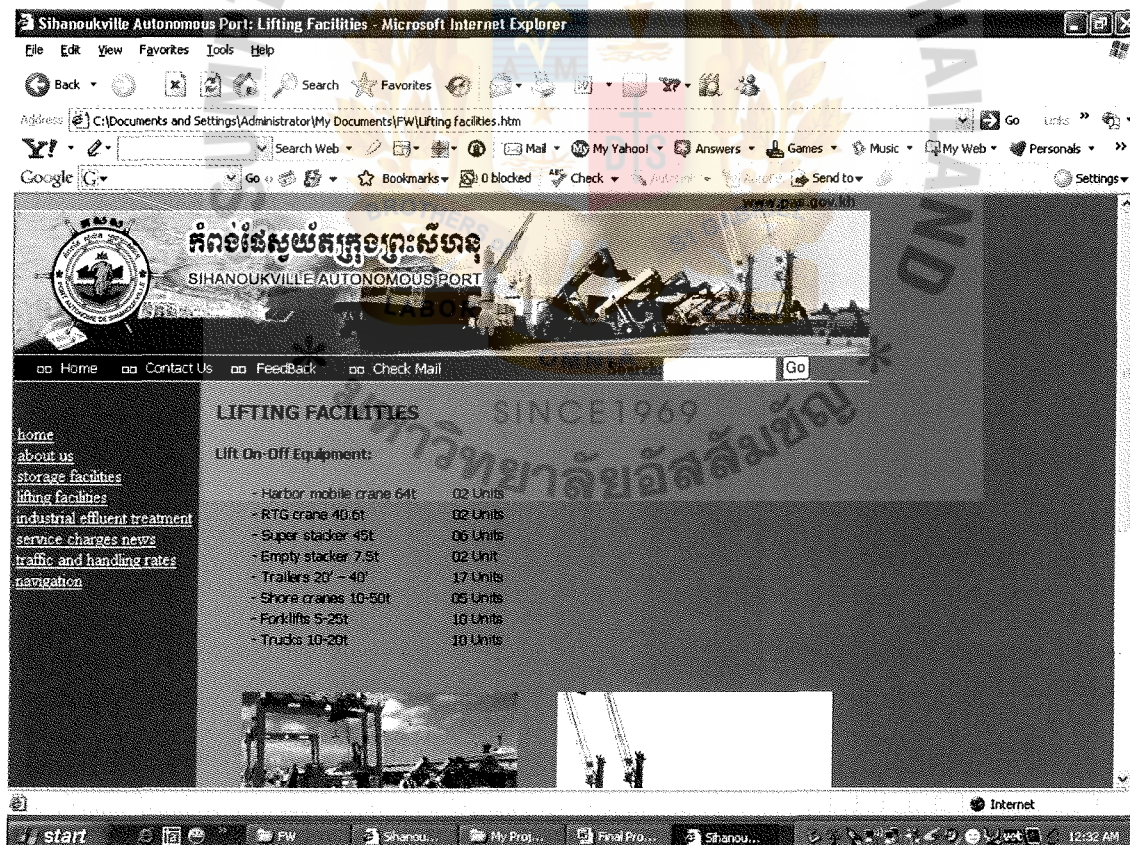


Figure 5.5 Lifting Facilities Page.

5.9 About Us

Figure 5.6 show the About Us page. This page will provide information about the old jetty that was constructed in 1956 that became operational in 1960 and the construction of Container terminal, and the location of Oil terminal of PAS. This page shows the location of the Container terminal, New Quay and the Old jetty that have in the PAS. It will also give the picture of the operation in the Old jetty and New Quay and the picture about the location of the oil port.

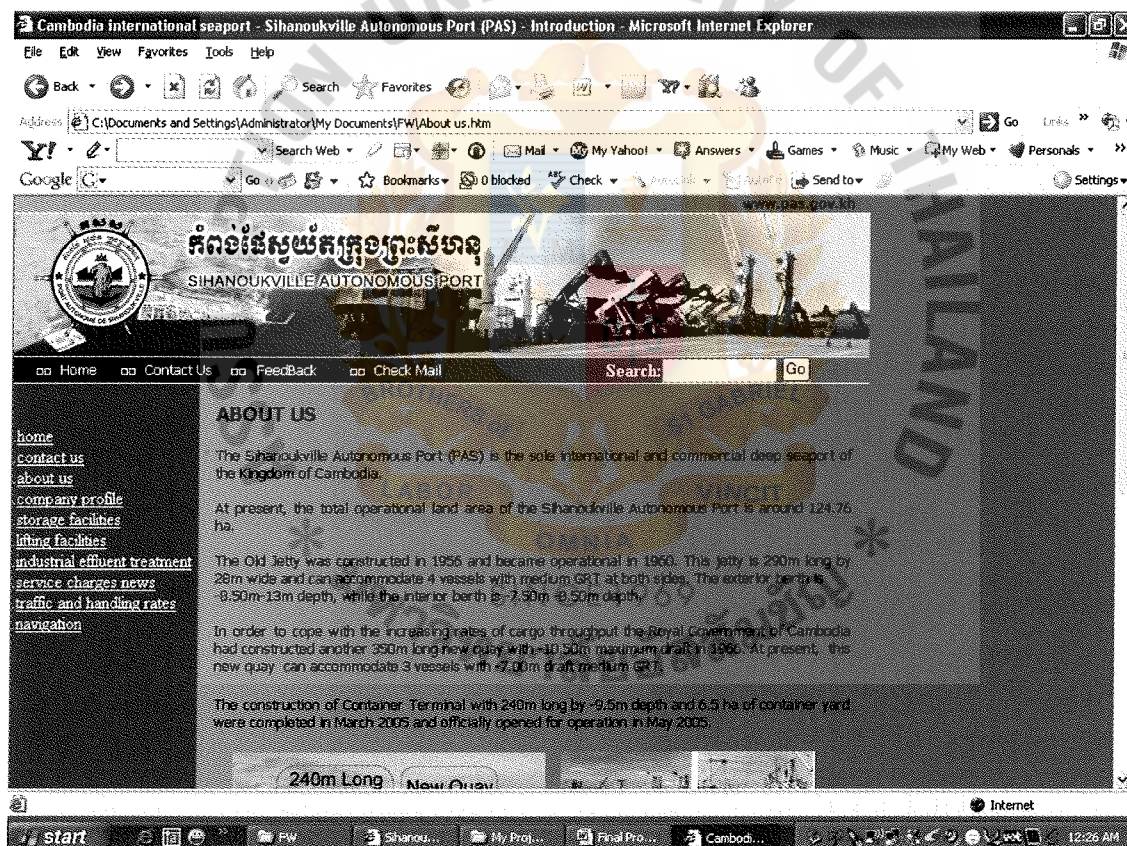


Figure 5.6 About Us Page.

5.10 Company Profile

Figure 5.7 show the Company Profile page. This page will show about the location and the Geographical Feature of PAS. PAS is located at the bay of Kompong Som of the Gulf of Thailand. This port is situated in a Loune area with latitude: $10^{\circ} 38'$, $73'N$ and longitude: $103^{\circ} 29'$, $82'E$. The water area of Sihanouk Ville Autonomous Port extends from SV buoy in the South to Koh Kras in the North and to a tanker buoy (2 miles NW of Dek Kuol Isle) in the West. The page also gives the picture of map that show about the location of where the port is in.

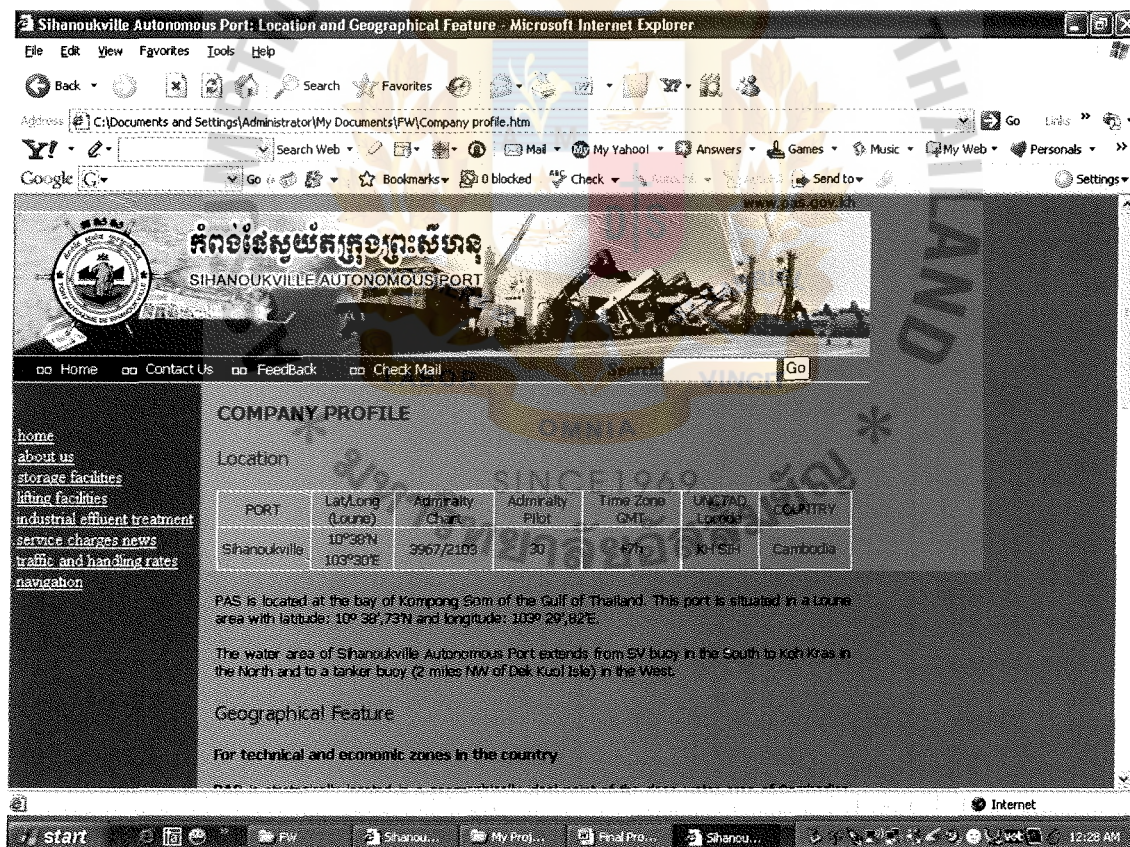


Figure 5.7 Company Profile Page.

5.11 Payment Method

Payment system is a very important strategy that web site need to improve and choose property to make customers trust the site. For PAS web site, Maser Card and Visa Card are welcome. Moreover, PAS already have the interaction with the issuing bank of these two cards. There are some banks that can provide terminal in Cambodia such as Mekong Bank, ANZ Royal, etc...

5.12 Break-Even Analysis

5.12.1 Cost and Benefit Analysis

The part will compare the profit of organization before having the web site and after having the site. This part will also show the increasing profit after having the site also.

Table 5.12.1 Cost and Benefit Analysis

Total Revenue before having site				
	year			
	1	2	3	4
Revenue of PAS before having site				
All Revenue	2,100,000	2,500,000	2,700,000	2,900,000
Operating Cost				
Salary	400,000	400,000	400,000	400,000
Operating Expense	600,000	600,000	60,000	60,000
Advertisement expense	12,000	<u>12,000</u>	<u>12,000</u>	<u>12,000</u>
Total	<u>1,628,000</u>	<u>2,028,000</u>	<u>2,328,000</u>	<u>2,528,000</u>

Total Revenue after Having Site				
	year			
	1	2	3	4
Propose System Cost				
Hardware cost	205,000.00	0.00	0.00	0.00
Software cost	50,000.00	35,000.00	18,00.00	18,00.00
Installation fee	15,000.00	0.00	0.00	0.00
Domain registration	6,200.00	6,200.00	6,200.00	6,200.00
Web hosting fee	8,200.00	8,200.00	8,200.00	8,200.00
Total	284,400.00	43,200.00	26,200.00	26,200.00
Operating Cost				
Salary	197,000.00	207,000.00	240,000.00	265,000.00
Bonus and Extra expense	30,000.00	35,000.00	40,000.00	45,000.00
Advertisements expense	82,000.00	82,000.00	82,000.00	82,000.00
Utilities expense	10,000.00	10,000.00	10,000.00	10,000.00
Maintenance expense	15,000.00	15,000.00	15,000.00	15,000.00
Equipment expense	41,000.00	41,000.00	41,000.00	41,000.00
Total	375,000.00	390,000.00	428,000.00	458,000.00
Total Cost	659,400.00	433,200.00	454,200.00	484,200.00
Proposed System Revenue				
Banner Revenue	15,00.00	16,000.00	16,500.00	17,500.00
Customer Service	1,460,000.00	1,500,000.00	1,600,000.00	1,800,000.00
All revenues	3,444,000.00	4,000,000.00	4,300,000.00	5,100,000.00
Total	4,919,000.00	5,516,000.00	5,916,500.00	6,917,500.00

5.12.2 Payback Period

Because, the port has been run for long time, we did not have so many problems in starting up the system. Moreover, the site is mostly free to all the customers so we do not have much direct revenue, but we have more in the indirect revenue. The indirect revenue means that when the system is being used by the PAS, more customers will send the information to the PAS.

Table 5.12.2 Payback Period

Year	1	2	3	4
Profit	<u>4,259,600.00</u>	<u>5,082,800.00</u>	<u>5,462,800.00</u>	<u>6,433,300.00</u>

VI. ANALYSIS AND DISCUSSION

6.1 The process of Booking before having the web site

In the past when customers wanted to give any information related to their containers or the date container will arrive as well as the date when containers will leave the port, those interacting persons will have to personally hand the document to the port officer. After that the port officer will collect all the documents and stamp for the date of document entry and keep it to forward it to the concerned department. Some times those port officers will have to handle the given information by the phone and they will have to repeat the information that has been given and put it into the computer. And some time this process faces a lot of problems because we have to spend a lot of time waiting to get the information from the customers. Sometimes, during the busy time information that has been given by the phone maybe inaccurate.

6.2 The New supported website

From time to time we had many complaints from the customers. They said that the port was wasting their phone credit, because the officer kept them waiting for a long time while they input that information to their database. So, the Port top management decided to solve these entire problems by having their own website to support these problems. The web site's function is to keep track of information given by the customers. Customers now can go to Port's new website and give that information that they want to give accordingly.

Moreover, customers can go to some other places in the website to find out some related information such as the equipment that's available in the port as well as the time and some other information related to tariff also.

VII. CONCLUSIONS AND FUTURE PLAN

7.1 Conclusions

The PAS is one of the largest ports in Sihanouk Ville. Because of the changing environment and competition, this firm has formed a lot of strategies to attract the customers. After the SWOT analysis, the PAS knows its own weakness and threat, so it will have to form other new strategies to cover those threats and weaknesses. Because the PAS also has some opportunities and strengths, it will be much easier to form the new strategies. The PAS found out that there is only one way to win over the competition and stop the price war and it is the technology innovation. The PAS also found out that they have to use the internet technology to make it easier for the customers to provide some important information as well as to find out some more information from the port. Developing a web site is a new strategy that we want to use to introduce our business to people in the other parts of the world. Not only for those, who will be our new customers only, but the system is also beneficial for our existing customers also.

Our new customers that never knew about our port before will get to know it more easily by just visiting our web site. They will not only get to know the PAS, but they will get to know some other new services that will be updated for customer's everyday.

The proposed system will make it easier for our existing customers to keep track of the some information. They can go to our site and check the availability of the services and also book for some services also. Those regular customers will have their own user name and password to get a special price from us.

7.2 Future Plan

There is no strategy that can be invented forever for this world. The strategy life is just like the product lifecycle; after they reach maturity for sure they will have to decline after becoming obsolete.

In order to follow the quickly changing environment, we plan to improve our web site and system state by stages as follows:

Stage 1

- (1) After running the system and web site for one year, we will add more capability to our web site and make the other firms buy some space for our web site as a link and advertisement for their interact organization also.
- (2) Moreover, we will improve the capability of the web site by making it the most dynamic web site with the search engine.
- (3) The interface of the web site has to be changed frequently in order to attract customers' attention.
- (4) More recommended places have to be added to the web site.
- (5) We need to develop systematic and secure electronic payment system.

Stage 2

- (1) We will have to launch high offline advertising for our web site. Mostly, we will use the local newspapers and popular magazines.
- (2) For our online advertising, we will buy some space from some popular web sites.



TARIFF FOR STEVEDORING CHARGES

[illegible]

No	category of cargo	base cost	from ship to		warehouse to		from ship to barge	discharged at anchor
			jetty	warehouse	trucks	wagons		
1	- Bulk cargoes, metal ores, gravel, block food, fertilizer, salt, raw sugar	1.46	2.48	2.77	1.83	2.04	2.56	2.92
2	- Cargoes in bags packed in cotton, jute, paper, rad-nylon, rush-bags	1.58	2.68	3.00	1.98	2.21	2.77	3.16
-	- Cargo in bags cement, fertilizer, salts (30%)	1.58	3.16	3.50	2.45	2.68	3.24	4.00
3	- Spare part, empty cases, empty drums, logwoods	2.12	3.60	4.03	2.65	2.97	3.71	4.24
4	- Cargoes in drums, cases, cartons, tins, plates, coins, bars	2.32	3.94	4.41	2.90	3.25	4.06	4.64
5	- Cargoes in bales raw cotton, raw jute, bums, rush, paper, household textile furniture	2.45	4.23	4.66	3.06	3.43	4.29	4.90
6	- Sawn timber, flooring strips, wooden or bamboo, rubber	2.52	4.28	4.79	3.15	3.53	4.41	5.04
7	- Cargoes in baskets, raw tobacco, cigarette, soft drink, wine, beer, provisions	2.65	4.50	5.04	3.31	3.71	4.64	5.30
8	- Fragile material cargoes: bottles, glass, ceramic pots, TV	2.81	4.77	5.34	3.51	3.93	4.92	5.62
9	- Fresh fruits, vegetables, livestock, frozen product	2.92	4.96	5.55	3.65	4.09	5.11	5.84
10	- Special & valuable cargoes: golds, silvers, diamond	4.97	8.44	9.44	6.21	6.96	8.70	9.94
*11	- All kind of vehicle	20.00	34.00	40.00	28.00	35.00	36.00	60.00
		container full 20'		57.00	46.00	57.00		
		container empty 20'		30.00	23.00	28.00		
		container full 40'		85.00	62.00	78.00		
		container empty 40'		45.00	44.00	55.00		
				Warehouse US \$ 0.20 / ton / day or US \$ 0.25 / m ³ / day				
				Open space US \$ 0.10 / ton / day or US \$ 0.125 / m ³ / day				

Figure A.1 Tariffs for Stevedoring Charges (Price)

KINGDOM OF CAMBODIA		
NATION RELIGION KING		
๐๐๐ 00 0๐๐๐		
PORT DUES & CHARGES		
SIEMREAPVILLE AUTONOMOUS PORT		
1 Tonnage dues	US \$	0.25 * GRT
Anchorage dues	US \$	0.0005 * GRT * hour
2 Berthing dues	US \$	US \$ 0.23 * GRT and US \$ 0.05 * GRT for Anchorage
berthing over 5 days to be added US \$		0.003 * GRT * hour (including Saturday,Sunday & Holiday)
3 Channel dues	US \$	(0.50*GRT)-(GRT*GRT/200,000) and (50% of Cambodian vessel operation in the country)
4 Pilotage charges	US \$	0.03 * GRT (for commercial sea port) and for shifting in port's area US \$ 0.22 * GRT
		0.035 * GRT (for oil jetty & tank's terminal & sea light)
		(minimum charges US \$ 12500 for in & out port)
		(Saturday & Sunday & Holiday increases 50% ; Night shift from 1730hrs to 0700hrs the following days increases 25%)
		For each shifting US \$ 0.022 * GRT
		Shifting by rope charges US \$ 114.00/times
5 Tug assistance charges upto GRT of vessel		
	kind of vessel	US \$ /hour
	below 1000 GRT	105.00
	from 1001 to 4,000 GRT	178.00
	from 4,001 to 10,000 GRT	190.00
	from 10,001 to 15,000 GRT	237.00
	Above 15,001 GRT every subsequent 1,000 GRT to be added	20.00
	(Saturday & Sunday & Holiday increases 50% ; Night shift from 1730hrs to 0700hrs the following days increases 25%)	
6 Mooring & unmooring charges upto GRT of vessel		
	kind of vessel	mooring & unmooring
		at quay at buoy
		US \$ /times US \$ /times
	below 1000 GRT	16.00 50.00
	from 1001 to 4,000 GRT	23.00 83.00
	from 4,001 to 10,000 GRT	30.00 116.00
	from 10,001 to 15,000 GRT	46.00 132.00
	Above 15,001 GRT every subsequent 1,000 GRT to be added	17.00 53.00
	(Saturday & Sunday & Holiday increases 50% ; Night shift from 1730hrs to 0700hrs the following days increases 25%)	

Figure A.2. Port Dues and Charges (Price)

BIBLIOGRAPHY

1. Chaffey, Dave and Richard Mayer. Internet Marketing Strategy Implementation and Practice's: Financial Times/Prentice Hall International Company 2002.
2. Management Information Systems:" Managing The Digital Firm". Eight Editions by Kenneth C.Laudon and Jane P.Laudon.
3. Kotler, Philip. Marketing Management, 10th Edition. New York: Prentice Hall International Company, 2000.
4. Turban, Efraim. Electronic commerce 2002: A Managerial Perspective, International Edition. New Jersey: Prentice Hall International Company, 2002.

WEBSITE

www.pas.gov.kh



