Ecotourism in Thailand

by

Ms. Jiranut Srisawang

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
Assumption University

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E-Plastic Manufacturing
(sriwattana.com)

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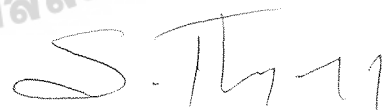
The Graduate School of Assumption University has approved this final report of the three-credit course, IC 6997 E-Commerce Practicum, submitted in partial fulfillment of the requirements for the degree of Master of Science in Internet and E-Commerce Technology.

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1.1 Background of the Project

Electronic commerce over the Internet is predicted to grow at an ever-increasing rate over the next few years, with on-line sales already heading for several billion. Many companies are using this new sales channel, and a few retailers now have established major on-line sales sites.

Most companies with an Internet presence have a straightforward marketing site. The objective of the site is to supplement traditional marketing activities, perhaps give additional information, and generally promote the company. There is often a reluctance to give complete product details because the objective is to induce visitors to call or write to the company for more information and thus establish contact. This is the new niche market for increasing the value added of the companies.

B2B that is made-to-order requires negotiation. It is sale to another business that involves haggling over prices, delivery and product specifications. It is not the same as most consumer sales which is easier for retailers to put a catalog online, and other B2B applications were for buying finished goods or commodities that are simple to describe and set the price.

Since E-Plastic manufacturing on-line will be built as business to business form, the product must be made-to-order with high quantity in order to the intermediary sell to big companies afterwards.

1.2 Objectives of the Project

The purpose of the study is to create a web site for Sriwattana Industry with the following goals:

(1)   To expand to new markets and be able to reach new customers.

(2)   To promote and introduce the products to international market.

(3)   To be a new marketing channel or tool of doing business.

(4)   To encourage the target customers to visit the web site 24 hours a day.

(5)   To use less paper to help saving costs.

(6)   To reduce costs from repeated visit to the customers for confirming about the production.

(7)   To increase revenues through web-based sales.

1.3   Scope of the Project

(1)   To apply some of the knowledge learnt in the Master of Science in Internet and E-Commerce Technology into this project.

(2)   To conduct a complete advantage, and SWOT analysis. Then design strategies to meet competition and show how implementation will be done.

(3)   To provide the marketing plan by setting target market, market positioning and promotional mix.

(4)   To design and develop a web site effectively allowing users to find information easily.

(5)   To update Web site products on the web site frequently.

(6)   To manage the web site effectively allowing users to find information easily

1.4   Deliverables

(1)   Prototype of http://www.sriwattana.com actual web site.

(2)   Deliverables for this project will be the final report.

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II. LITERTURE REVIEW

2.1 What Is Internet?

Internet is the most well-known and the largest implementation linking hundreds of thousands of individual networks over the world in such a way that information can be sent from any computer to any other 24 hours a day 7 days a week. These computers can be in homes, schools, universities, government departments, or businesses small and large. They can be any type of computer and be single personal computers or workstations at a school or a company network. Internet is often described as 'a network of networks' because all the smaller networks of organizations are linked together into one giant network called Internet.

Internet has developed a very strong community base where information, software and expert advice are freely shared and for this reason users have developed a very strong protective stance on freedom of speech, freedom from commercial interests, netiquette and unsuitable material on the web.

Internet is a worldwide collection of computer networks, cooperating with each other to exchange data, using a common software standard. Through telephone wires and satellite links, Internet users can share information in variety of forms.

In today's economy, E-commerce plays a very significant role in a rapidly increasing number of cooperation across a wide spectrum of industries. The ability to conduct secure business transactions across the Internet can give instant access to a new way to reach existing and new customers. There are numerous advantages to selling online or Electronic commerce, but most of them come back to a single reality; it saves the company hard cash. From reducing reliance on call centers to eliminating printing

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and postage costs for catalogs, Electronic commerce enables businesses to address their customers directly and complete real-money transactions in highly efficient ways.

The Internet makes available text documents, graphics files (digitized photographs and artwork), and even files that contain digitized sound video. Through the internet, users can download software, participate in interactive forums where users post and respond to public messages, and even join "chats" in which users and other users type (and, in some cases, speak) messages that are received by the chat participant instantly.

2.2 Defining Electronic Commerce

Today, Internet has an important role in our life. Many people are confused about the difference between E-commerce and E-Business. E-commerce (Electronic Commerce) means the opening of an electronic channel for one particular aspect of the overall business, such as sales via the Internet, electronic procurement or electronic payment that is composed of B2C and B2B. And E-Business (Electronic Business) means the redefinition of the overall business approach of an existing company. This will usually be done by launching new types of service and products reflecting the possibilities provided by interactive selling, interactive production and supply chain management, and interactive (just-in-time) delivery.

Both E-commerce and E-Business need to be implemented in an organization in this globalization era. This report focuses on an E-commerce since E-Plastic is a part of E-commerce structure.

Electronic commerce endeavors to improve the execution of business transactions over various networks. Theses improvements may result in more effective performance (better quality, greater customer satisfaction, and better corporate decision making),

greater economic efficiency (lower costs), and more rapid exchange (high speed, accelerate, or real-time in traction). More specifically, electronic commerce enables the execution of information-laden transaction between two or more parties using interconnected networks. These networks can be a combination of POTS (plain old telephone system), cable TV, leased lines, and wireless. Information based transactions are creating new ways of doing business and even a new type of business.

Transactions are exchanges that occur when one economic entity sells a product or service to another entity. A transaction takes place when a product or service is transferred across a technologically separable interface that links a customer (user) with a producer (server). When buying/selling transactions occur in the electronic marketplace, information is accessed, absorbed, arranged, and sold in different ways (see Figure 2.1). To manage these transactions, electronic commerce also incorporates transaction management, which organizes routes, processes, and tracks transactions. Electronic commerce also includes consumers making electronic payments and fund transfers.
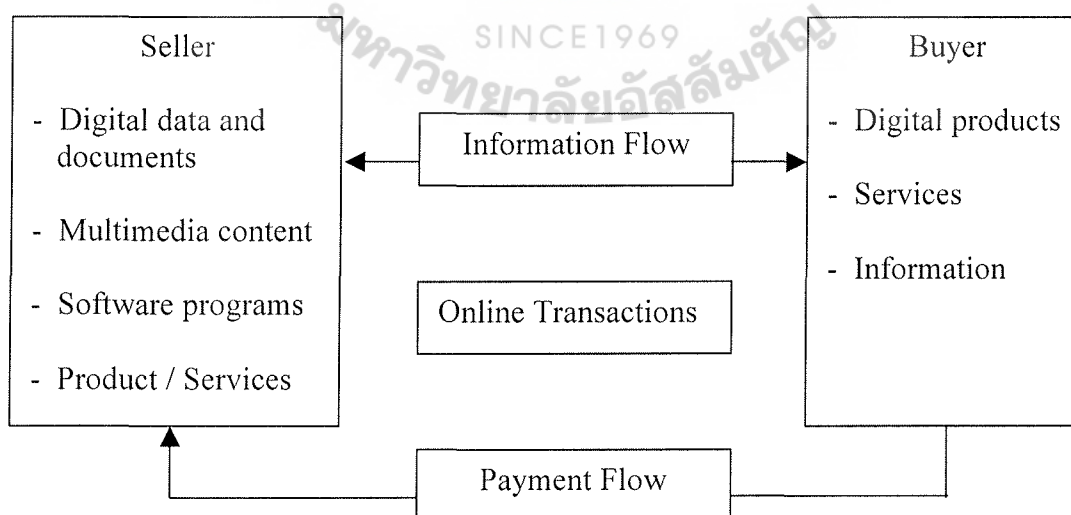
Figure 2.1 Buying/Selling Transactions.

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Another way of looking at electronic commerce is to view it as a production process that converts digital inputs into value-added outputs through a set of intermediaries (see Figure 2.2). For example, in case of online trading, production processes can add value by including more value-added processing on the raw information supplied to customers. Other value-added processing might include the charting of thirty-day moving averages, industry sector performance analysis, and other way of processing that results in better decision making.

Producers:
- Digital data and documents
- Multimedia content
- Collateral information
- Customer participation

Online Production Process

Consumers:
- Digital product
- Services
- Processed orders
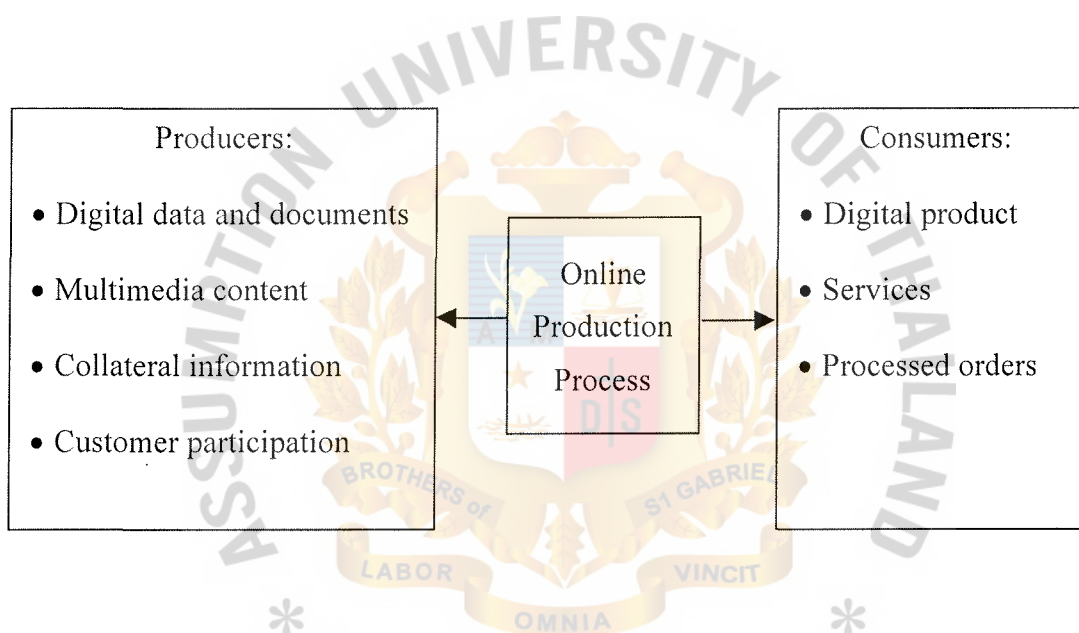
Figure 2.2   Producers/Consumers' Interaction.

Firms use technology to either lower operating costs or increase revenue. Depending on how it is applied, electronic commerce has the potential to increase revenue by creating new markets for old products, creating new information-based products, and establishing new service delivery channels to better service and interact with customers. The transaction management aspect of electronic commerce can also enable firms to reduce operating costs by enabling better coordination in the sales,

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production, and distribution processed (or better supply-chain management), and to consolidate operations and reduce overheads.

Currently, the goal of most electronic commerce research and its associated implementations is to reduce the friction in online transactions. Friction is often described in economics as transaction cost. Friction can arise from inefficient market structures and inefficient combinations of the technological activities required making a transaction. Ultimately, the reduction of friction in online commerce will enable smoother transactions between buyers, intermediaries, and sellers.

2.3 The Web and Electronic Commerce

Many companies use the Web to communicate with customers and suppliers by publishing contents on their Web server for widespread distribution. Motivated by the potential for business-to-business as well as business-to-consumer commerce, many firms are taking steps toward selling their products and services on the Web.

The Web is also changing and reshaping industries whose core business is information transfer between the firm and the consumer. Examples of such business functions include advertising, marketing, sales, and customer service. Industries that engage in information transfer with customers include banking and financial services, retailing and electronic publishing and edutainment.

Within these industries, the Web is used for four major tasks:

(1)   Attracting new customers via marketing and advertising.

(2)   Serving existing customers via customer service and support function.

(3)   Developing new market and distribution channels for existing product.

(4)   Developing new information-based products.

Marketing and Advertising

Interactive marketing related use of the Web includes brand-name management, distribution of product catalogs and sales information, and production announcements. The consumers can click on a banner advertising for more information or send e-mail to ask any questions for the best outcome in customer relationship.

Web provides a friendly interface that will open new channels or interacting with and selling directly to customers. While a company has to realize revenues directly from web sales, the majority or web usage by business still revolves around activities that do not involve the direct transfer of money. In the promotion area, e-mail is becoming a big business, which causes company to buy e-mail lists from house lists. The lists, valuable sources of new customer leads, are used as direct marketing tools.

Advertisers are discovering that innovative, high-quality content attracts the viewer attention such as animation banner ads. Advertisers have to resist the temptation to simply dust off old brochures and put them online. They need to create new offerings to exploit the Internet's unique properties, access on demand 24 hours a day to a wide range of users, ability to provide unlimited information at a low cost and easy update. In addition, Internet can provide detailed interaction with customer, the ability to create distinct market segments, and the ability to personalize service for individual users (one-to-one direct marketing relationship with customers).

The Internet technology that makes marketing and advertising feasible is the ability to broadcast information using Web bulletin boards, Web billboards, banner, e-mail, chat room, forums and etc.

Customer Service and Support

The Web is particularly useful in handling information queries that otherwise would be handled by a customer service representative. The amount of free information is tremendous and it is accessible any time from any place and substantial discounts can be found, especially if you have time and patience. Thus, the Web can provide value-added task for both customers and suppliers, especially in service industry and perform a variety of customer-oriented tasks including:

(1)   A new distribution channel for software, software patches, and support information.

(2)   Customer interaction and query capability.

(3)   New venues for customer relationships.

(4)   Access to government information.

Developing New Markets and Distribution Channels.

The Web will enable firms to build on the assets that they already possess like brand name recognition, operational infrastructure, information, and customer relationships in order to develop new markets and distribution channels.

Publishers using the Web need to determine how to convert proprietary online information services into open, pay-per-page services targeted to specific customer segments, translate print-based publication and market expertise into online services focused on defined interest areas, and implement services that enable publishers to receive payment for corporate, professional and individual copies of copyrighted publications.

In case of distribution channel, the software industry has been a pioneer in using the Internet for product distribution, which is a digital product. Some electronic

distributors selling a few groups of product are very successful. Typically, specialty stores sell books, CDs, flowers, software & hardware, automobiles and clothing that are both physical and digital products.

Developing New Online Products/Services

The web allows new product and service to be created and /or existing product to be customized in innovative ways. Such changes may redefine organization, mission and the manner in which they operate.

Education and entertainment are two areas where new online products have the potential to do well because of the interactivity enabled by the Web. In the case of education, students can do research and receive instructional material from anywhere without having to physically go to a particular city or academic institution. The longer term potential of education on the web is the more creations of new products that enhance the transfer of knowledge from not only companies that are currently in the business of long-distance learning but also from major academic and research institutions.

In the case of entertainment, players can play games against other game players scattered all over the world. Users will be able to download software and play against others online regardless of the actual whereabouts of each player. These opportunities are major revenue opportunities for the game providers, both existing and new entrants, as well as a new form of entertainment for consumers.

2.4 E-commerce Business Integration

By virtue of its similarities, the scope of operations for E-commerce is nearly as broad as traditional commerce. E-commerce includes both traditional activities (e.g. providing product information) and new activities (e.g. conducting online retail in

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virtual malls, publishing digital information). Some of the common operations that define E-commerce are specific business-to-business and business-to-customer interactions, such as:

Information Exchange

    (1)   Goods or services trading

    (2)   Sales promotion and advertising

    (3)   Online digital content delivery

    (4)   Electronic funds transfers and transaction processing

    (5)   Electronic share trading

    (6)   Electronic bills of lading processing

    (7)   Collaborative work interaction

    (8)   Manufacturing management

    (9)   Accounts settlement

    (10)   Online sourcing

    (11)   Public procurement

    (12)   Direct consumer marketing

    (13)   Inventory management

    (14)   Post-sales service

    (15)   Commercial auctions.

Although every E-commerce implementation will differ, most SMEs focus operations on:

    (1)   Product promotion via online catalogues

    (2)   Transaction processing (exchanging digitized monetary information)

    (3)   Customer Support.

E-commerce conducted over the Internet differs from typical commercial activity in that it is influenced by the unique characteristics of the medium itself. In contrast to print media, E-commerce is dynamic, allowing users to interact with the commercial site, send comments, and even define the scope of a document. Unlike person-to-person commerce, E-commerce allows for a controlled interaction between vendor and potential purchaser, where the vendor may strategically direct the customer through a series of options and processes. E-commerce also differs from traditional commerce by its boundless relation to time and space. Interaction is not restricted to normal working hours or geopolitical borders. There is a potential to conduct business with other merchants and consumers around the world in different time zones, 7 days a week, 24 hours a day.

In the short-term, entry into E-commerce may offer a competitive advantage over slower to act competitors. The market for E-commerce is growing; as more consumers and businesses gain Internet access and transaction processing technologies improve security. Company that establishes an operation today, still in the early stages of Internet based E-commerce, will have a fuller understanding of the issues and be better prepared to capitalize on emerging technologies when E-commerce markets open up in the next few years.

The benefits of E-commerce to a small business may include capabilities to:

(1)   Extend the range of sales territory

(2)   Streamline communication to suppliers and clients

(3)   Expand reach to new clients

(4)   Improve service to existing clients

(5)   Reduce paperwork and time spent on correspondence

(6)   Track customer satisfaction

(7) Expedite billing

(8) Improve collaboration on work projects

(9) Expand markets beyond geographical, national boundaries

(10) Leverage legacy data

(11) Improve inventory control, order processing

(12) Establish position in emerging E-commerce marketplace

(13) Lower costs of overhead

(14) Realize economies of scale by increasing sales volume to new markets

(15) Monitor competition and industry trends

(16) Improve or expand product lines – locate new suppliers, products that could be included in catalogue.

How Does E-commerce Integrate with Traditional Services?

As E-commerce matures and more traditional businesses enter the electronic marketplace, it will become difficult to distinguish the E-commerce merchant from traditional merchant. Although some firms operate exclusively as E-commerce merchants, it appears that the greatest opportunities are for established firms that venture into E-commerce as a means to refine existing business processes and gain new customers.

E-commerce may complement or replace traditional commercial activities, depending upon the industry and the functions. Because it is both a threat and an opportunity for various industries, it is worthwhile to:

(1) Study how E-commerce can integrate into operations. Determine needs and capabilities. E-commerce operations may shadow traditional operations to provide redundant services such as product information distribution.

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(2) Develop an E-commerce strategy into the business and marketing plans. Understanding how an E-commerce system will strategically fit with the firm's existing operations will help to allocate the management and financial resources necessary for it to be a success. In the long-run, there have to be resources to set-up and sustain a system, making it work best for the type of operation that will be managed.

(3) Monitor competitors, suppliers, and customer's movements using E-commerce. Special attention to their capabilities will help determine areas of E-commerce that need development.

(4) Establish a consistent operations review process. E-commerce technology and operations are constantly evolving. Changes in technology frequently introduce opportunities to refine or create new services.

Barriers to Business and Consumer Target Markets

Business-to-business E-commerce presently represents the bulk of commercial volume over the Internet, although business-to-consumer traffic is growing and has the potential to become an even larger market. The primary reason why business-to-consumer E-commerce has not kept pace is that the Internet is still not as established in the home as it is in the office. Many businesses have invested in Internet access technologies, are online and ready to expand their commercial capabilities into this emerging marketplace. Consumers should come online as the costs of Internet access decrease, data throughput increases and Internet connectivity becomes as simple to initiate and commonplace in the home as television and telephones.

Low confidence in security technologies has also restricted growth of E-commerce activity. Business-to-customer E-commerce in particular has suffered from

poor customer confidence in secure monetary and personal data transactions. Business confidence in secure transactions is higher and continues to increase as electronic payment and encryption technologies are widely employed. It is important to note that this issue is strictly about confidence. Secure technology exists today. This indicates that business is either more informed or willing to take risks than consumers are. In either case, business-to-business E-commerce is vibrant and demonstrates a confidence in the supportive technologies that should continue to transfer to consumers.

A third barrier to growth is the concern of legal issues, mostly the uncertainty of litigious boundaries. Since the Internet crosses political boundaries, legal jurisdiction is in question. Although the Internet improves access to foreign markets, national export/import laws still apply to all Electronic commerce transactions.

2.5 Benefits and Limitations of Electronic Commerce

The Benefits of Electronic Commerce

The innovations in human history encompass as many potential benefits as Electronic commerce does. The global nature of the technology, low cost, opportunity 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 just stating to materialize, but they will increase significantly as Electronic commerce expands.

Benefits to Organizations

The benefits to organizations are as follows:

(1) Electronic commerce expands the marketplace to national and international markets. With minimal capital outlay, a company can easily and quickly

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locate more customers, the best suppliers, and the most 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 overheads by facilitating "pull" type supply chain management. In a pull-type system, the process starts from customer orders and uses just-in-time manufacturing.

(4) The pull-type processing enables expensive customization of products and services, which provides competitive advantage to implementers.

(5) Electronic commerce reduces the time between the outlay of capital and the receipt of products and services.

(6) Electronic commerce supports business processes reengineering efforts. By changing processes, productivity of salespeople, knowledge workers, and administrators can increase by 100 percent or more.

(7) Electronic commerce lowers telecommunications costs.

(8) Other benefits include improved image, improved customer service, new found business partners, simplified processes, compressed time, increased productivity, eliminating paper, expediting access to information, reduced transportation costs, and increased flexibility.

Benefits to Consumers

The benefits of EC to consumers are as follows:

(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 any places and conduct quick comparisons.

(4)   In some cases, especially with digitized products, EC 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, which results in substantial discounts.

Benefits to Society

The benefits of EC to society are as follows:

(1)   Electronic commerce enables more individuals to work at home and to do less traveling for shopping, resulting in less traffic on the roads 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 services, such as health care, education, and distribution of government social services at a reduced

cost and/or improved quality. Health-care services, for example, can reach patients in rural areas.

The Limitations of EC

The limitations of EC can be grouped into technical and non-technical categories.

Technical Limitations of EC

The technical limitations of EC area 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 EC software with some existing applications and databases.

(5)   Vendors my need special Web servers and other infrastructures, in addition to the network servers.

Non-technical Limitations

The non-technical limitations of E-commerce are as follows:

(1)   Cost and justification; The cost of developing E-commerce in-house can be high, and mistakes due to lack of experience may result in delays. Furthermore, to justify the system one must deal with some intangible benefits, which are difficult to quantify.

(2)   Security and privacy; these are especially important in the B2 area, especially security issues that are perceived to be more serious than they really are if appropriate encryption is used. Privacy measures are constantly improved. Yet, the customers perceive these issues as very

important, and the E-commerce industry has a very long and difficult task of convincing customers that online transactions and privacy are, in fact, very secure.

(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 may be 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, for example, copyright clearance centers for E-commerce transaction do not exist, and high-quality evaluators or qualified E-commerce tax experts, are rare.

   (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.

The potential benefits may not be convincing enough to start E-commerce activities. Much more compelling activities are the business drivers that may force companies to engage in E-commerce.

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Though the E-commerce has many limits, rapid progress in E-commerce is taking place. For example, the number of people in the United States who buy and sell stocks electronically increased from 300,000 at the beginning of 1996 to about 5 million in fall 1998. As experience accumulates and technology improves, the ratio of E-commerce benefits to cost will increase, resulting in a greater rate of E-commerce adoption.

2.6 Benefits of the Internet

The organizations are already benefiting from the use of internet in many ways, reducing communication costs, enhancing communications and coordination, accelerating the distribution of knowledge, improving customer service and satisfaction, and facilitating marketing and sales. The Internet has enormous potential for helping organization to participate in electronic commerce and for reducing their transaction costs.

(a) Reducing Communication Costs

Prior to the net, to realize the communications benefit, organizations had to build their own wide-area networks or subscribe to a value added network service. Employing the Internet, accept from being cost free, is certainly more cost effective for many organizations than building one's own network. And small businesses find reduced communication cost particularly beneficial because it sometimes enables them to complete with larger companies in markets that would otherwise be closed to them.

(b) Enhancing Communication an Coordination

The Internet has made it easier and less expensive for companies to coordinate a few staff when opening new markets or working in isolated places because they do not have to build their networks.

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(c)   Accelerate the Distribution of Knowledge

Because modern economies have become information economies, access to knowledge is critical to the success of many companies. Organizations are using E-mail and the availability of databases all over the world to again easy access to information resources in such key areas as business, science, law, and government.

(d)   Improving Customer Service and Satisfaction

The companies large and small are using the Internet to communicate efficiently to make product information, ordering, and technical support easier and immediately available.

(e)   Facilitating Marketing and Sales

Marketing and sales via the Internet are new and only beginning to be viable. The advent of the Web has made marketing and sales possible because the Web is a passive instrument, it requires potential customers to seek out offering by companies rather than having those companies actively reach out to potential customers, as is traditional in most marketing and advertising. Retailers update their Web pages offering virtually as often as needed. Suppliers can also update techniques used by consumers just as easily. Even with Limitations, the Net helps buyers and sellers make contact.

As for the benefits of the Internet to organization, the best aspects of marketing and sales product or service online are that start up and operational costs are minimal and it is possible to access potential buyers at an unprecedented speed. The reason is that earnings can come only after 24 hours of online business launch. The advertising

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can be tested in a matter of days, whereas conventional media advertising takes months to conduct a single test.

Among the ways that users are taking advantage of the Internet are:

(a)   Sharing research and the business data among colleagues and like-minded individuals.

(b)   Communicating with others and transmitting files via E-mail

(c)   Requesting and providing assistance with problems and questions.

(d)   Marketing and publicizing products and services.

(e)   Gathering valuable feedback and suggestion from customer and business partners.

Only user's vision and creativity limit the Internet's potential and as the Internet grows, new and innovative uses will surely follow.

Internet marketing and running an Internet business is a fantastic way of business if it is done right. The Net simply works better than traditional media, but it is new, so it requires some imagination to envision role and character to be online. There are two basic attitudes towards online marketing:

(1)   The Silent Marketer

It gets direct from Web sites, newsgroups. BBC's, and e-mail without any directly interaction with the customer. The company gets the customers coming to it.

(2)   The mouth piece

It gets sales from active participation in newsgroup, mailing lists, etc. (I.e. starting advice in forums, thereby building a relationship with each potential customer individual)

2.7 Some Statistics about Online Business

Numerous online companies commenced business such as www.amazon.com, www.1800flower.com. Also, many virtual companies, as Barnes and Nobles, expanded their markets by creating the Web site, which let their clients spend more on a wider range of products.

Taylor Nelson Sofres & TNS Interactive conducts the E-commerce report in 37 countries, a total of 42,238 people were interviewed. This report was written by Arno Hummerston, Head of TNS Interactive Solutions World-wide (country specific comments supplied by local TNS companies).

Although the number of the Internet users who are shopping on line has not increased, an increase in number of people online has helped to ensure that E-commerce is growing. For the second year running, Scandinavian countries lead the way in the adoption and use of the Internet. Although the average Internet penetration in countries has increased by 3% to 34% since 2001, growth has slowed and some countries have seen a drop. (See Figure 2.3)

USA is the nation with the greatest proportion of the Internet users who are online shoppers. Korea and Norway have also exhibited big increases in this area over the past year.

Internet Users Across the World
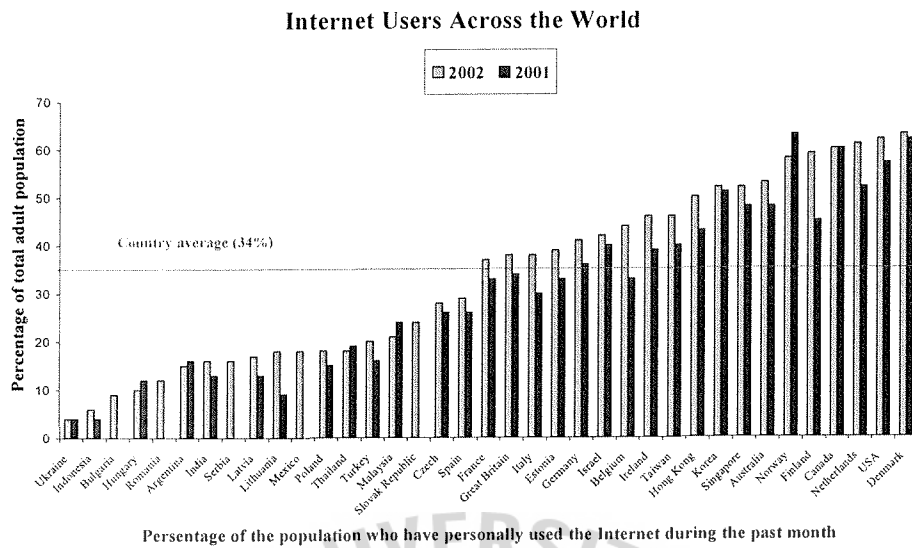
Figure 2.3. Percentage of the Internet Users all over the World.

Online shoppers 2001/2001
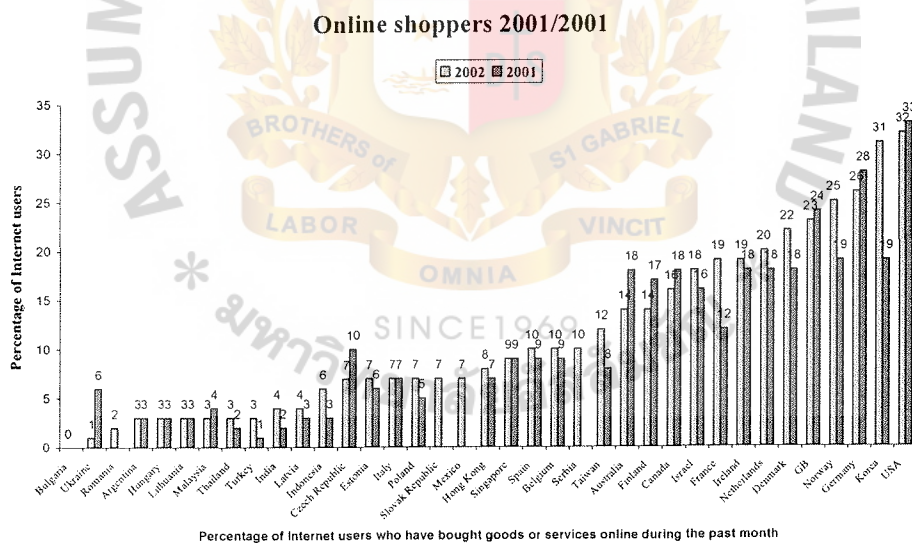
Figure 2.4. Percentage of the Online Shoppers in 2001/2002.

As spending power increases with age (up to 40 years of age), shopping online continues to be an increasingly popular option. The youngest age group continues to be

so unlikely to shop online that even the oldest (age 60+), Internet users surpass them. For younger users, this is likely to be due to the non-availability of credit (and cards), rather than any difference in attitude and willingness. (See Figure 2.5)

Online shoppers and demographics
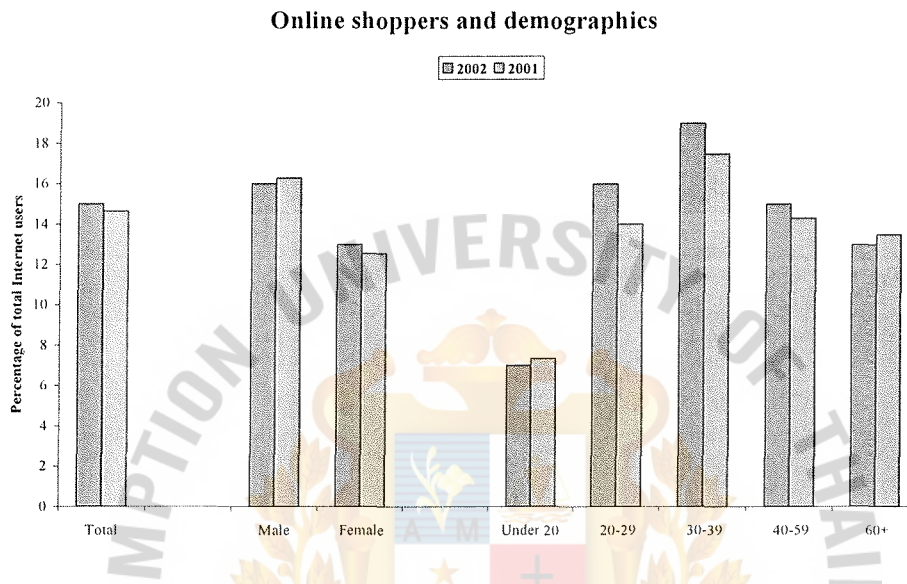
Figure 2.5.   Percentage of Online Shoppers and Demographics.

The future of online shopping continues to look healthy in many countries, with this metric predicting substantial increase in E-commerce activity over the next 6 months. It should be remembered that this figure includes a number of people who have already shopped online and that similar growth was expected last year, but didn't materialise. (See Figure 2.6)

Future Online shoppers 2002
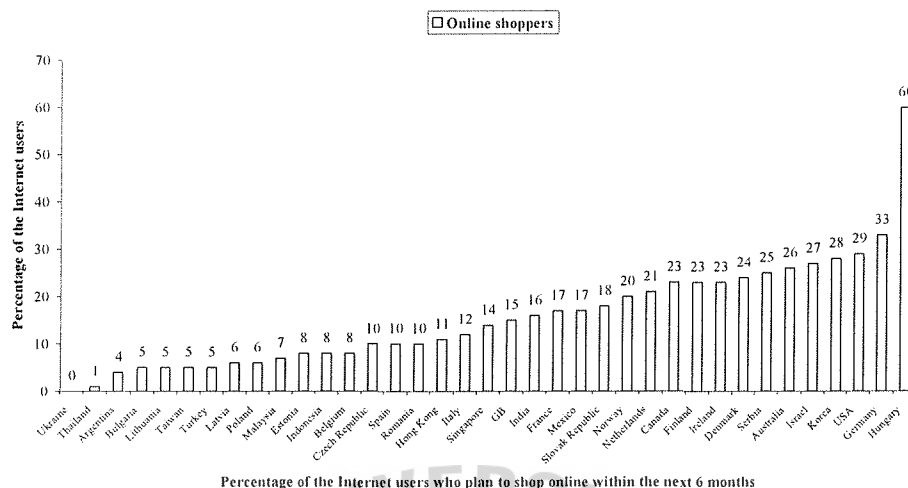
☐ Online shoppers

Figure 2.6.   Percentage of the Future Online Shoppers in 2002.

Books and CDs continue to be the most popular items bought online. As noted, books and music are the most popular categories for purchasing online. Clothes also remain a popular purchase category. Holidays and leisure travel bookings have now made up 11% of online shoppers overtaking PC hardware and software purchases which was more popular in 2001. (See Figure 2.7)

While books and music are relatively reasonably priced (low risk for the purchaser), holidays and travel are likely to be high-value items. This re-enforces the trend identified last year, which Internet users are becoming more confident with the concept of online ordering. The increase in acquisition of higher price items appears to imply a growing confidence in online shopping and ordering.

Products purchase Online

2002 ■ 2001
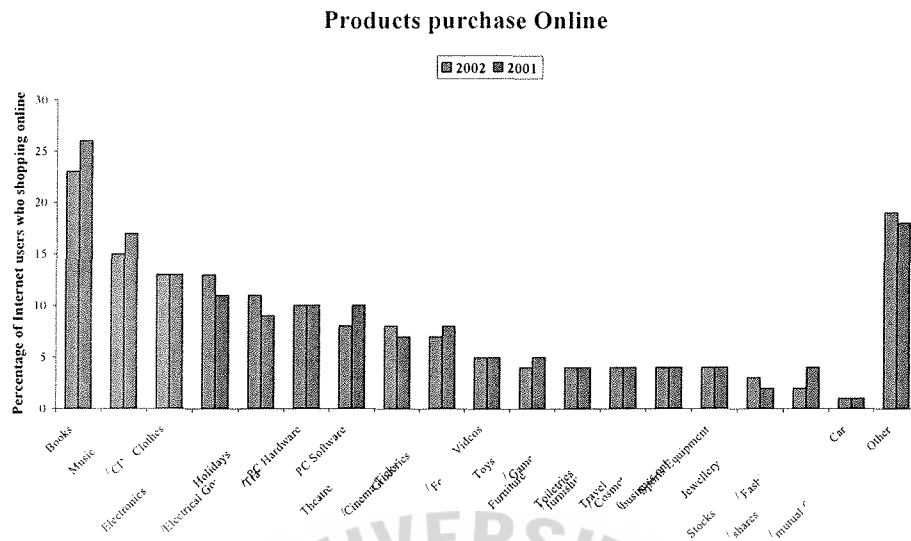
Figure 2.7.   Percentage of the Products Purchased Online.

Although the number of Internet users has increased, not all of them spend or shop in the Internet or online shopping. Because of online security, which is the biggest obstacle, some of the Internet users do not fell secure in the system. They are afraid to give credit card details. (See Figure 2.8)

Reasons for abstraining from shopping onlline
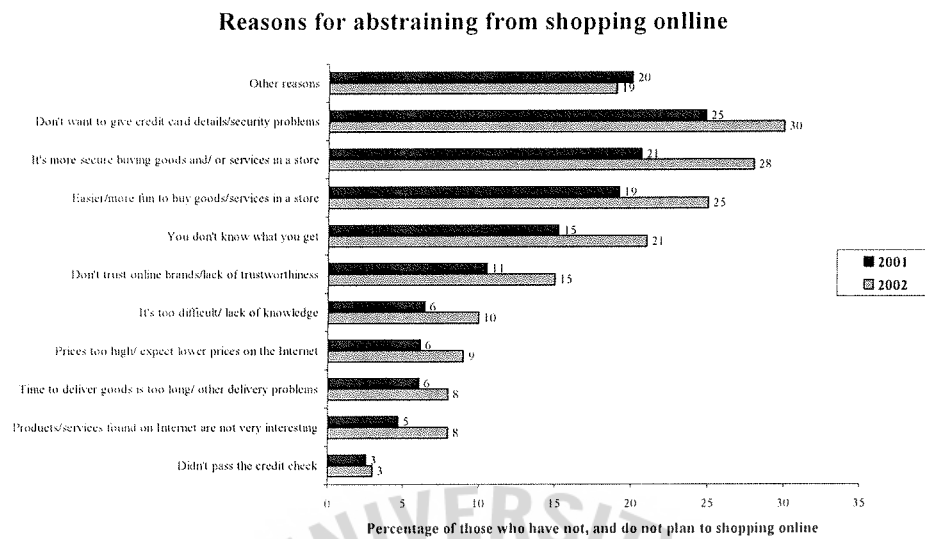
Figure 2.8.   Percentage of the Reasons for Abstaining from Shopping Online.

Although security in online shopping continues to be a major issue for all groups, it is less so for the under 20s age group. Conversely price is more of a barrier for younger people (probably with less disposable income). (See Figure 2.9)

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Security and price issues 2002
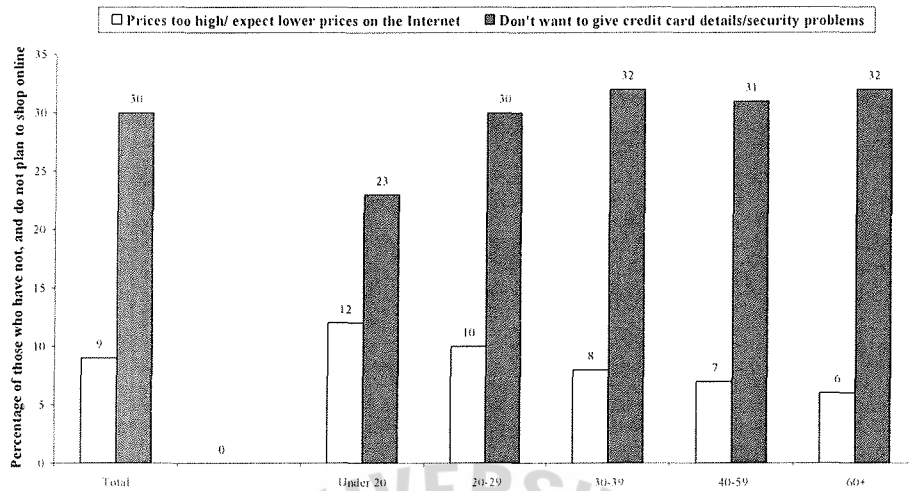
Figure 2.9.   Security and price issues.

The increase in popularity of high value items such as holidays and travel is reflected in the 6% of online shoppers who have spent more than 1,000 Euro in the last 4 weeks online.

Mostly, the Internet users shopping online spent between 1 and 100 Euro. And 6% have spent over 1,000 Euro, thus implying increased confidence in purchasing high value items online. As expected, the older age groups are more likely to spend larger amounts. Moreover, men, on average, spend substantially more online than women. (See Figure 2.10)

E-commerce spend and Demographics

[Mean Median]
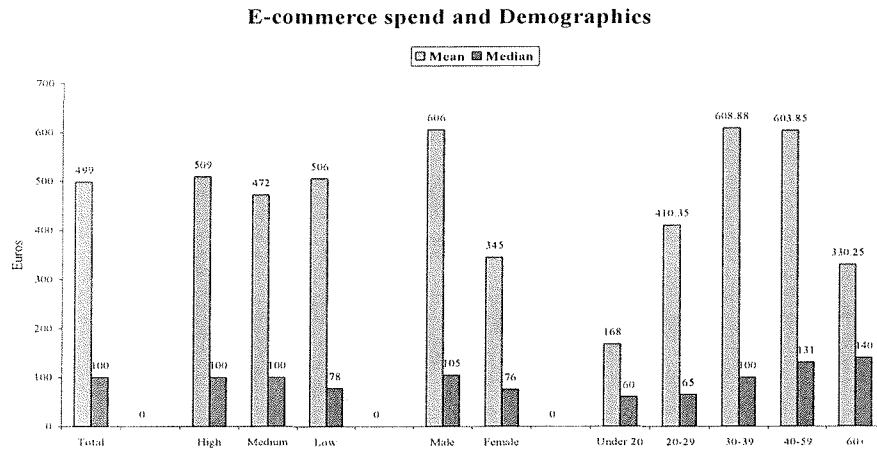
Figure 2.10.   Average spending of on line shoppers under different age

group.

The future of online shopping continues to look healthy in many countries, with

these metric predicting substantial increases in E-commerce activity over the next 6

months. Although the overall future shopper proportions are encouraging, it continues

to be a concern that those under 20, who are the main 'problem age' group for E-

commerce, are still less likely to purchase online in the next 6 months than others (even

when compared to the 60+ age group). (See Figure 2.11)

Future online shoppers
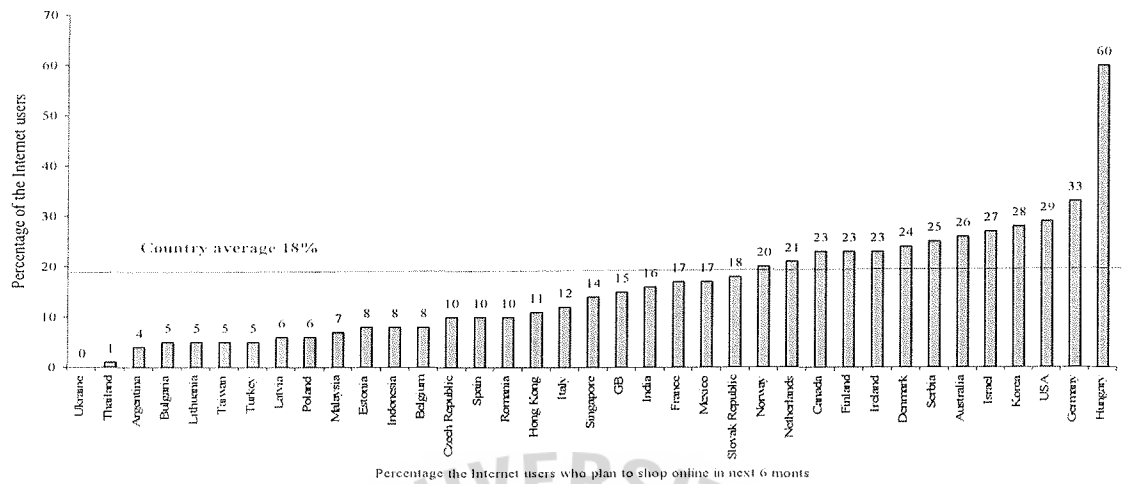
Figure 2.11.   Future online shoppers.

III. ANALYSIS AND THE EXISTING SYSTEM

3.1 Company Background

Sriwattana Industry Co., Ltd. has several items of products, which are made-to-order. The products are automotive spare parts (Turn Light, Tail Light, Cigarette Ashes etc.) and kitchen utensils. (Bowl, Cover, Chopsticks etc.) Though the products are made to order, they need to be produced in large quantities in order to cover the overhead cost such as mould, flow injection, electricity and fixed operation cost. The profit margin on each item is also very low.

The processes in fulfilling a customer's order are as follows:

(1) A customer will send a sample product to the company. He/She may not have a mould. If not, the company has to acquire it.

(2) After a mould is finished, the company will test by producing a few samples in order to send to the customer as requested.

(3) Silk-screen process may be required for some designs if the customer requests.

(4) After that, the company will send some samples to the customer until the customer is satisfied.

(5) The company will produce to meet the ordered quantity.

(6) After delivering products to the customer, the company will bill to the customer within 30 days.

The products that are the best quality products for the customers are made from high quality raw materials, providing the best design and superior quality. With full-service of packing and shipping, customers will be satisfied with production and which is also on time.

The opportunity for the company seeking to take advantage of the capabilities of Electronic commerce is greater than merely adopting out present view of commerce to performing and negotiating those products over electronic networks.

3.2 SWOT Analysis of the Company

Using popular SWOT analysis does industry and competitive analysis. Its goal is to identify the critical factors that will determine the success of the company. SWOT is an acronym used to describe particular strengths, weaknesses, opportunities, and threats.

SWOT is a key to successful accomplishment of the company on the ability to coordinate between strengths, weakness, opportunities, and threats to maximize the benefits to the company. The SWOT analysis allows translating the key strengths into capabilities that provide better value to customers than is the case for competition. It also allows turning weaknesses into strengths and capabilities. Consequently, the potential threats in the environment can be avoided or minimized.

Strengths

(1)   This is a small company so the operational cost is lower than other companies.

(2)   The company has been in this business for a long time so it has well experienced staff for managing and producing any kind of products.

(3)   The company has a partner or third party for reaching the purchasing department of big customer companies.

(4)   The company produces quality products and delivers the products just in time.

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Weaknesses

(1) The company has limited number of customers and can't find new customers without the intermediary.

(2) There is a lack of strong distribution channel in overseas market.

(3) The company is still new or unknown to international markets.

Opportunities

(1) The company has many suppliers who provide raw material at low price, which can reduce the main cost of the product, hence it can offer low price for the customers.

(2) The company is located at the center of Bangkok so it is convenient and less costly to deliver the goods to the customers who reside in Bangkok and metropolitan area.

(3) The government also supports SME Companies in exporting process in the future plan.

Threats

(1) There are competitors both direct and indirect. All these companies also promote their products online.

(2) The competitors may offer lower price than the company, which can lead to loss of order.

SWOT analysis reveals that if the company enters online market for going global, it will increase the company's strengths and opportunities and reduce weaknesses and threats for having success as well.

3.3 Reason for Going Global Internet

At the present time, with the Internet technology, many companies and organizations can directly and easily access to customers by having a web site or online market. It could help companies to reach their full potential. It is a new channel to have new market segment for increasing revenue and reducing cost.

A web site can be a relatively inexpensive way to gain contact to millions of people, keep customers informed of new offering, make business transactions easier and more importantly, and attract potential customers.

Internet offers benefits to businesses of all sizes. The following are only a few of the ways Internet can facilitate business.

(a) Accesses to unlimited markets

Small local companies can compete for business anywhere in the world by presenting an on-line image of the company. Internet offers the ability to create sales 24 hours a day, 7 days a week. Internet never sleeps. People can access and order their products and services any time of the day or at night.

(b) Instant updates to the information

Advertising copy or brochure may be printed with errors or lack additional information that should have been included. With Internet advertising, the company can change this anytime it wants. A company can make changes to any kind of information it provides to the customers for example products, pricing or other company information.

(c) More convenient customer service capabilities

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Customer services can be freed up from frequently asked questions or requests for general information by presenting the answers and information on-line.

(d)   The ability to provide up to the minute information

If companies have employees on the road that need current information outside regular office hours Internet can provide the solution.

(e)   Information customized to customer's needs

Without the concern for printing costs and paper, companies can create brochures on-line that appeal to the specific customer markets.

(f)   Improved operating efficiencies and reduced overhead

Create a store on-line. No need for overhead related to having a building, and hiring sales personnel to manage the store.

These are only a few of the reasons why companies are taking advantage of the Internet, and why so many individuals are finding ways to start up their own businesses from home.

Benefits of having a web site for Sriwattana Industry:

(a)   Instant Information

Most people like to find information quickly and easily. This is possible with a web site. Internet never closes. This means that the information that is online is readily accessible anytime. It is easy to find this information because a sharp image can set up a www.businessname.com web site and users can put that address anywhere they would like; business cards, flyers, brochures, ads, billboards etc. People who are interested have the option to view a web site easily because of this address and find out about the company, products and services.

(b)   Company Image

Having a web site and being able to insert a company's web site address (www.anyname.com) is a great way to describe that a business stays ahead of the competition and wants to give customers an easy way to find out about it first.   A web site addresses on a business card or an advertisement does the job well.

(c)   Prestige

Everyone has to admit that some people simply have everything and are on the top. Having a web site can only be a useful benefit.

For the information and the reasons mentioned above, the company decides to open a web site for online market.

3.4   How can Web Site Increase Business from Existing Customers and Gain New Customers?

Locking in existing customers is simply marketing common sense. The Internet allows the company to extend and deepen the communication, which it already has with existing customers.

3.4.1 How a web site increases business from existing customers?

(1)   A web is used to complement existing market to existing customers. Such customers may want to find out what the company is up to without actually visiting or ringing its business.

(2)   Plus, company has built up a database of email addresses; all it has to do is email with some message, largely cutting out postage costs.

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(3) A web site can be used for more than just information, tips, specials, and news. It can also link to other company web sites and other related web sites.

(4) The company can also construct catalogue of producing products for the benefit of its business accounts. This allows customers to contact from the net or via direct telephone line the next time.

(5) If a web site is exciting enough, or changes on a regular basis, then customers will want to visit its site out of curiosity. That makes the company to email to all of customers for hot new message.

(6) If a web site is exciting and easy to find on the web, it can also gain new business.

Not only the web site can increase business from the existing customers, but it can also get new customers.

3.4.2 How a web site can gain new customers?

By having a web site, when the company advertises the web site, potential customers will note the address and visit the web site. The question is how to make potential customers to access the web site.

(1) The company can link to another complementary web site. For example, it places its web icon on one of the supplier's web site. When anyone visits this supplier site, they will see the link icon and be tempted to visit and they can do so by simply clicking on the icon.

(2) The web site will be linked to the Internet search engines. The web site needs to be associated with key words like plastic, manufacture, factory, and

some key words that have similar meaning. When customers type in these key words as a search word for sites, they will be able to access the web site.

It can be said that the Internet technology creates a new distribution channel for the company for selling, advertising and also commutation at the lowest cost. Moreover, the Internet is an efficient tool to conduct the business. It generates a lot of benefits for the company. This is why the company goes global through Internet.

IV. MARKETING ANALYSIS

4.1 The Marketing Environment

Managing the marketing function would be hard enough if the marketer had to deal only with the controllable marketing mix variables. But the company operates in a complex marketing environment, consisting of uncontrollable forces to which the company must adapt. The environment produces both threats and opportunities. The company must carefully analyze its environment so that it can avoid the threats and take advantage of the opportunities.

The company's marketing environment includes forces close to the company that affect its ability to serve customers, such as other company departments, channel members, suppliers, competitors, and publics. It also includes broader demographic and economic forces, political and legal forces, technological and ecological forces, and social and cultural forces. The company needs to consider all of these forces when developing and positioning its offer to the target market. Management's job is to attract and build relationships with customers by creating customer value and satisfaction. This task cannot be accomplished alone. The success will depend on other actors inside and outside the company such as suppliers, marketing intermediaries, customers, competitors, and various publics, which make up the company's value delivery system.

4.1.1 Suppliers

Suppliers are an important link in the company's overall customer value delivery system. They provide the resources needed by the company to produce its products and services. Sriwattana has created a procurement department to closely watch supply availability, supply shortages or delays, and other events which can cost sales in the short run and damage customer satisfaction in the long run. Such department also

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monitors the price trends of raw materials such as plastics, boxes, etc., which may force price increases that can harm the company's sales volume.

4.1.2 Intermediaries

Intermediaries traditionally provided trading infrastructure such as a sales network. They managed the complexity of matching buyers' and sellers' needs. The introduction of electronic commerce resulted in the automation of many of the tasks provided by the intermediaries. In the future, there will be lots of changes in the role of intermediaries. The customers communicate their wish online. In some cases there is an automatic match of the customer needs and the services offered. The Intermediaries role is being changed to that of market maker and a provider of added values not available on the Web. Commissions are reduced drastically since the market becomes more perfect. Customers have direct access to a supplier and can even negotiate deals.

4.1.3 Customers

There are several issues about customers relevant to the success of online business nowadays. Building and maintaining customer loyalty are particularly important issues in electronic commerce as customers get more and global choice and generally reduced switching costs, and because the customer is often not in personal contact with the supplier any more, or might even be anonymous. Personal relationships, so important in business-to-business marketing to build loyalty, have to be reassessed. However, the electronic commerce also offers new ways of building customer loyalty, in particular through support for one-to-one marketing and brand image, working actively with customer feed back, as discussed above, by sharing cost benefits with the customer, rewarding the most valued customers, by providing uniquely valued services, and through partnership building. Other forms of building customer loyalty come through

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providing special software and user interfaces that require an investment from the customer's side in training time, information supply and/or fees, and through contractual arrangements. All of these raise switching costs for the customer. An increasingly popular approach is to engage the customer in self-service, that is, offer the customer the possibility of navigating, searching, specifying preferences, finding solutions to problems etc., all within a workspace defined by the supplier, providing the customer with a customized solution and, above all, offering a way for the supplier to lock in the customer (as the customer may invest a considerable amount of time and effort in this self-service).

4.1.4 Legal, Ethical, and Public Policy Issues

Electronic commerce is so new that the legal, ethical, and other public policy issues that are necessary for electronic commerce's existence are still evolving. As a matter of fact, most of the surveys that attempt to find the inhibitors of electronic commerce consistently place legal and related public policy issues at the top of the list. The implementation of electronic commerce involves many legal issues. These include privacy policy, intellectual property, taxation, consumer protection, and other legal issues. All of them are important for the success of electronic commerce. The impact of electronic commerce and the Internet can be so strong that the entire manner in which companies do business will be changed, with significant impacts on procedures, people, organizational structure, management, and business processes.

4.1.5 Analysis of Customer's Needs

There are many reasons why people buy or shoppers online. Some reasons are that they can turn into competitive advantages for the business.

Convenience is the best reason that attracts shopping through online web site. The customers can shop anytime and anywhere. There are many choices to choose on the online more than the offline. They can control over what to see. Moreover, it is shopping privacy. There is no pressure from the salespeople.

However, there are some reasons why users do not want to shop online. The most common reason is security in payment transaction. They do not want to give out the detail of credit card or personal detail. They do not feel secure. Thus, the company should provide enough security and a trust worthy system on the web site. In addition, the web site should provide references to satisfy customers, or includes a few testimonial phrases in the marketing information. (See Figure 4.1)
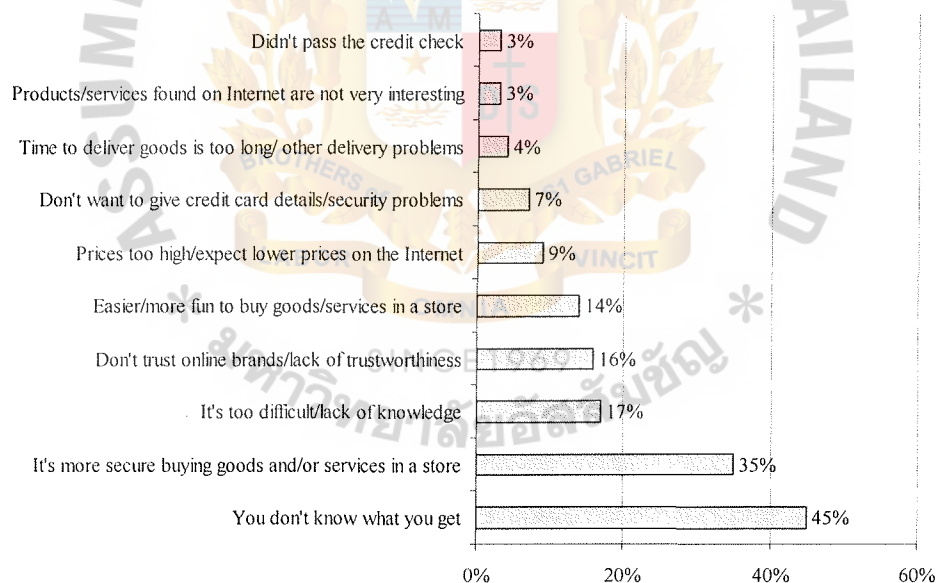
Figure 4.1   Reasons for not Purchasing Goods and Services Online.

4.1.6 Behavior of Thai Internet Users.

According to the Global eCommerce Report of Taylor Nelson Sofres & TNS Interactive, the number of Internet users in Thailand has rapidly increased. The percentage of total population who are Internet users in Year 2000 to those who are Year 2002 are 12%, 19%, and 18% respectively. (See Figure 4.2) Segment by age, who are male under 20 years old mostly use the Internet about 46%. By gender, about 22% of male use the Internet, more than female. (See Figure 4.3) And about 10% of the Internet users use the Internet at home. (See Figure 4.4)
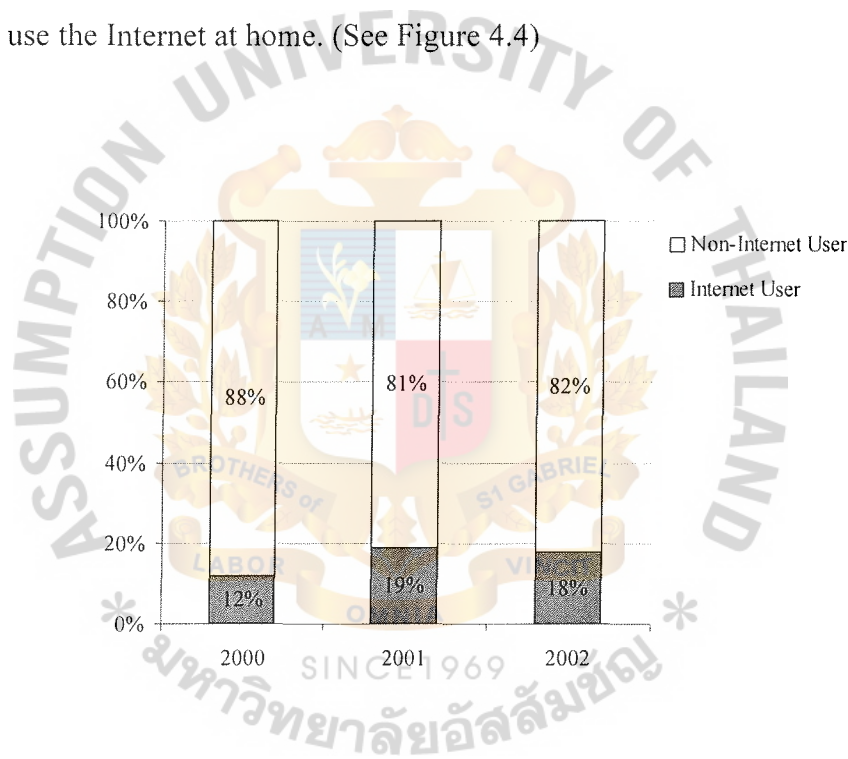
Figure 4.2. Percentage of Population of Internet Users.
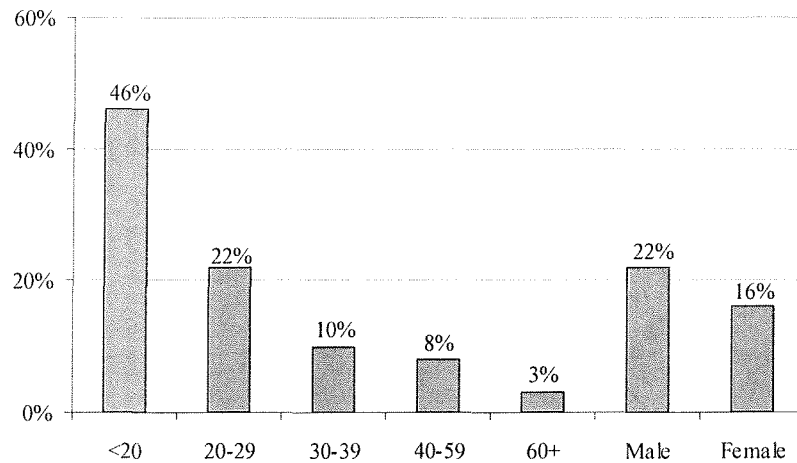
Figure 4.3.   Percentage of Specific Age and Sex of Internet Users (2002).
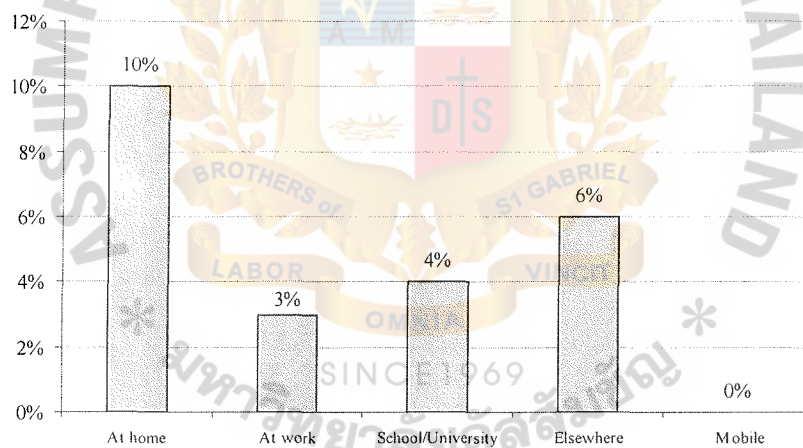
Figure 4.4.   Percentage of the Place of Using of the Internet Users (2002).

Online shoppers are few and slowly increasing but in non-shopper group there may be some users who would like to have some information about the company or

products, which they are more interested in. The opportunities for Sriwattana site in this group are better than the shopper group. (See Figure 4.5)
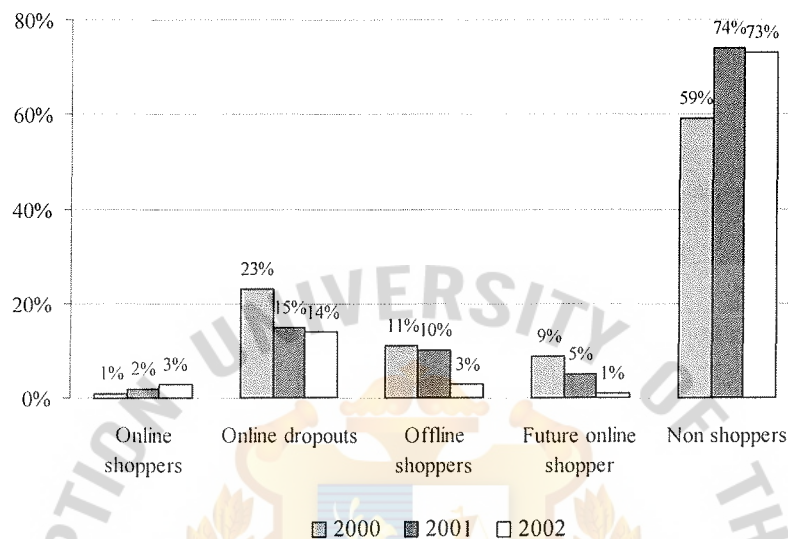
Figure 4.5.   Percentage of Shopping Behavior among Internet Users.

4.2   Market Segmentation

Markets consist of customers and normally customers in the market differ in one or more ways such as requirement, resources, locations, attitude, and frequency.

Sriwattana recognizes that the customers differ in their requirement, perception, and location. The products are B2B and only made to order. The customers must make a high quantity for ordering. In addition, most customers now are in Bangkok and metropolitan areas.

4.3 Marketing Mix

Marketing Mix helps the company decide what the overall company's mission is. The company has gone through the process of defining the marketing objectives, and marketing strategies. The company moves into the decision-making process for defining the actual tactics that will be utilized.

Product Marketing

All products are made with high quality plastic, process, and professionalism. The company guarantees every piece of products because the emphasis is on quality production. Thus, the customers need not worry about them. The company can satisfy the customers for their requirement in any characteristic and properties.

For transportation, the company has high quality packaging before transporting, which makes the customers certain that the products will not break or be damaged.

Price

Price is one of the four Ps in the marketing mix and is yet another weapon in the marketing armory. Most companies use low price to compete with competitors and likewise Sriwattana uses the competitive price strategy.

Place

The business of Sriwattana is click and mortal. The factory's sites are at Sathorn, which is the center of Bangkok as well as on the web site www.sriwattana.com. The office is in the factory so it has benefit for managing, operating, and reducing other expenses. To increase the market share, customers can make orders online. And when the order is received, the company will deliver it to the customer just in time and free of charge.

Promotion

Sriwattana.com has just been established and uses the web site as advertisement medium. So, it must make people know that there is sriwattana.com on the Internet. Sriwattana.com promotes the web site with the following strategies.

(1) Put the Web site address on everything possible business cards, letterheads, store signage, windows, car signs, posters, photo wallets, bags, invoices, letters, pens, mouse pads, press releases, and advertising.

(2) Run a classified advert in the newspapers and point out the benefits.

(3) Send letters to top targets notifying them of Sriwattana web site.

(4) Market jointly with other complementary web sites, for example, www.tpia.org, google.co.th, sanook.com and so on.

(5) Collect the names and email addresses of people that visit the business. Once people respond, the company will have the details. Because the best use of a web site is not to sell the product immediately over the Internet; the true benefit comes through follow-up and increasing potential customers' database.

Future Plan of sriwattana.com

(1) Expand the market coverage not only Thailand but also export in region countries.

(2) Build strong Brand Image for own products.

(3) Improve database for effective benefits.

(4) Build knowledge pages cover plastic component procedure.

(5) Find business partner as our exclusive distributor in that particular region.

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4.4   Competitors Analysis

Consumers typically choose products and services that give them greatest value. Thus, the key to winning and keeping customers is to understand their needs and make buying price lower than competitors do and to deliver more value with high quality. Nevertheless the company should find ways to differentiate itself at every point such as product, service, image, etc. where it comes in contact with customers.

Competitor analysis is an important requirement in business plan because it reveals the firm's competitive position in the market space. It assists to develop strategies to be competitive and satisfies the needs of funding agencies to determine commercial feasibility based on current and prospective competition, and how the company intends to face that competition.
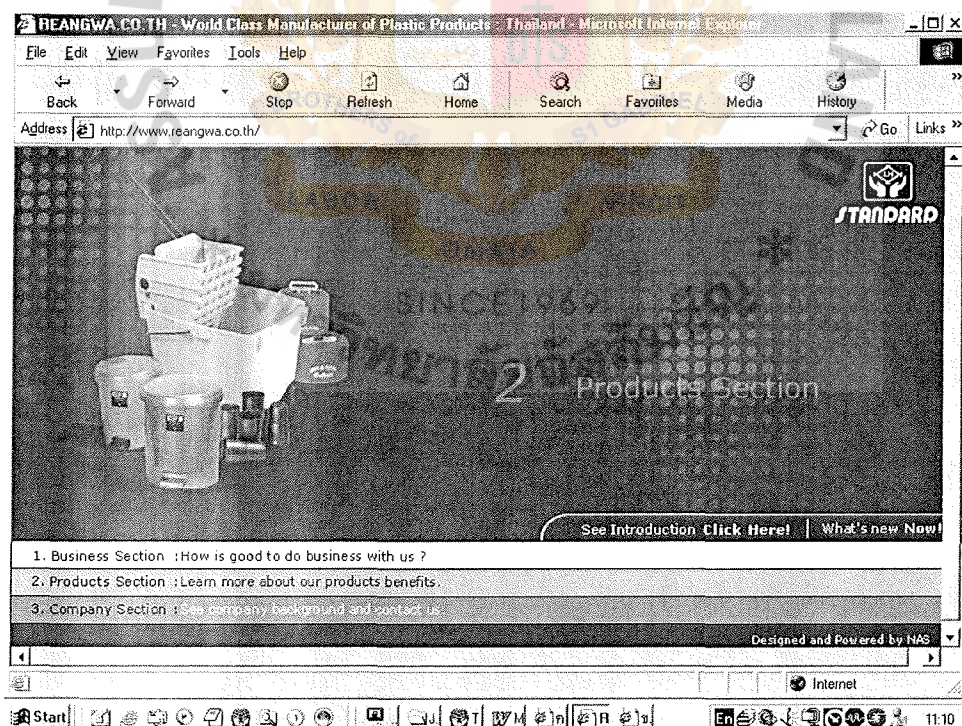
Figure 4.6.   Competitor, Reangwa, Web site.

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SWOT Analysis

Strengths

(1) There are many types of products.

(2) The company is well known which has brand awareness.

Weakness

(1) Factory and office are not in the same places that increase cost.

(2) The company has facility for improving, operating, and managing which is lower than Sriwattana, which is a smaller company.

Opportunities

(1) There are not so many competitors in the market at the moment.

(2) Goods are rarely found, especially in oversea market.

(3) The company is well known, so it is easy to expand market.

Threats

(1) Restrictions in pricing.

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V. WEB DEVELOPMENT AND DESIGN

5.1   How to Create a Web Site

Creating a Web site can be very difficult. While some of the core technologies like HTML are easy enough to master, developers seem to make numerous mistakes. The design process consists of mocking up site pages in a visual design tool and then figuring out what to do from there. The resulting sites often consist of image-heavy pages that look like online glossy brochures.

5.1.1 Web Design Process

Building a great Web site can be challenging. With so many different components ranging from visual design to database integration, there is plenty of room for things to go wrong. In order to minimize the risk of a web project failing, it needs a process to guide. Complex web sites require careful planning. A process or methodology should always be employed to help guide the web design and development efforts.

Planning can certainly help offset some of the problems that may be encountered during a web development project. The key to dealing with project management challenges is to create a formal process by which to plan, implement, test, and deploy a site in a structured manner.

To help reduce the difficulty in construction sites, the company should adopt a process model that describes the various phases involved in the web site development. Each step can then be carefully performed by the developer, using guidelines and documentation along the way that tell the developer how to do things and ensure that each step is carried out properly.

5.1.2 Goals

Many Web site projects ultimately fail because they lack clear goals. Many times, the resulting site provided little benefit because it wasn't really designed for a reason other than to provide a presence for the company. As familiarity with the web has grown, the reasons for having web sites have become clearer. Today, site goals have become important and are usually clearly articulated up front.

Coming up with a goal for Sriwattana Web site of aiming as an existing company and another sales channel for its offline company is to make the goal sound clearer and measurable. The company has set its objectives in creating web site as follows:

(1)   To be able to reach new customers that will increase sales at least 500 thousand Baht in year 1.

(2)   To build a customer-support site that will improve customer satisfaction with a result in sales increase in year 2-3 and year 4-5 at the growth rate of 10% and 15% respectively.

(3)   To create an informational site that will provide customers with useful information such as plastic type, process of production, cost of raw material, etc. and encourage at least 50 potential visitors per month to visit the site as well as to obtain the e-mail address of at least 20 of those visitors.

5.1.3 Planning for Web Site Development

After the goals are determined, what needs to be considered before a web site can be created are as follows:

(1)   The type of products to be presented.

(2)   The information of plastic to be provided to target visitors.

(3)   The concept and design of the web site to be presented to target visitors.

(4)   Contact information of the company.

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(5)   Means to facilitate the navigation throughout the web site.

(6)   The technologies and interactive tools to be used for the web site.

(7)   The cost of web implementation.

5.2   Site Content

Site content is one of the critical success factors that can create either negative or positive impression of the site since content is what makes up the site. The content of Sriwattana.com includes text, images, animation, and the interactive activities such as Q&A, E-mails, Links, etc. The interactive element is important as a key tool for attracting and keeping web site visitors.

The consideration of putting what content into the site depends on what the site wants to communicate to target customers. When the company is designing a content area, it should put in a standard template so that a site has a consistent look and feel. In addition, the customers visit Sriwattana Web site to learn what new products and services are available, they may welcome product announcements. These contents will help them achieve their original purpose for coming to the site.

The type of information to be presented as well as functions classifies the main content of sriwattana.com as follows:

(1)   Home

(2)   About Us

(a)   About Sriwattana

(3)   Products

(a)   Kitchen Utensils

(b)   Automobile spar parts

(c)   Other Products

(4)   About Plastic

      (a)   History

      (b)   What is Plastics

      (c)   Type of plastics

      (d)   How Plastics are Made

(5)   Links

(6)   Site Map

(7)   Contact Us

      (a)   Map

      (b)   E-mail

      (c)   Q&A

      (d)   Registration

(8)   Certificates

(9)   News
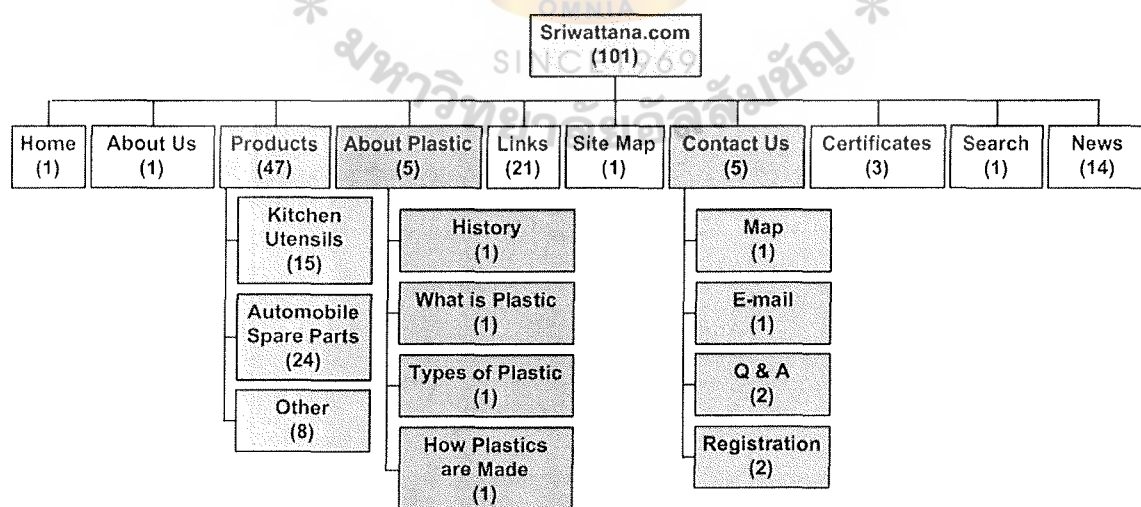
Figure 5.1.   Site Structure.
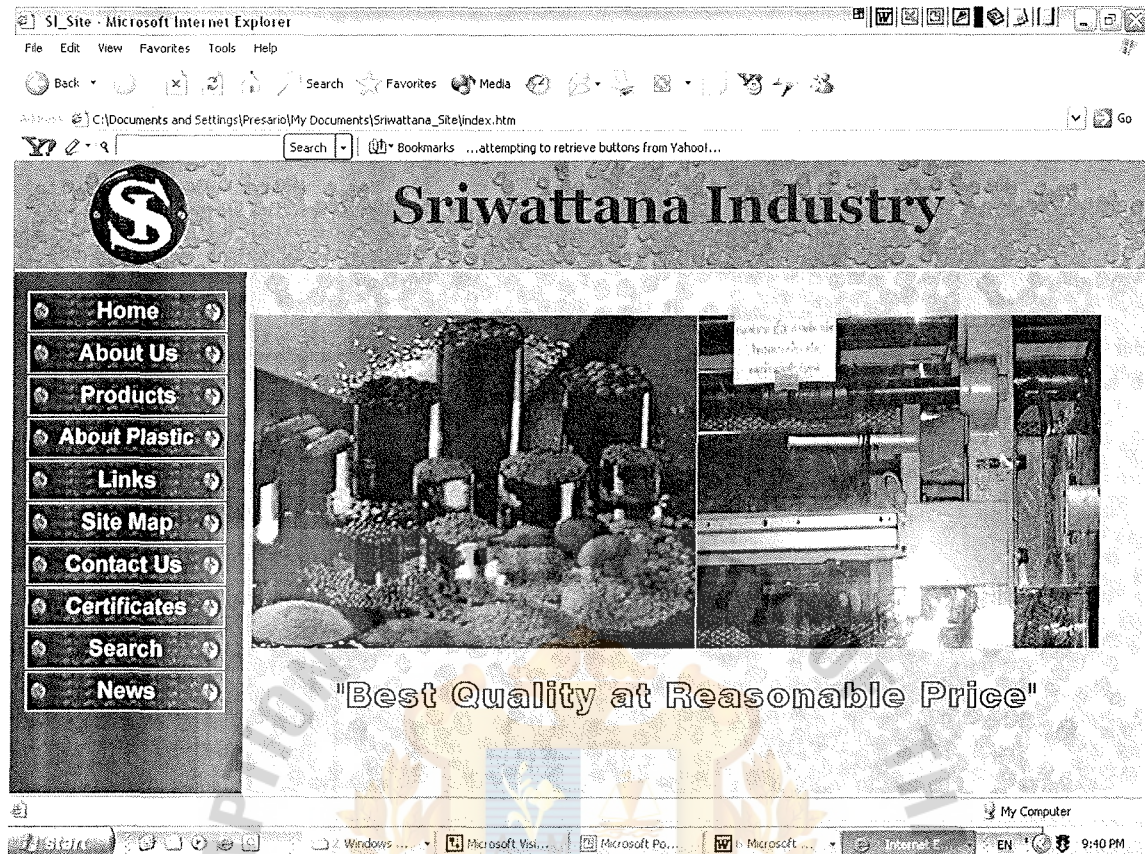
Figure 5.2.   Sriwattana Industry Web Site.

5.3   Site Structure

The site structure should be designed in the early stage in web site development. A good site structure will enable the visitors to navigate throughout the site without confusion. The site structure gives an idea of where each page is located and what link or graphic navigation is required. It provides a road map of the site, making it easier to manage the site. It should provide a clear sense of organization how one section of the site relates to other areas.

Sriwattana Industry site organizes its complex content of information by using hierarchical information structure. The home page and link schemes depend on

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hierarchies, moving from the most general overview of the site from the home page down through sub-menus and content pages that become increasingly more specific.

The first page begins with the home page serving as the front door to take visitors to the departments that interest them. The home page is linked with other 9 menu pages: About Us, Products, About Plastics, Links, Site Map, Contact Us, Certificates, Search and News. Each menu page is also further divided into many sub-menus relevant to that particular menu.
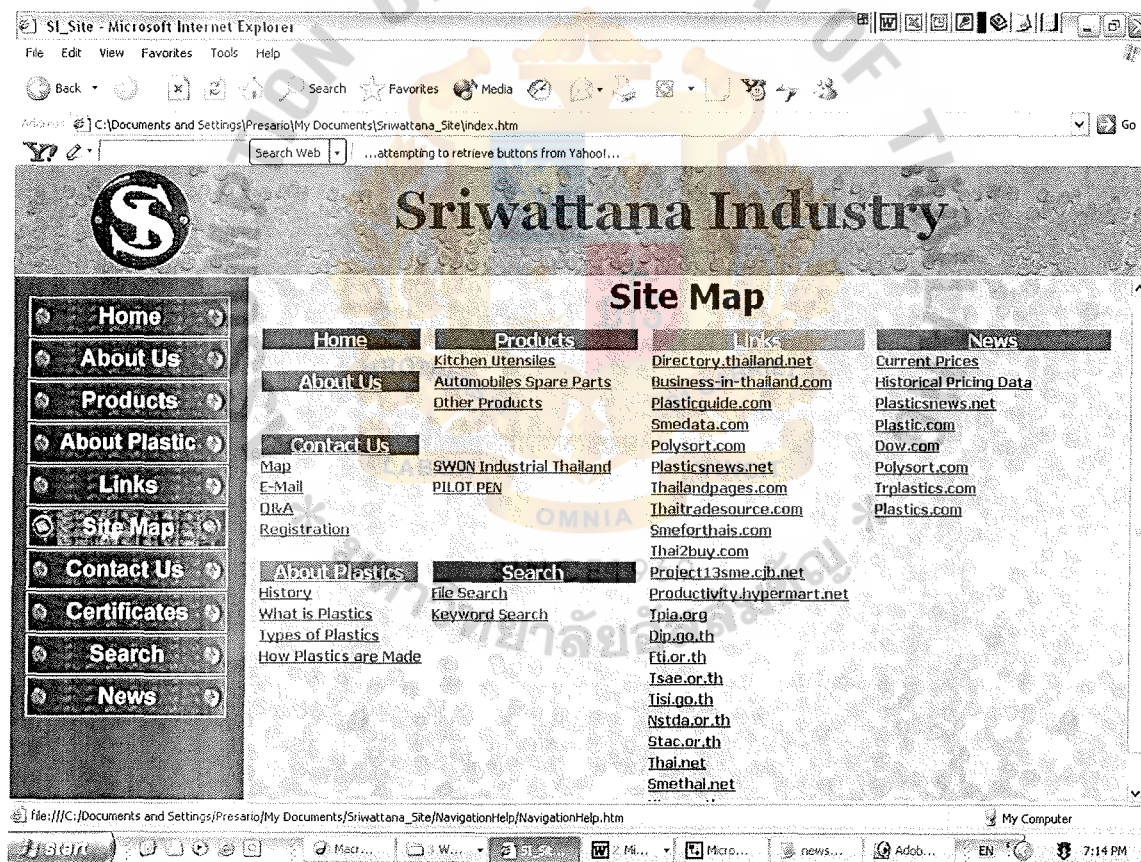
Figure 5.3. Site Map.

5.4 Visual Design

Visual design is another key success factor to attract visitors when accessing the site. Sriwattana.com uses colors, graphics, and animation to provide visitors with a sense of page locations wherever they surf the site. For example, the color on the home page will be changed every time the user clicks at each link. Likewise, the picture beside the product description will also be changed concurrently. The use of color in each page makes the site look attractive, and plain.

In addition to the colors used, graphics and animation also play a major role in attracting the viewers. The fonts used in the site are easy to read and consistent in each page. The standard font type is used to avoid problems in displaying to any version of computer of the visitors. The pictures are saved as GIF and JPEG files so they are not too big and not take too much time for visitors to download.
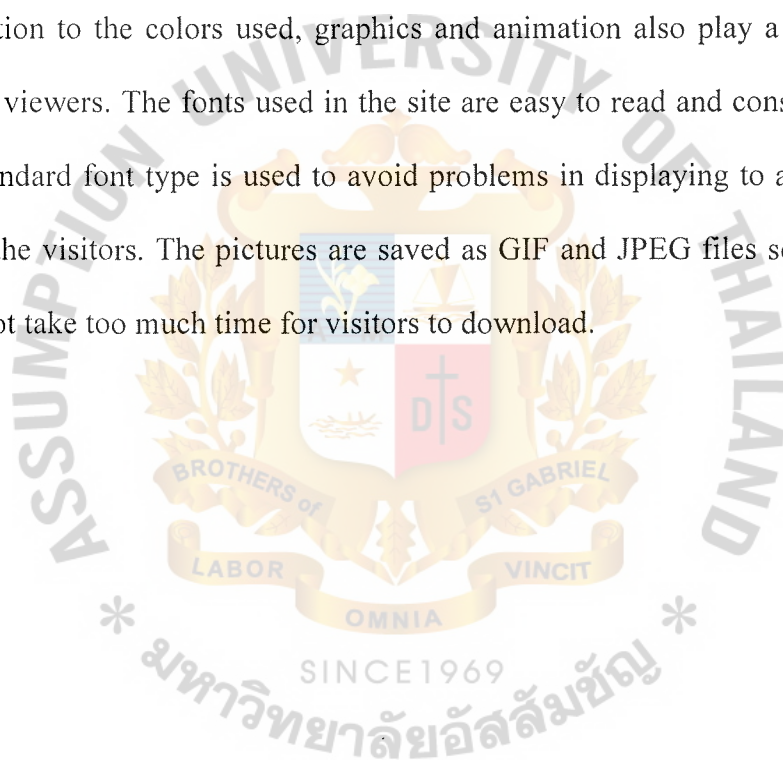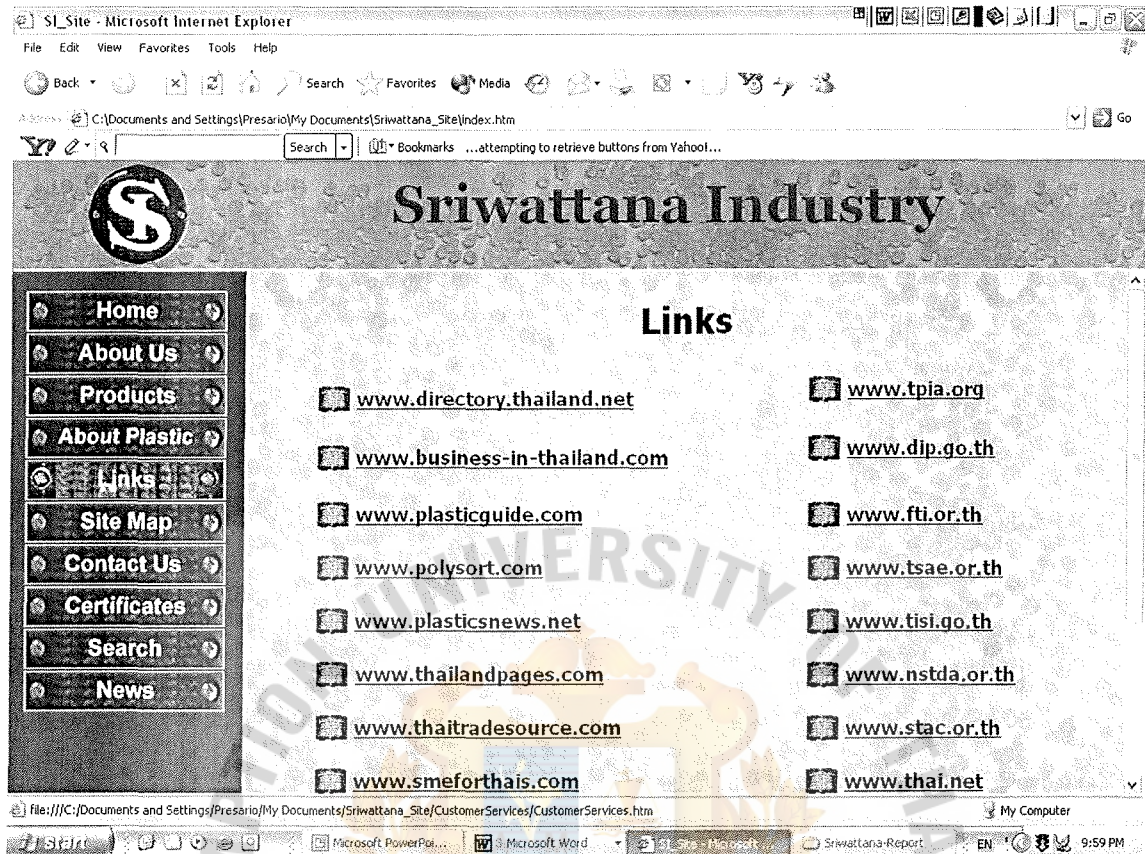
Figure 5.4. Links of the Site.

5.5 Functional Requirements

The TCP/IP, Web browsers, commercial web servers, encryption, and firewalls provide an open foundation for creating web sites that can easily support marketing and service activities. An electronic site must support the same steps and tasks that a physical site must support.

5.6 Navigation

The web navigation design objectives are to let visitors know where they are, where they have been, and where they are going.

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5.6.1 Let Visitors Know Where They Are

Navigation should give the visitors a clear idea of what web site page he is on. Web navigation is somewhere between a map and a system of signposts.

As a rule, navigation should be text-based. Where there is a need for navigation to be in graphical form, the navigation classification representing the page the visitor is on should have a different design than the other classifications.

5.6.2 Let Visitors Know Where They've Been

A fundamental principle of web navigation design is to let visitors know where they've been on the web site. This is a key reason to design navigation in hypertext rather than in graphical form.

With hypertext, when a link is clicked, it changes color. The reason it changes color is to let visitors know where they have and haven't been.

On the majority of web sites, the standard colors for hypertexts are blue for unclicked text and purple for clicked text. Avoid changing these colors since navigation should always present a familiar pattern. Visitors are used to these colors. Changing them will only serve to confuse and disorient visitors.

5.6.3 Let Visitors Know Where They Are Going

The obvious way to let visitors know where they are going is to create navigation classifications that are as themselves descriptive as possible. Never build navigation based on obscure classifications that are familiar to those who work for the specific organization but not to the general public.

However, there will be times when navigation requires extra support in order to achieve greater clarity for the visitors. There are a number of ways to do this:

(1) If the text link is not quite as descriptive as it should be, put in link title text to give the visitors more background.

(2) Change the color of the link when the mouse rolls over it. This is helpful when there are a lot of classification links close together. Because the link changes color, visitors are more certain of what they are about to click on.

(3) Have a drop-down menu showing lower levels of the classification when the mouse rolls over a particular link. This allows visitors to reach deeper into the Web site if they wish so.

Sriwattana Industry site starts at the home page, which appears to look like a location map of 9 main categories: (1) About Us, (2) Products, (3) About Plastics, (4) Links, (5) Site Map, (6) Contact Us, (7) Certificates, (8) Search, and (9) News. The left frame showing the details in all of sub-menus that are fixed while the right frame can be scrolled up and down to display the entire page. The fixed left frame enables the visitors to return to where it previously was or to jump to other pages from wherever they are. Apart from the sub-menus on the fixed left frame, sriwattana.com also facilitates visitors by providing them with other navigation tools. For example, there is a site map always in the right frame. The site map provides links to all pages in the site map. In addition, the left frame site is fixed for the visitors can visit any page in the site immediately. The navigation tools will help visitors understand where they are, where they can go, and how they can get somewhere else. The visibility, labeling, and placement of navigation tools can be used to make things clear to the visitors.
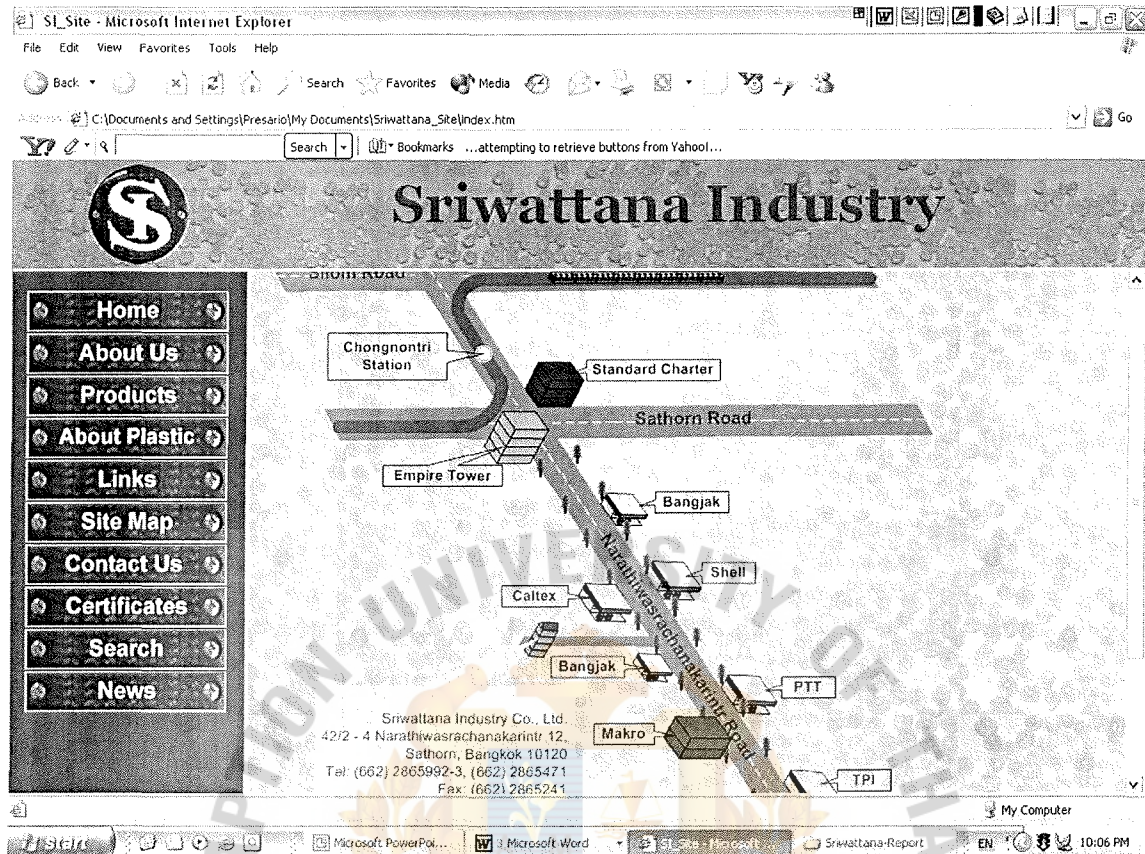
Figure 5.5. A Sample Page of Sriwattana Industry Web Site.

5.7 Getting Feedback on the Web

How does the company get a firsthand feel for the customer who visits the web site? This is a key question that web designers and managers need to address if they want to have web sites that truly work for the customers. How does it positively engage with customers and get their valued feedback.

Achieving that certainly requires more than just a feedback link. The web, for all its interactive hype, is a very sterile environment. The company needs to work hard to get its customer to interact.

The first step in achieving feedback is to make people aware that the company values their feedback. Here is what the company needs to do:

(1) Actively reach out to customers.

(2) Host well-moderated discussion boards or mailing lists.

(3) Get back to people quickly, thank them, and answer any queries raised in their feedback.
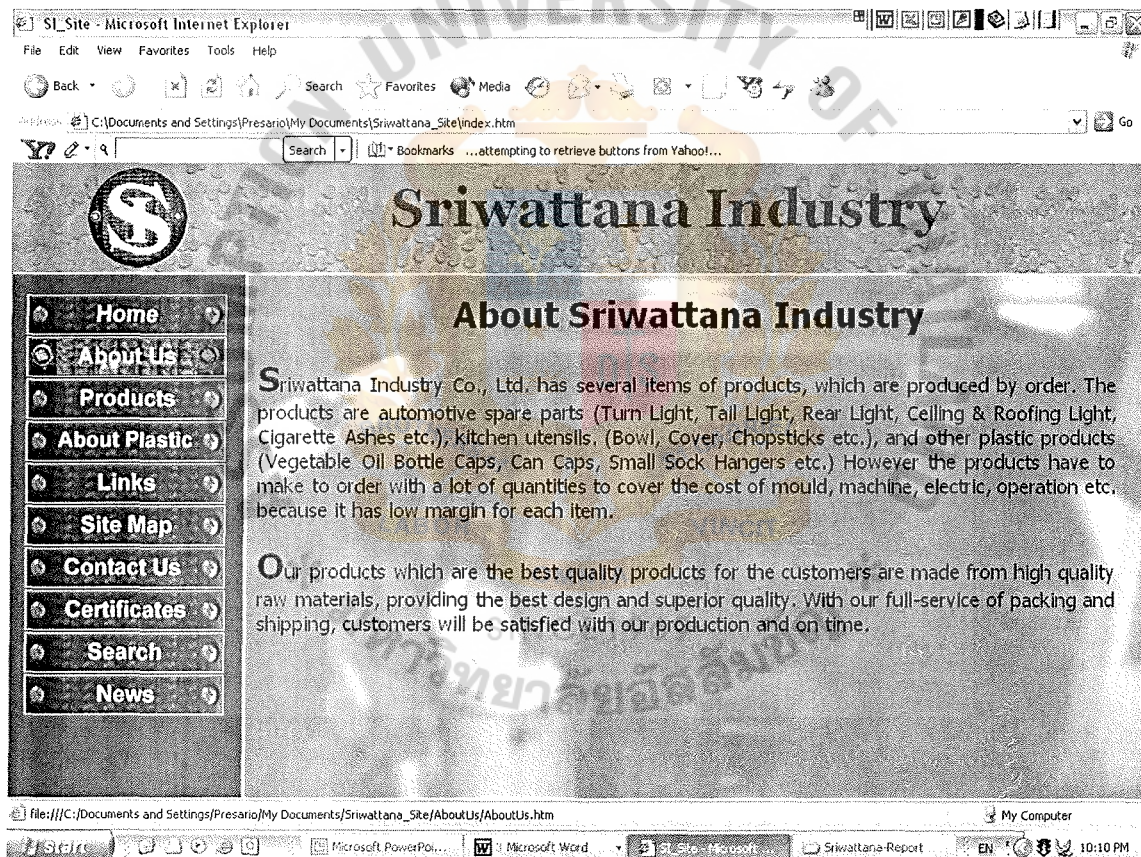
Figure 5.6. About Us Page of Sriwattana Industry Web Site.

Figure 5.7.   Product Category Page of Sriwattana Industry Web Site.
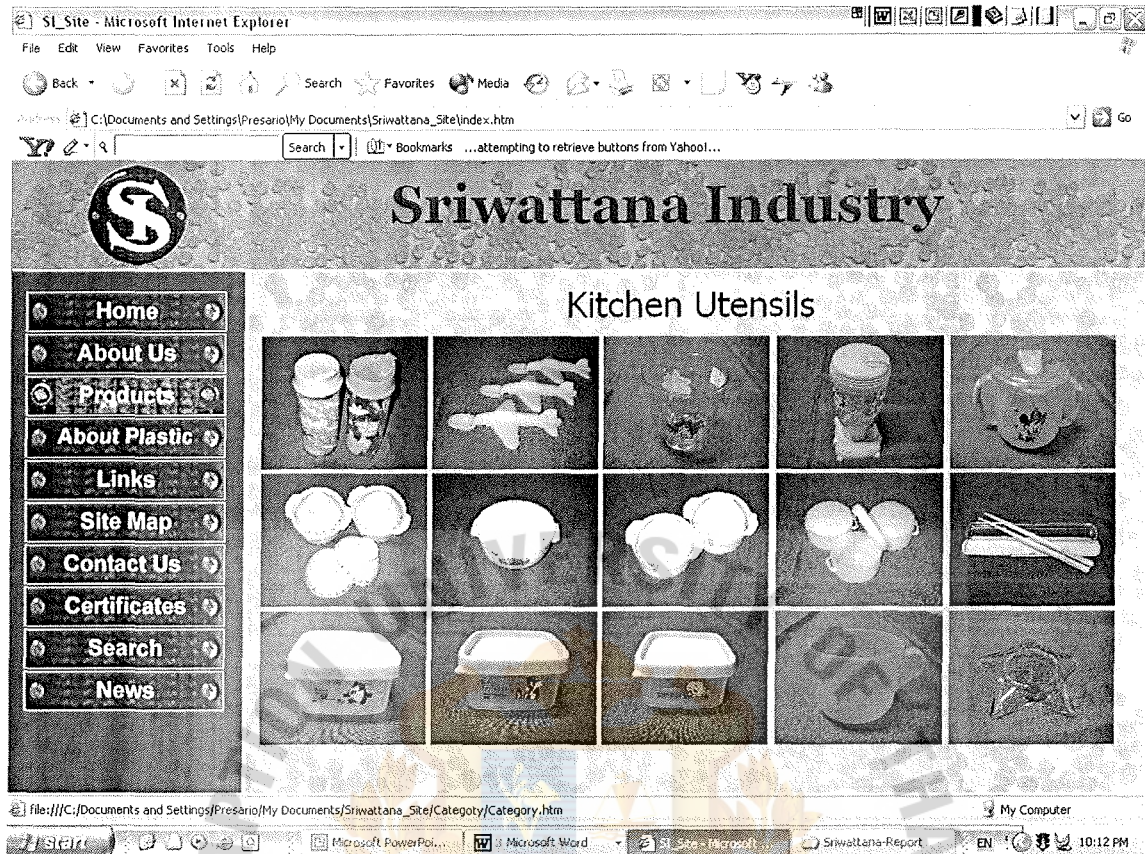
Figure 5.8.   Kitchen Utensils Page of Sriwattana Industry Web Site.

Figure 5.9.   Automobile Spare Parts Page of Sriwattana Industry Web Site.
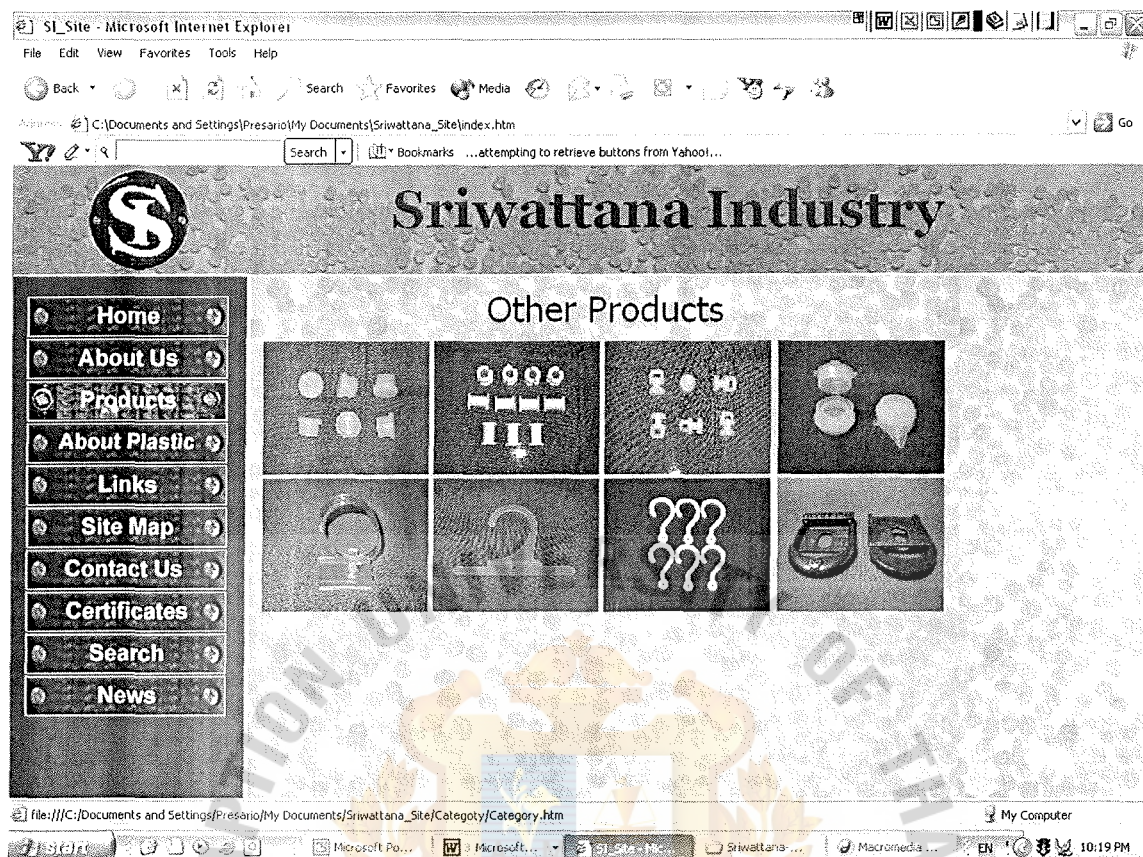
Figure 5.10.   Other Products Page of Sriwattana Industry Web Site.
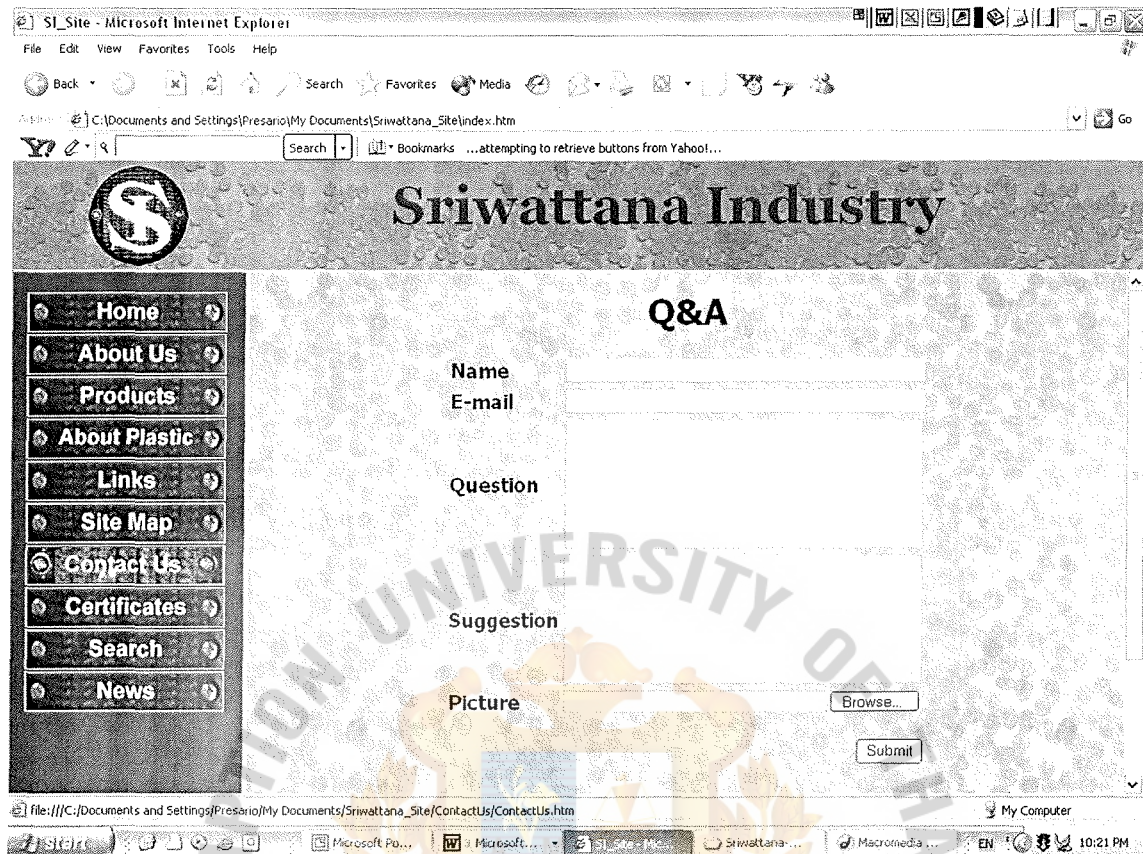
Figure 5.11. Q&A Page of Sriwattana Industry Web Site.
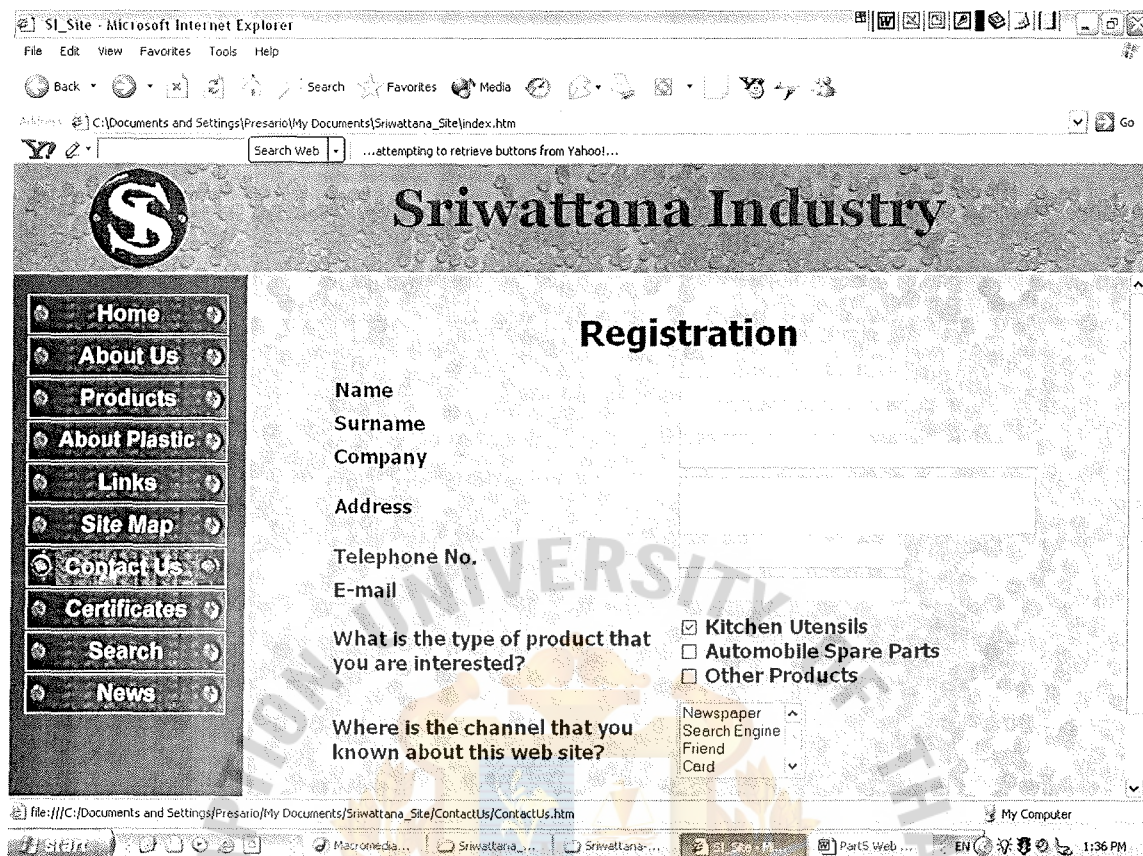
Figure 5.12.   Registration Page of Sriwattana Industry Web Site.
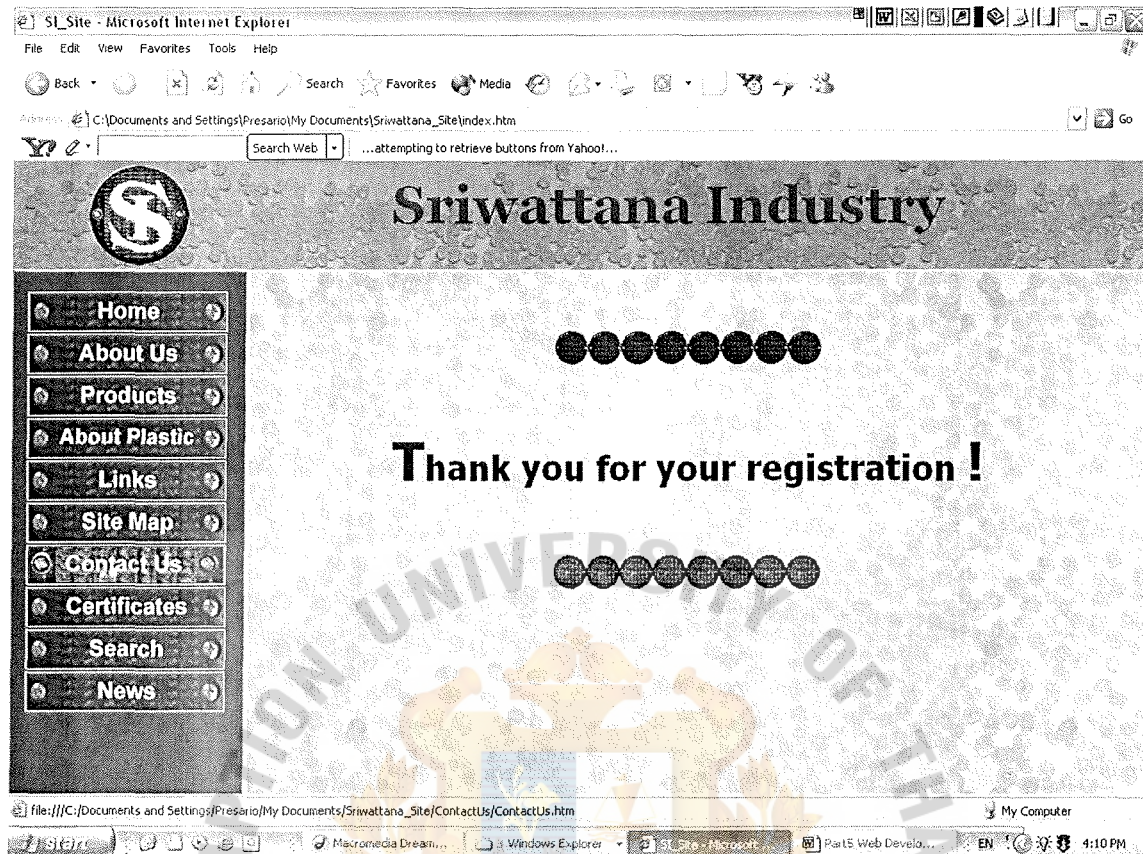
Figure 5.13.   Thank You Page When the Visitor Register.
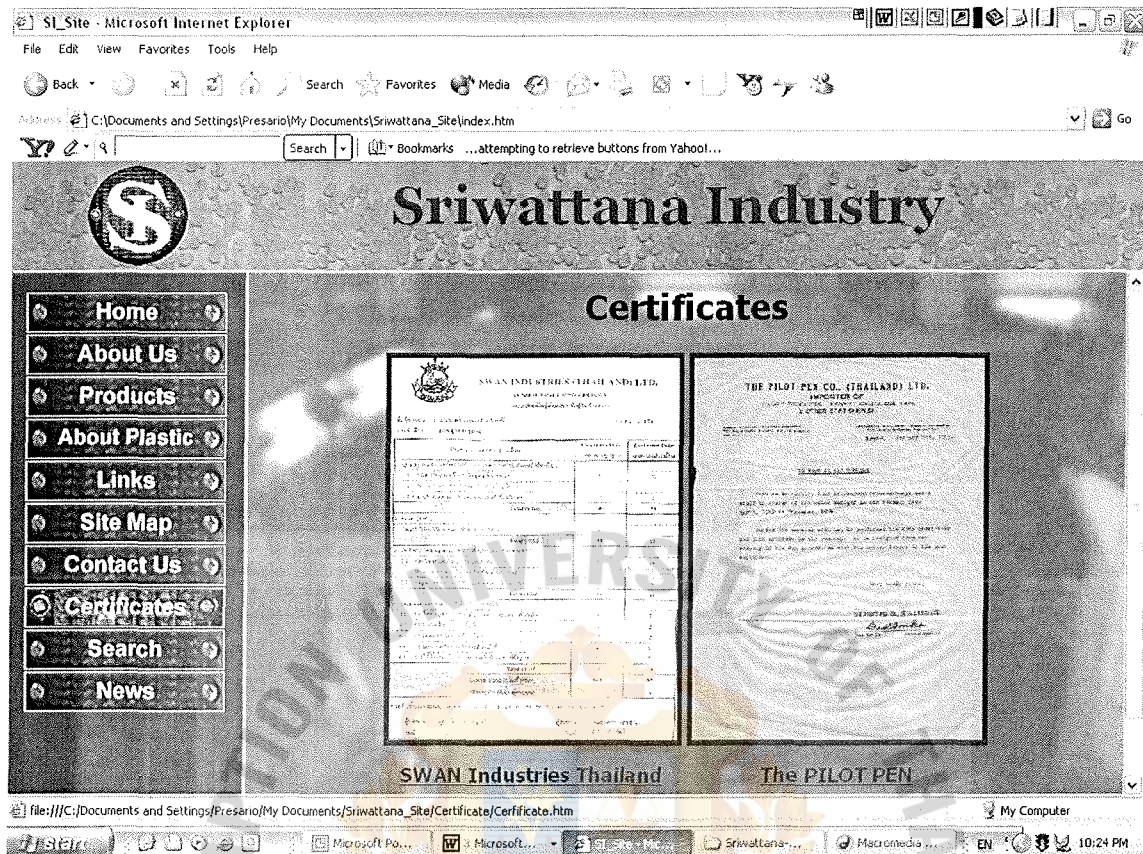
Figure 5.14. Certificates Page of Sriwattana Industry Web Site.
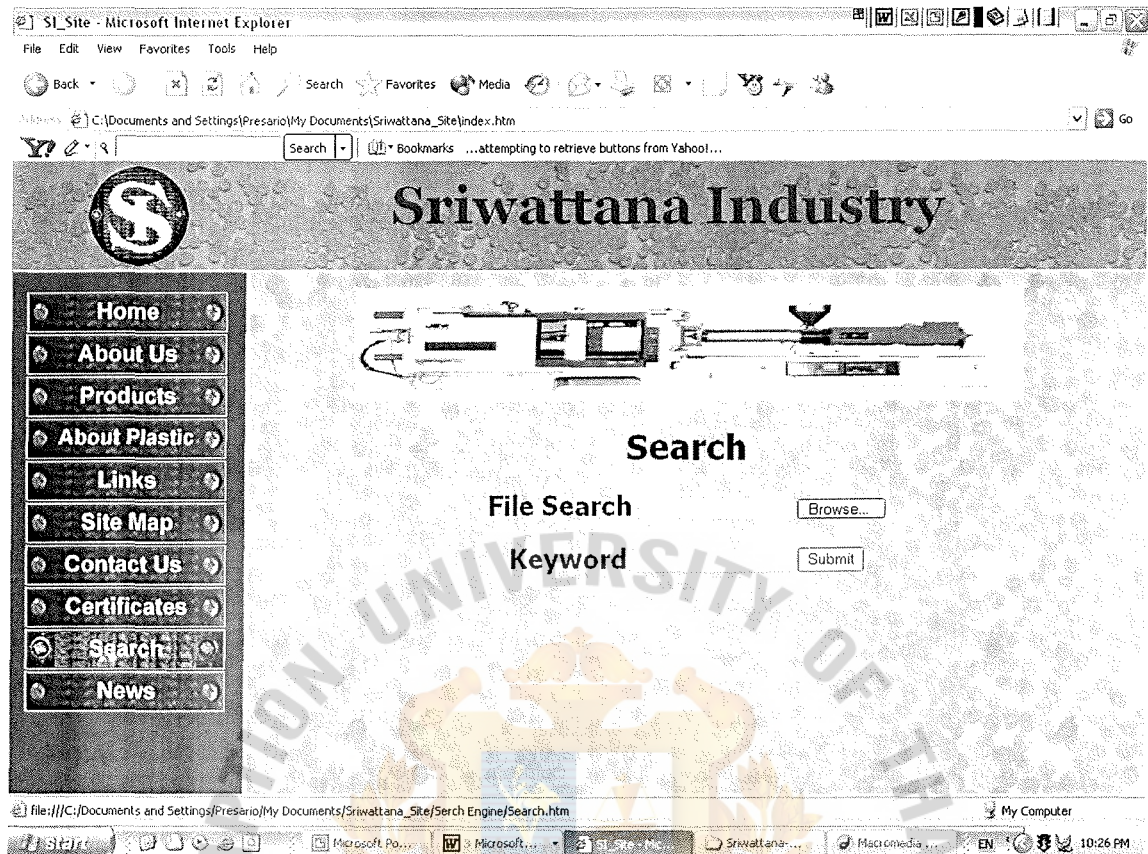
Figure 5.15.   Search Page of Sriwattana Industry Web Site.

Figure 5.16.   News Page of Sriwattana Industry Web Site.

5.8   Hardware and Software Requirements

Hardware and software required to create the Web site and make its functionality possible consist of the followings:

(1)   Hardware Specification

    (a)   CPU: Pentium IV 1.8 Ghz

    (b)   Mainboard: Chipset i845E

    (c)   Memory: Double Data Rate SDRAM 256 Mb

    (d)   Hard Disk: Maxtor 30G/ATA 133

    (e)   Graphic Card: ATI Mobility M6 16 Mb

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(f)	Sound:	Sigma Tel Codec
(g)	Floppy Disk Drive 1.44:	Default
(h)	CD-Writer:	Matshita UJDA340
(i)	Monitor:	ATI Mobility M6
(j)	Modem:	Lucent Internal Modem
(k)	Printer:	HP Deskjet 710C

(2)   Software Specification

(a)	Web Server:	Apache 1.3.14
(b)	Database Server:	MySQL 4.0.13
(c)	Server-side Scripting Tool:	PHP4 with MySQL support compiled in
(d)	Web Development Tool:	Edit Plus 2.11
(e)	Graphic Tool:	Adobe Photoshop version 7.0.1
(f)	Screen Capture Tool:	HyperSnap-DX version 4.22.01

The Web server is the major software for storing the database. Sriwattana.com using Apache instead of Microsoft Internet Information Server because

(1)   It is the most widely that is used Web server on the Internet.

(2)   The Apache Software Foundation provides support for the Apache community of open-source software projects.

(3)   The Apache projects are characterized by a collaborative, agreement based development process, open and practical software license, and a desire to create high quality software that leads the way in its field.

(4)   Apache not simply group of projects sharing a server, but rather community of developers and users.

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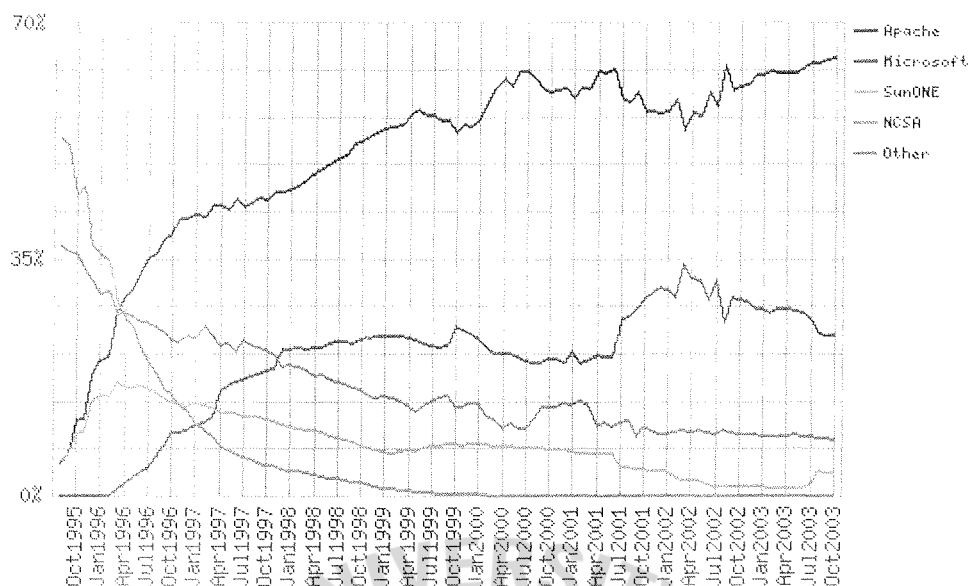
Figure 5.17. Percentage of Market Share for Top Servers across All Domains.

Table 5.1. Market Share for Top Servers across All Domains.

Developer	September 2003	Percent	October 2003	Percent	Change
Apache	27836622	64.52	28235972	64.61	0.09
Microsoft	10156289	23.54	10252227	23.46	-0.08
SunONE	1501241	3.48	1528090	3.50	0.02
Zeus	742950	1.72	735179	1.68	-0.04
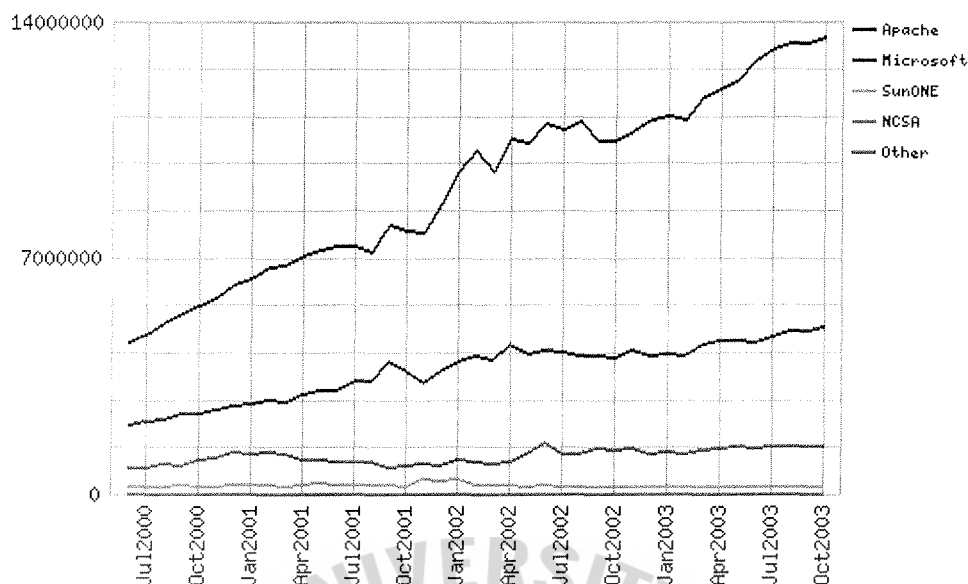
Figure 5.18.   Totals for Active Servers across All Domains.

Table 5.2.   Totals for Active Servers across All Domains.

Developer	September 2003	Percent	October 2003	Percent	Change
Apache	13371621	67.45	13524221	67.35	-0.10
Microsoft	4804550	24.23	4919247	24.50	0.27
Zeus	266220	1.34	257464	1.28	-0.06
SunONE	211234	1.07	214184	1.07	0.00

For database server, sriwattana.com uses MySQL because

(1)   It is easy to use. While a basic knowledge of SQL is required and most

relational databases require the same knowledge, MySQL is very easy to

use. With only a few simple SQL statements, MySQL can build and

interact.

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(2)   It is secure. MySQL includes solid data security layers that protect sensitive data from intruders. Rights can be set to allow some or all privileges to either individuals or groups. Passwords are encrypted.

(3)   It is free of charge. MySQL is included for free with NetWare® 6.5 and available by free download from www.mysql.com

(4)   It is fast. In the interest of speed, MySQL designers made the decision to offer fewer features than other major datadase competitors, such as Sybase and Oracle. However, despite having fewer features than the other commercial database products, MySQL still offers all of the features required by most database developers.

(5)   It is scaleble. MySQL can handle almost any amount of data, up to as much as 50 million rows or more. The default file size limit is about 4 GB.

(6)   It manages memory very well. MySQL has been thoroughly tested to prevent memory leaks.

(7)   It runs on many operating systems. MySQL runs on many operating system, including Novell Netware, Windows, Linux, many varieties of UNIX (such as Sun, Solaris, AIX, and DEC UNIX), OS/2, FreeBSD, and others.

(8)   It supports several development interfaces. Development interfaces include JDBC, ODBC, and scripting (PHP and Perl), letting create database solution that run not only in Netware 6.5 environment, but across all major platforms, including Linux, UNIX, and Windows.

In addition, PHP4 is used as Server-side Scripting Tool. Although, there are some disadvantages such as being an open source project, so far no commercial support is available, and the relatively slow speed of execution of PHP (prior to version 4). There

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are more useful and more advantages than, especially the mailing lists. Advantages of PHP are as follows:

(1) Lot of database integration; PHP can be compiled with functions to interact with lot of databases. PHP with MySQL is a very popular combination. Sriwattana.com can write wrap-around functions to indirectly call database functions. This way is easy to change code when we would like to change database.

(2) Extensibility; as mentioned before, PHP has been evolving at a rapid speed. For a non-programmer it might be difficult to extend PHP to support additional functions, but for programmers it should not be very difficult.

(3) PHP can be downloaded from its website http://www.php.net/downloads.php

(4) PHP is a widely used general purpose scripting language that is especially suited for web development and can be embedded into HTML.

5.9 Setting up Database Driven Websites

The company has set up the database for website by installing web server (Apache), an SQL database server (MySQL), and a server-side scripting tool (PHP4) that ties everything together.

Back office/data storage process of sriwattanan.com is shown in the diagram below:

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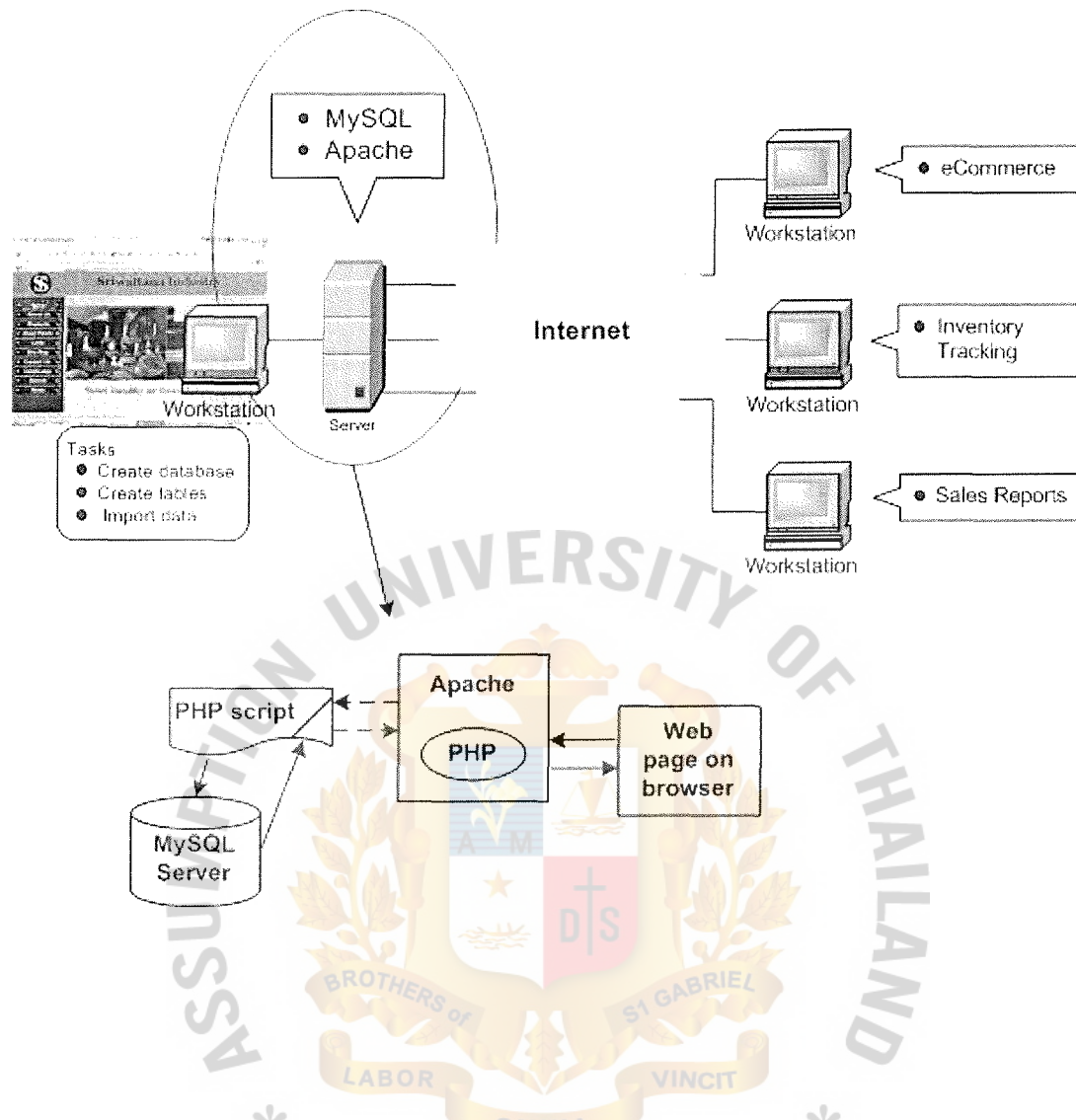
Figure 5.19.   Web Server and Database Server.

Processes of Database and Web Server Working are:

(1)   The visitor clicks on a link from Web browser; the Web browser sends a
      request.

(2)   The file, which has the extension name like ".php", is a PHP script that
      contains commands. One of these commands is to open a connection to a
      database and grab some data. PHP knows how to talk to the database, so it
      does its work.

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(3)	The data comes back from the database, and the file which has extension name ".php" does something to format the data. Typically, this would be to make it look pretty before formatting it into HTML.

(4)	The HTML goes back to Apache.

(5)	Apache sends this back to the user's browser, as the response to his request. The user now sees a pretty web page containing some information from a database

When the company would like to develop a web page, the developer may instantly apply by using database page no need to develop one by one in the web page. These are more conveniently applied.
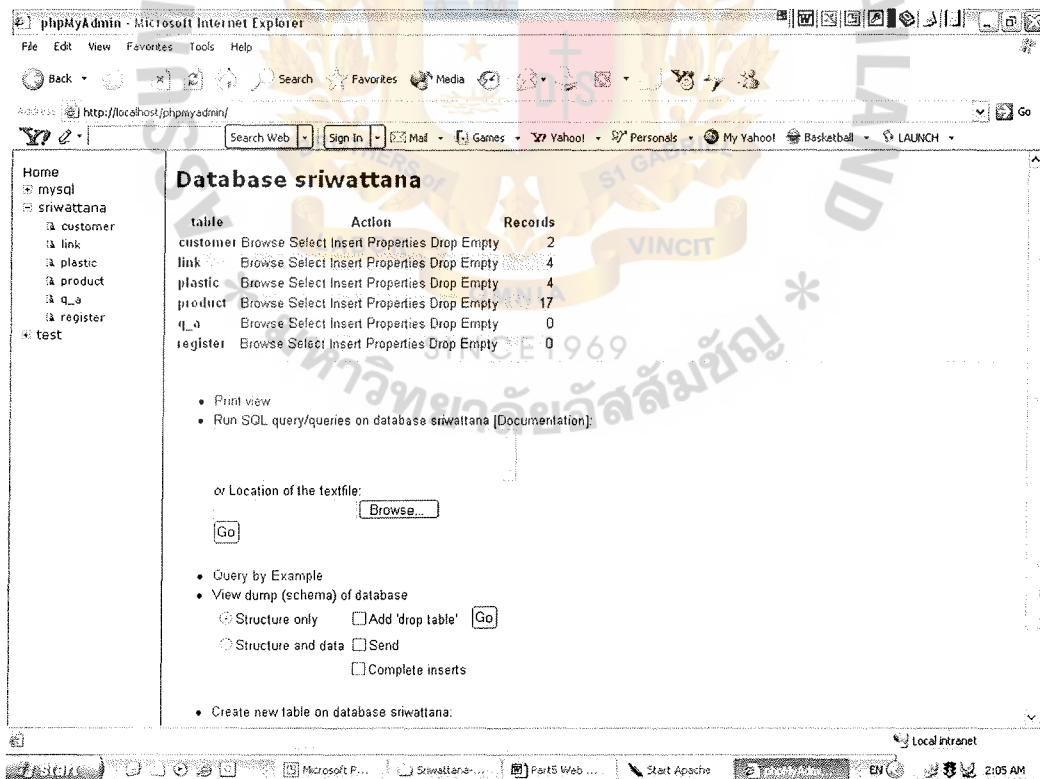
Figure 5.20.	Database of Sriwattana web site.
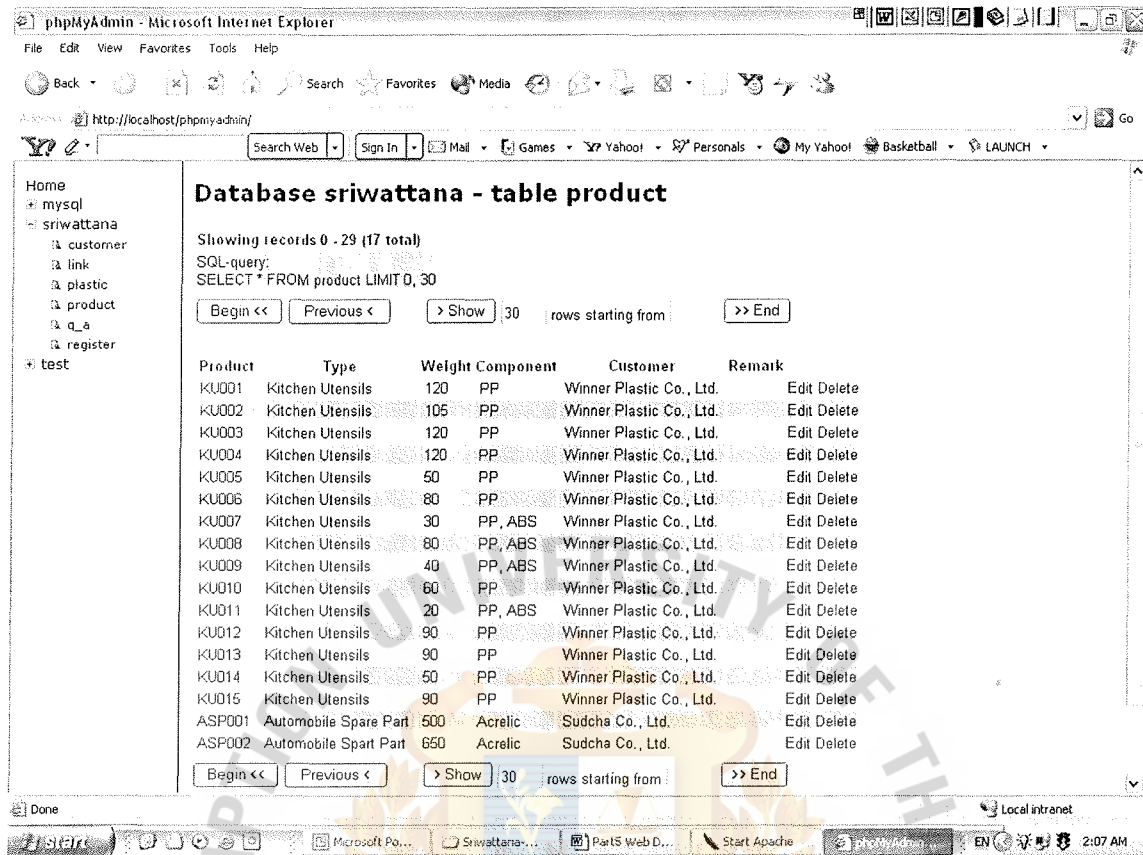
Figure 5.21.   Database of Product in Sriwattana Web Site.

5.10 Payment System

The emergence of electronic shopping on the Internet has necessitated new payment methods. The credit card has become the most popular payment method for consumer initiated online shopping. The computer will ask the customer to input the credit card number, holder's name, and expiration date. The answers to these questions are encrypted but not all customers are confident with the safety of online message delivery. So the customers are obliged to offer multiple options for transmission of credit card information so that they can select their preferred method. They may send

the card information online or use the electronic check or bank draft as the payment method.

Sriwattana.com is the Web site for presenting the product to prospective customers following negotiation and order in the future. Typically, the customers have to negotiate with the company many times and have to inject testing until the are satisfied. Therefore, the payment system in sriwattana.com is needless. When the customer satisfy with the product and order consequently, the company will carry out the order and deliver to customer on time. After delivering products to the customer, the company will bill to the customer within 30 days. The customer may send bank draft paid to the order of "Sriwattana Industry Co., Ltd." which may be sent by using faximile. In addition, the customer is able to transfer money through Sriwattana Industry's account and send transfer evidence to Sriwattana Industry. On the other hand, the company has a messenger for picking up cheque if the customer withes to do so.

5.11 Security System

At Sriwattana.com, customers' data is strictly protected against any unauthorized access. Sriwattana.com makes every effort to protect information by using Secure Sockets Layer (SSL) technology.

Secure Sockets Layer, SSL, is the standard security technology for creating an encrypted link between a web server and a browser. This link ensures that all data passed between the web server and browser remains private and integral. SSL is an industry standard and is used by millions of websites in the protection of their online transactions with their customers. In order to be able to generate an SSL link, a web server requires an SSL Certificate.

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When sriwattana.com chooses to activate SSL on web server, it will be prompted to complete a number of questions about the identity of the website. Then it creates two cryptographic keys that are a Private Key and a Public Key. Private Key is so called for a reason - it must remain private and secure. The Public Key does not need to be secret and is placed into a Certificate Signing Request (CSR) - a data file also containing the details. Then the CSR is submitted. During the SSL Certificate application process, the Certification Authority will validate the details and issue an SSL Certificate containing the details and allowing the use of SSL.

Then the issued SSL Certificate will be matched with the Private Key. And then the company will be able to establish an encrypted link between the website and customers web browser.

Using a SSL Certificate to secure online transactions can tell customers that sriwattana.com takes their security seriously. They will visibly see that their online transaction will be secure, confidential and integral and give them the confidence that you have removed the risk associated with trading over the Internet.

An Internet protocol uses encryption and SSL secure sockets layer in order to supply data confidentially for service and data integrity amid a client and a server transaction with Internet security and privacy. Secure sockets layer (SSL) can also, as an option, provide peer entity authentication amid the visitor and the server with secure SSL validation of digital certificates. SSL is layered below HTTP and above a transport protocol (TCP). SSL is independent of the application it summarizes and any other higher-level protocol can layer on top of SSL transparently.

SSL has two layers:

(a)   SSL's lower layer, the SSL Record Protocol, is coated on top of the transport protocol and encapsulates higher level protocols.

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(b)   SSL's upper layer supplies asymmetric cryptography for server authentication, which is verifying the secure server's digital identity to the client with digital ID signatures or certs with client authentication (the process of verifying the client's identity to the server). It also allows them to negotiate a symmetric encryption algorithm and secret session key, used for data confidentiality, prior to the transmission or receiving of data by the application protocol. A keyed hash offers data integrity service for data that is encapsulated.

When the visitors have a question in Q&A with Sriwattana.com or have more details in Registration, they will ask for some contact information, such as visitor's name, company's name, telephone and e-mail address. Sriwattana.com will use the visitors contact information from the Q&A and Registration form to send visitors information about answer, news and promotional material from some of its partners.

VI. FINANCIAL ANALYSIS

6.1 Initial Investment

The initial investment includes the up-front cost of fixed asset associated with the project. The company plans to make a major investment in designing a web site and developing the database.

For the new online company like sriwattana, the design of the web site is very important because it to has to attract first time visitors and make them visit the web site again. A good design requires the compatibility of network, server, protocol issues and leased line, all of which increase the investment costs. And the database development is also one of the company's key success factors. It enables the company to track and provide products and services that can fit the customer's profile. So the cost of designing a web site and developing the database can be separated into three following areas.

			Baht
(a)	Design Web & Develop		120,000
	(i)	Computer & IT Equipment	100,000
		(2 sets of PCs with a modem, 1 printer, and 1 scanner)	
	(ii)	Cost of designing Web site	20,000
(b)	Other Initial Expenses		500,000
	Sub-total (1)		**620,000**

6.2 Operating Cash Flows

Annual operating income is calculated by deducting tax from operating income and adding depreciation to the result. The depreciation is added back because it is a non-

cash expense and financing costs (including interest expense) are not included because they are accounted for in the discounting process.

6.2.1 Sale Forecast

According to Sriwattana Industry's historical sales, the company could generate sales through its traditional channel in the amount of approximately 4-5 million Baht per year. However, the sales or the gross profit (net sales less cost of good sold) to be determined as the cash inflow of the electronic commerce project will be based on the incremental basis, i.e., the sales generated from cyber business only. Sriwattana Industry estimates the sales in year 1 in the amount of 1.5 million Baht with the growth rate in year 2-3 and year 4-5 at 30% and 50% per year respectively. The sales and the gross profit through Web site are shown in Table 6.1 as follows:

Table 6.1. Projection for Net Sales, Cost of Production, and gross profit, Baht.

Year	1	2	3	4	5
Net Sales	1,710,000	2,223,000	2,889,900	4,334,850	6,502,275
Less: Cost of Production	1,005,000	1,105,500	1,216,050	1,459,260	1,751,112
Gross Profit	705,000	1,117,500	1,673,850	2,875,590	4,751,163

6.2.2 Selling and Administration Expenses Estimation

Sriwattana Industry's selling and administrative expense in year 1 can be separated into the following items.

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(1)   Advertising & Promotion

      Internet/Hosting   10,000

      Advertisement   12,000

      Sub-total   **22,000**

Baht

(2)   Cost of Operation

      Operation   240,000

      Overhead expenses   68,400

      Sub-total   308,400

      Total selling and administrative expenses in Year 1   **330,400**

The assumption for selling and administrative expenses in year 1 is 330,400 baht with growth rate in year 2-3 and 4-5 at 10% and 15% per year respectively except Overhead expenses that is 4% of total sales in each year.

With the above-mentioned assumption, the selling and administrative expense for year 1-5 is therefore roughly estimated in Table 6.3 as follows:

Table 6.2.   Estimation for Selling and Administrative Expense, Baht.

Year	1	2	3	4	5
Selling and Administrative Expense	330,400	338,126	374,067	428,738	491,608

6.2.3 Depreciation Expenses

Using the straight-line depreciation method, depreciation expenses using 5 year-life will be 20,000 Baht per year (based on initial investment cost excluding cost of designing the web site in the amount of 100,000 Baht)

6.3 Financial Analysis

According to the above assumption, the financial summary is calculated as shown in Table 6.3.

Table 6.3.   Financial Analysis of Sriwattana.com.

Sriwattanna.com Project : E-Plastic Manufacturing *Strictly Private and Confidential*			1st year	2nd year	3rd year	4th year	5th year
Executive Summary :							
IRR	62.76	%					
Payback period	2.75	Year					
Revenue assumption							
Revenue			1,710,000	1,710,000	2,223,000	2,889,900	4,334,850	6,502,275
Cost assumption							
Initial Investment	620,000						
1. Design Web & Develop	120,000						
1.1 Computer & IT Equipment	100,000						
1.2 Cost of Design Website	20,000						
2. Other Initial Expenses	500,000						
3. Cost of production	1,005,000						
3.1 Raw Material	600,000		600,000	660,000	726,000	871,200	1,045,440
3.2 Transportation	60,000		60,000	66,000	72,600	87,120	104,544
3.3 Packing	45,000		45,000	49,500	54,450	65,340	78,408
3.4 Utility & Other Expense	300,000		300,000	330,000	363,000	435,600	522,720
4. Selling and Administrative Expenses							
4.1 Advertising & Promotion	22,000						
4.1.1 Internet/Hosting	10,000		10,000	11,000	12,100	13,915	16,002
4.1.2 Advertisement	12,000		12,000	13,200	14,520	16,698	19,203
4.2 Cost of Operation	308,400						
3.2.1 Operation	240,000		240,000	264,000	290,400	319,440	351,384
3.2.2 Overhead exp.	68,400		68,400	88,920	115,596	173,394	260,091
5. Depreciation	5	Years					
6. Cost of Capital	6%	p.a.(avg. loan rate)					

Table 6.3.   Financial Analysis of Sriwattana.com (Cont.).

Appendices :
5 Years Cash Flow Statement   Unit: Baht

| Year	Total	0	1	2	3	4	5
Cash Inflow	**17,660,025**		**1,710,000**	**2,223,000**	**2,889,900**	**4,334,850**	**6,502,275**
Revenue for new product	17,660,025		1,710,000	2,223,000	2,889,900	4,334,850	6,502,275
Cash Outflow	**(13,545,865)**	**(620,000)**	**(1,376,620)**	**(1,508,950)**	**(1,675,894)**	**(1,918,980)**	**(2,201,487)**
Initial Investment	**(620,000)**	**(620,000)**	-	-	-	-	-
Design Web&Develop	**(120,000)**	**(120,000)**					
Computer & IT Equipment	(100,000)	(100,000)					
Cost of Design Website	(20,000)	(20,000)					
Other Initial Expenses	**(500,000)**	**(500,000)**					
Selling&Admin	**(138,638)**		**(22,000)**	**(24,200)**	**(26,620)**	**(30,613)**	**(35,205)**
Internet/Hosting	(36,107)		(10,000)	(11,000)	(12,100)	(13,915)	(16,002)
Advertisement	(75,621)		(12,000)	(13,200)	(14,520)	(16,698)	(19,203)
Cost of production	**(6,536,922)**		**(1,005,000)**	**(1,105,500)**	**(1,216,050)**	**(1,459,260)**	**(1,751,112)**
Raw Material	(3,902,640)		(600,000)	(660,000)	(726,000)	(871,200)	(1,045,440)
Transportation	(390,264)		(60,000)	(66,000)	(72,600)	(87,120)	(104,544)
Packing	(292,698)		(45,000)	(49,500)	(54,450)	(65,340)	(78,408)
Utility & Other Expense	(1,951,320)		(300,000)	(330,000)	(363,000)	(435,600)	(522,720)
Cost of Operation	**(6,250,305)**		**(712,700)**	**(875,677)**	**(1,072,415)**	**(1,479,338)**	**(2,110,175)**
Operation	(1,465,224)		(240,000)	(264,000)	(290,400)	(319,440)	(351,384)
Overhead exp.	(706,401)		(68,400)	(88,920)	(115,596)	(173,394)	(260,091)
Depreciation	(100,000)		(20,000)	(20,000)	(20,000)	(20,000)	(20,000)
Tax	(3,876,573)		(347,100)	(463,775)	(620,495)	(966,504)	(1,478,700)
Interest	(102,107)		(37,200)	(38,982)	(25,925)	-	-
Net Cashflow	**4,114,160**	**(620,000)**	**(29,700)**	**217,624**	**574,815**	**1,365,639**	**2,605,783**
Accumulated Cashflow		**(620,000)**	**(649,700)**	**(432,077)**	**142,738**	**1,508,377**	**4,114,160**
NPV	**3,569,680**		**(241,408)**	**174,099**	**459,852**	**1,092,511**	**2,084,626**
PV - Cash Inflow	10,558,340		1,609,408	1,604,301	1,852,068	2,375,369	3,117,194
PV - Cash Outflow	14,128,020		1,368,000	1,778,400	2,311,920	3,467,880	5,201,820

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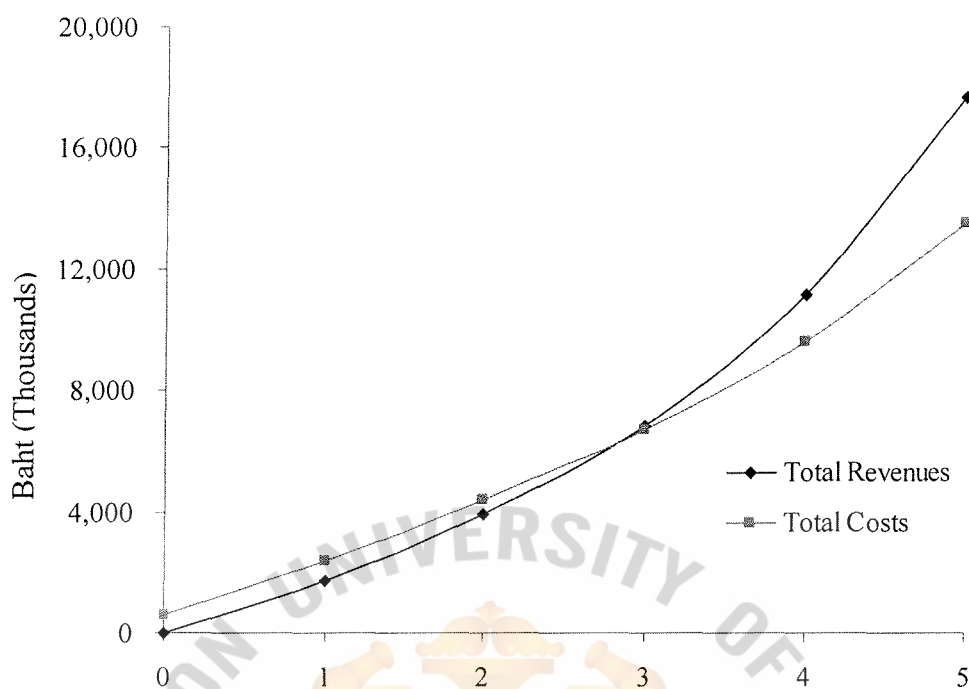
Figure 6.1.   Break Even Point.

6.4   Project Evaluation

According to the above summary of net cash flow, the payback period, IRR, and NPV (at the 25% cost of capital or discount rate) as follows:

Payback period within	3	Years
IRR	62.76%	
NPV	3,569,680	Baht

With the IRR at higher than the required rate of return of 25% as well as the positive NPV, this project appears to be acceptable. It is also acceptable upon the company's required payback period of less than three years, assuming that the project has the same degree of risk as company's average cost.

VII. CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

Sriwattana Industry Co., Ltd. has several items of products, which are produced by order. The products are automotive spare parts (Turn Light, Tail Light, Cigarette Ashes etc.), kitchen utensils (Bowl, Cover, Chopsticks etc.), and other type of products. Target market for Sriwattana Industry product is only B2B (Business to Business) also the customer who is the intermediately. Most of them must have purchasing power. The products have to make to order with a lot of quantities to cover the cost of mould, machine, electric, operation etc. because it has low margin for each item.

From Financial analysis part, IRR at higher than the required rate of return of 63% as well as the positive NPV, this project appears to be acceptable. It is also acceptable upon the company's required payback period of less than three years, assuming that the project has the same degree of risk as company's average cost.

After the concept of marketing and website has been applied, then the web site has been developed. The program and software that Sriwattana Industry used in creating the web pages are Editplus, Photoshop. Sriwattana.com web site are designed to attract people by making the style of the web site looks realistic, fast download times, easy to use, customers confidently, by using plastics group is background which has white color, the icons or sub-manus using red light is logo for each icons. The reasons of these are the visitors may have confidence with the company. The visitors can navigate the web site easily as do not make the web site complicated to explore or navigate. And also the visitors know where they are, where they've been, and where they're going.

This project has successfully fulfilled the objective of developing the prototype for displaying the products for Sriwattana Industry.

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7.2   Recommendation

At the beginning, Sriwattana Industry has no own products license for selling in sriwattana.com so the target customers at that time will be the companies, which have an own products, would like the Sriwattana Industry produces. So the channels for payment methods have no payment online. It is an old typical payment.

In the future, Sriwattana Industry will have own products online for expanding target customers in the retails group. So it will have payment online by using credit card or direct debit online.

Besides having own products, Sriwattana Industry recommend to export to the nearly countries and expand to all over the world. Finally, Sriwattana Industry has set the objective to make sriwattana.com the first complete E-Plastic Manufacturing Web site of Thailand.

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