Prepaid Calling Card Online Store

by
Mr. Pat Tejasophon

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

Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Science
in Internet and E-Commerce Technology
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Project Title   Prepaid Calling Card Online Store

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Academic Year   July 2003

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.
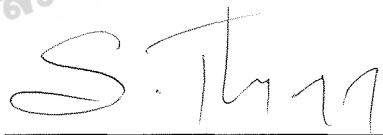
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July 2003

ABSTRACT

The advance technology of E-Commerce can provide numerous competitive advantages to VOIP prepaid calling card business. The company, Callingmax Inc. can develop company's website, www.callingmax.com as online virtual store with online product catalog, shopping card system, financial service with payment gateway, customer relationship management with database and online delivery system through e-mail service. The overall features of website are effective tools in order to develop online business and gain more competitive advantage than competitors.

According to the nature of product the Callingmax.com can developed pure E-commerce business perspective by using e-mail service as vehicle to deliver product's pin code in digitalize to customers. The online delivery system can get rid of waiting time, customer inconvenience and product shortage in physical delivery system. The company can provide more convenience to the customer by offering security payment service supported by reliable third party within the website.

As dealer of calling card product Callingmax.com chooses only high quality and stability calling card in order to ensure the highest service quality for the customer. Accordingly, we set our position as high reliable E-Commerce website to sell prepaid calling card internationally.

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I. INTRODUCTION

1.1 Objectives

The following are the objectives of Callingmax.com

(1)   To develop a professional online shop for long distance calling card business.

(2)   To get sales volume through Web-based sales by average 500,000 baht per month at the end of the first year with 10% growth rate thereafter.

(3)   To enhance "selling channels" with the online marketing activity and to provide enhance customer service to gain customer satisfaction.

(4)   To make a favorite international calling card website targeting Thai student abroad.

1.2 Keys to Success

To succeed in this business we must:

(1)   Sell long distance calling card products with high quality VOIP (Voice over Internet Protocol) network to emphasize on voice quality and gain customer loyalty in long term period.

(2)   Provide premium voice quality card at the most affordable prices available.

(3)   Provide 7/24 professional service to enhance customer satisfaction.

(4)   Provide a full function of online store with reliable service.

(5)   Offer a discount and collectable reward to a loyalty customer.

1.3 Scope of the Project

The scope of this project includes:

(1)   Develop online shopping site for long distance calling card business.

(2)   Develop online marketing activity to gain customer loyalty.

(3) Develop customer relationship and provide after sale service toward online communication channel such as mailing list, web-board and offline channel such as hotline phone number.

1.4 Deliverables

The deliverables for Callingmax.com are as follows:

(1) Prototype of http://www.callingmax.com, which will be published as an actual online shop in December 2003.

(2) Project report with source code of online shop

1.5 Project Plan

Table 1.1. Project Plan.

		YEAR	2002	2003	2003	2003
			December	May	June	July
1	Proposal Submission		*			
2	Develop marketing plan			*	*	
3	Market Research & Execution			*	*	
4	Web Development					
	- Design & Implementation			*	*	*
	- Testing & Commissioning					*
5	Web Complete					*
6	Project Evaluation					*
7	Report Submission					*
8	Defense					*

II. LITERATURE REVIEW

2.1   Internet Background

The Internet is an international collection of interconnected government, education and business computer networks-in effect, a network of networks. Recently there has been a near-total commercialization of Internet, allowing it to be used for pure business applications (the original roots of the internet were in the research and education arenas.). A person at a computer terminal or personal computer equipped with the proper software communicates across the Internet by having the driver place the data in an IP packet and addressing the packet to a particular destination on the Internet. Communication software in routers in the intervening networks between the source and destination networks reads the address on packets moving through the Internet and forwards the packets toward their destinations. TCP guarantees end-to-end integrity.

From a thousand or so networks in the mid-1980s, the Internet has grown to an estimated 1 million people having access to it (as of 1997). The majority of these Internet users currently live in the United States or Europe, but the Internet is expected to have ubiquitous global reach over the next five years.

In 1973, APRA initiated a research program to investigate techniques and technologies for interlinking packet networks of various kinds. The objective was to develop communication protocols that would allow networked computers to communicate transparently across multiple packet networks. The project became very successful and there was increasing demand to use the network, so the government separated military traffic from civilian research traffic, bridging the two by using common protocol to form an internet-work or internet. The term *internet* is define as "a mechanism for connecting or bridging different networks so that two communities can mutually interconnect." So, in the mid-1970s APRA became interested in establishing a

packet-switched network to provide communications between research institutions in United States. With the goal of heterogeneous connectivity in mind, ARPA funded research by Stanford University and Bolt, Beranek, and Newman to create and explicit series of communication protocols. The ARPA developed technology included a set of network standards that specified the details of the computers that would be able to communicate, as well as a set of conventions for interconnecting network and routing traffic. The result of this development effort, completed in the late-1970s, was the Internet suite of protocols. Soon thereafter, there were a large number of computers and thousands of networks using TCP/IP, and it is from their interconnections that the modern Internet has emerged. As noted in Chapter 1 and 3, ARPA was also interested in integrated voice and data.

While the ARPA net was growing into a national network, researchers at Xerox Corporation's Palo Alto Research Center were developing one of the technologies that would be used in local area networking, namely, Ethernet. Ethernet became one of the important standards for implementing LANs. At about the same time, ARPA funded the integration of TCP/IP support into the version of the UNIX operating system that the University of California at Berkeley was developing. It followed that when companies began marketing non-host-dependent workstations that ran UNIX, TCP/IP was already built into the operating system software, and vendors such as Sun Microsystems included an Ethernet port on their devices. Consequently, TCP/IP over Ethernet became a common way for workstations to interconnect.

The same technology that made PCs and workstations possible made it possible for vendors to offer relatively inexpensive add-on cards to allow a variety of PCs to connect to Ethernet LANs. Software vendors took the TCP/IP software from Berkeley

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UNIX and ported it to the PC, making it possible for PCs and UNIX machines to use the same protocol on the same network.

In 1986, the U.S. National Science Foundation (NSF) initiated the development of the NSFnet. NSFnet has provided a backbone communication service for the Internet in the United States. It should be noted that the NSFnet operated utilizing a service acceptable user policy (AUP). The policy stated that the NSFnet was to support open research and education in and among U.S research and intellectual institutions, plus support a research arm of for-profit firms when engaged in open scholarly communication and research. Use for other purposes was not acceptable. The commercialization of the Internet that is now being experienced is not based on the AUP. By the end of 1991, the Internet had grown to include some 5000 networks in over three dozen countries, serving more than half a million host computers. These numbers have continued to grow at geometric rates throughout the 1990s. There are now several thousand Internet service providers (ISPs), although the number is expected to decrease greatly over the next five years. Table 6.3 depicts highlights of the history of the Internet over a 30 year span.

TCP and IP were developed for basic control of information delivery across the Internet. Application layer protocols, such as TELNET (Network Terminal), file transfer protocols (FTP), simple mail transfer protocol (SMTP), and hypertext transfer protocol (HTTP) have been added to the TCP/IP suite of protocols to provide specific network services. Access and backbone speeds have increased from 56 kbps, to 1.5 Mbps (most common now), to 45 Mbps and beyond, for most of the backbones. Voice applications over IP have to ride over the Internet systems developed for traditional data services. Most problematic is the lack of QoS support; this, however, is expected to slowly change. Nonetheless, in spite of the emergence of new technologies, such as

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RVSP and RTP, a retarding factor to true QoS support is the Internet's own success: The numbers of people using it are increasing a such a rapid rate that it is difficult to add enough resource and protocol improvement to keep up with the demand.

Intranets use the same WWW/HTML/HTTP and TCP/IP technology that is used for the Internet. When the Internet caught on in the early to mid-1990s, planners were not looking at it as a way to run their businesses. But just as the action of putting millions of computers around the world on the same protocol suite formetted the Internet revolution, so connecting islands of information in a corporation via intranets is now sparking a corporations now have intranets. Across the business world, employees from engineers to office workers are creating their own home pages and sharing details of their projects with the rest of their companies.

The Internet now has several million hosts connecting million of people worldwide. Many individuals use the Internet for a variety of applications: business people, educators, telecommuters, researchers, government officials, and hobbyists, to list just a few. However, use of the Internet for multimedia applications, including voice, is a relatively new development, at least for business application.

The evolving ability to carry voice and fax across an IP enterprise network or Internet will afford a cost-effective way of managing intracorporate communications. Very soon, a corporate user with an office extension, even the home user with the home base phone will be able to dial a long-distance number and not be aware that the call is making the journey over the Internet or the intranet. And this will happen (at least initially) for the price of call to the local ISP. VOIP can support intercorporate communication by bringing down the cost of the equipment and the facilities necessary to build an integrated communication infrastructure and by greatly simplifying call center management and trouble shooting. For business customers, Internet-based

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telephony promises many new features, including, but not limited to, prepaid-postpaid calling-card, Internet-only call transport, fax-over the Internet, conference calling, respond-now customer service, and voicemail that broadcasts calendar scheduling to groupware programs, electronic organizers, or even one's smart watch. There are also new services and revenue opportunity for such service providers as long-distance call operator, VOIP prepaid-postpaid calling card issuers that now becoming available in real world business and generate a lot of revenues.

2.2 Voice Over Internet Protocol

The Internet now has several million hosts connecting million of people worldwide. Many individuals use the Internet for a variety of applications: business people, educators, telecommuters, researchers, government officials, and hobbyists, to list just a few. However, use of the Internet for multimedia applications, including voice, is a relatively new development, at least for business application.

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groupware programs, electronic organizers, or even one's smart watch. There are also new services and revenue opportunity for such service providers as long-distance call operator, VOIP prepaid-postpaid calling card issuers that are now becoming available in real world business and generate a lot of revenues.

Voice Transmission over Internet Protocol

In principle, the emerging technologies for transmitting voice over data networks present opportunities for organization or individual user to reduce costs and enable new applications. In particular, traditional router vendors see the opportunity to cannibalize the exiting voice traffic by adding appropriate features to their routers. Clearly, if a company uses separate facilities to carry on-net voice from company location to company location, there could be additional cost in term of communication channels, equipment, and carrier charges.

In looking to carry voice over IP, one must keep in mind that voice transmissions can tolerate relatively low round-trip delay and jitter; in fact, for traditional commercial tool application, that delay has been on the order of 10 to 30 millisecond. For voice over data networks, occasionally dropping packets, frames, or cells is not an issue, since the human ear can tolerate small glitches without loss of intelligibility. Also, for practical design considerations, delay ranges are allowed to be higher (up to 200 ms). Many of the algorithms utilized in voice over data networks are not transparent (being loss), but preserve reasonable to good voice quality while greatly reducing data rates.

The Web telephones can be used in conjunction with Internet services to bypass the public telephone network. These approach envelopes frames of compressed speech into IP packets (IP encapsulation). Typically, voice is compressed to 8 kbps (or less) using proprietary or, preferably, standard methods. The IP overhead increase the data rate to 14.8 kbps; some devices use silence compression technology, so that bandwidth

is required only when someone is actually talking. (During periods of silence, bandwidth for voice is automatically freed up for other traffic on the enterprise network.) This typically reduces the bandwidth utilization to about 6 kbps (assuming 60 percent silence compression). Some devices also use forward error correction methods to minimize loss, and jitter-buffer techniques to reduce latency variations. Quality of voice is impacted by both the compression algorithms (relatively less important) and by the lack of guaranteed QOS in the IP network (relatively more important).

2.3 The Prepaid and Postpaid Calling Card Service

Prepaid and postpaid calling card services represent one of the fastest growing types of enhanced voice services. A variety of consumer segments—students, business and leisure travelers, expatriates, and immigrants—have propelled the growth of these services. They are especially popular among mobile phone users as an alternative to the outrageously high mobile operators' international rates. For carriers who want to realize more profit from a global long distance network, prepaid and postpaid calling card services represent an opportunity to improve margins, direct minutes to the network, and increase customer retention.

The Service Description

Prepaid and postpaid calling card services differ in their billing systems. Under a prepaid billing model, the service is billed at the time a calling card is sold, and services are delivered when the subscriber accesses the retailer's network. Under a postpaid model, the subscriber is billed after services are delivered. It is a simple service: a retailer sells or issues a card with an access number and a PIN number to a subscriber, who can then access the long distance service from any telephone. The long distance service can be delivered via a retailer's own packet voice network, or the retailer can partner with a packet-based wholesale terminating carrier to deliver the service.

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A prepaid or postpaid calling card service can be offered under retail or wholesale models. Most prepaid calling card service offerings take advantage of the wholesale model, under which the wholesale carrier manages the card service on its international infrastructure. The retail service provider, in turn, brands and markets the card service to the end user. For both prepaid and postpaid card services, a packet telephony wholesaler offers services identical to PSTN wholesalers. For example, packet telephony calling card services supply an interactive voice response (IVR) capability to direct the caller through the call process. The IVR prompts the exchange of a PIN and a dialing destination number, and it alerts the user of the remaining balance on a prepaid card. The solution must offer authorization, authentication, call rating, accounting, and—for a prepaid service—disconnection when a card reaches its expiration point.

Postpaid calling card services also offer subscribers ongoing access to the long distance network. As with prepaid calling cards, the postpaid service is often hosted by a wholesale carrier to improve profitability. The main difference between prepaid and postpaid calling card services is that service authorizations under the postpaid model are not tied to call rating and services do not expire, except in the case of a limited-credit postpaid service. Because call rating does not happen in real time, more pricing schemes and bundling options are feasible. Wholesalers bill their carrier customers after calls have been made and the carriers in turn bill their end users.

Prepaid and postpaid calling card services provide carriers with an opportunity to improve margins, direct minutes to the packet telephony network, and increase customer retention. Benefits include:

(1) Improved margins—the price per minute billed for these services is higher than residential or dial-around services, accelerating the carrier's return on investment by driving increased traffic on the network.

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(2) Increased minutes—as subscribers access the service, otherwise unused network capacity is converted to profit.

(3) Increased customer retention:

    a. Prepaid calling card services delivered on a VOIP network can be enhanced with "sticky" offerings such as speed dial and voice mail at a cost that is much lower than PSTN services. These offerings enable a service provider to differentiate its services and increase customer retention.

    b. Postpaid calling card services can be offered in conjunction with residential phone or business services. Subscribers often find calling card services convenient when they are away from their homes.
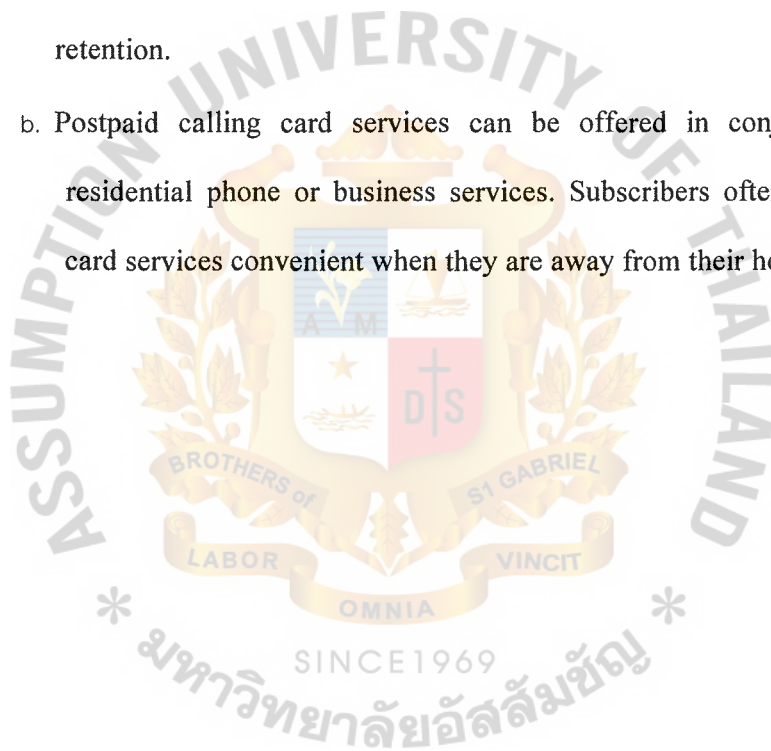
III. SITUATION ANALYSIS

3.1 Global Prepaid Calling Card Business Situation.

Although the calling card services market is mature, it is still growing. The prepaid market in particular has significant momentum. According to the market research firm The Pelorus Group, the prepaid calling card market, valued at $2.75 billion in 2000, will increase to $5.13 billion by 2005. Also, because consumers are willing to pay as much as double the standard per-minute rate for certain call destinations and privileges, it can be a very profitable market as well.

By the research of www.idc.com for IDC broadband market and technologies, IDC estimates that the total number of United States households using prepaid calling cards will grow from 29.8 million in 2000 to 49.3 million in 2005. Furthermore, the market for prepaid calling cards will expand from $3.4 billion in 2000 to $5.3 billion at the end of 2005, which represents a compound annual growth rate (CAGR) of 9.2 percent over the forecast period. This growth will be spurred by increased awareness and adoption of prepaid calling cards by U.S. households as well as increased minutes of use.

Overall, the prepaid market still largely caters to the credit-challenged, ethnic minorities and lower-income consumer. Although historically, these segments have represented about 85 percent of the market, the typical prepaid calling card user is becoming less defined. Other than the ethnic immigrant and budget-conscious prepaid consumer, there is a growing casual segment that buys prepaid calling cards and uses them as either a convenience or cost-controlling item.

The college student market is one of the fastest growing segments and is helping to bridge the gap between the minority, low-income segment and mainstream consumers with middle and upper incomes. Business users also are on the rise. With the appeal of prepaid telephone services spreading beyond the confines of the credit-challenged, most U.S. households are now aware of the existence of prepaid calling cards.
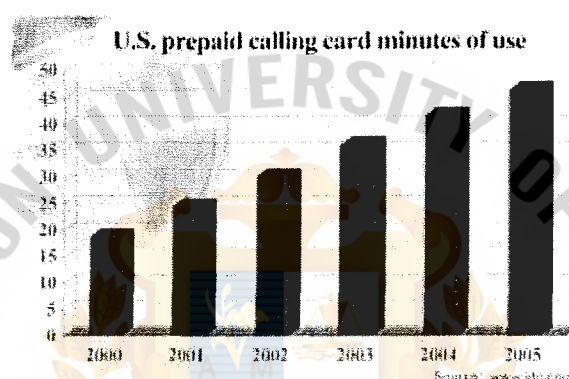
Figure 3.1. U.S. Prepaid Calling Card Minutes of Use.

There are several reasons for the rapid market expansion of prepaid telephony. Prepaid calling cards serve as an alternative to typically more expensive, traditional (postpaid) telephone cards, often acting as a budget control mechanism for business or personal use. Prepaid cards also facilitate travel to foreign countries and are helpful in emergency situations. In addition, prepaid telephone services offer an easy-to-use alternative in areas where residential service is difficult to obtain, and, they provide flexible options for customers with poor credit ratings.

The prepaid calling card market has evolved into more of a "marketing" business than a pure product play. This shift is due to three distinct trends. First, the ongoing price declines in the long distance market have directly affected the price of prepaid

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long distance calls. Second, the fiercely competitive nature of the prepaid market in general has removed price as a winning trump card. And last, although network and call quality may be issues for some of the low-end prepaid card providers, the majority of the more successful service providers offer similar high quality connections.

As a result, the differentiating factor between service providers is the creativity of their marketing organizations and the quality of their merchandising and promotional materials.

3.2 The Awareness and Market Penetration

Nearly everyone is aware of prepaid phone cards these days, and usage has reached half of all American households. The latest consumer research report from The CPR Group, "Prepaid Phone Usage from the Customer's Perspective," shows that 52 percent of mainstream American households — English-speaking households with telephones — have at least one person who has used a prepaid phone card. A total of 1,001 households were interviewed for this study.

This is nearly double the number of households with card users from two years earlier, when just a quarter of households (27%) had a card user. Furthermore, in 1999, card awareness was already at 89 percent of households; it has now risen to 96 percent of all households.

Card usage is most common among teenagers 12 to 17; with 62 percent of all teens interviewed reporting they have used a prepaid phone card. Young adults between 18 and 34 also are active users, with 54 percent of this age group reporting using prepaid phone cards at least once. However, "baby boomers" — those between 35 and 54 — have almost as high a level of market penetration with nearly half (49%) of them having used prepaid cards.

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Even among older customers, including senior citizens, prepaid cards have a significant level of market penetration. More than one-third (35%) of consumers 55 and older have used a prepaid phone card. This group represents the greatest increase in the percentage of card users over the past two years, increasing more than threefold from 11 percent in 1999 to 35 percent in 2001.

While "mainstream" Hispanics have retained a fairly consistent level of card users (43%), card usage has grown significantly among African-American and Caucasian households. More than two-thirds (70%) of all African-American households have used prepaid phone cards. This is nearly double the level of 1999 when 37 percent of African-Americans used prepaid phone cards. African-Americans are now the ethnic group with the highest level of prepaid card users among "mainstream" households. Usage in Caucasian households also has nearly doubled, going from 26 percent in 1999 to 50 percent in 2001, also surpassing Hispanic mainstream households.
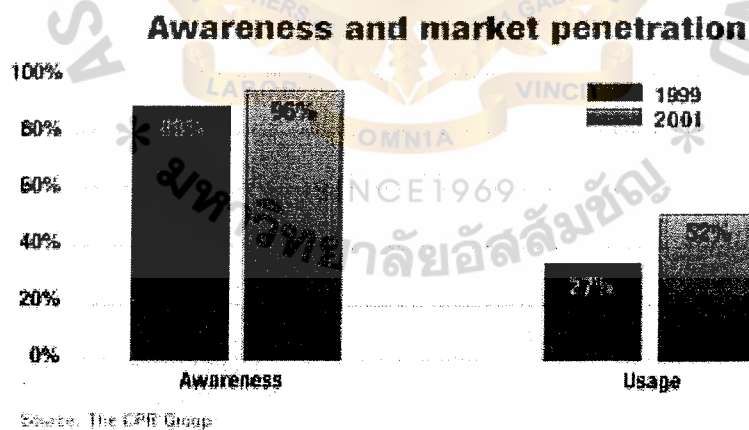
Figure 3.2.   Prepaid Calling Card Awareness and Usage Rate.

Market penetration by age
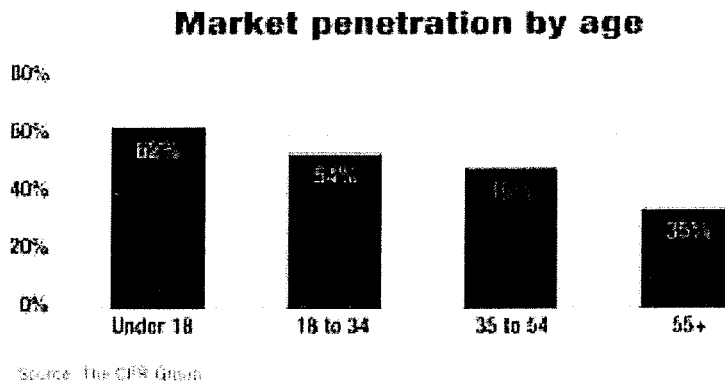
Figure 3.3.   Market Penetrations by Age.

Although prepaid phone cards were once the domain of the poor, this has changed significantly. Households with annual incomes over $80,000 are as likely as those with annual incomes below $20,000 to use phone cards. More than half (55%) of the highest income households have used the cards, similar to half (50%) of the lowest income households (with telephone service). In addition, households without children have the same level of users as households with children.

3.3   The Purchasing Behavior

Discount stores, such as Wal-Mart, Kmart and Target, are now the top locations for mainstream purchases of phone cards. More than a quarter (29%) of all card purchasers buys cards at discount stores. Other popular purchase locations include convenience stores (21%) and grocery stores (13%).

Two years ago, discount stores, convenience stores and grocery stores attracted almost equal numbers of customers, so this represents a shift in purchase locations. Gas stations also are popular, attracting 15 percent of card purchasers. Warehouse stores such as Costco and Sam's Club are purchase locations for 11 percent of card purchasers.

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The most popular denominations for mainstream customers are $10 and $20 cards. Just over one-quarter (27%) purchase $20 cards most often, and a similar number (26%) purchase $10 cards most often. About half that amount (14%) buy $5 cards most frequently.

One-third (33%) of card users purchase a phone card at least once a month. This includes the 9 percent that buy cards at least once a week. One-half (50%) of all mainstream prepaid phone card users buy a card at least once a year or more often but less than once a month. These would be repeat customers even if they are not frequent users. Thus, 83 percent of all card users are regular users. The remaining 17 percent are either infrequent purchaser (less than once a year) or have thus far only purchased one card. However, two-thirds (66%) of these infrequent purchasers/one-time buyers plan to purchase a card in the future. Only 4 percent of all users do not plan on making future purchases.

Planned purchasing is the way most customers buy cards. Three-quarters (75%) of all mainstream users say they go to the store with the intent to buy a phone card. Impulse buying is the norm for less than one-quarter (22%) of card purchasers.

Brand awareness and repeat brand purchasing have increased over the past two years among mainstream customers. In 1999, only 16 percent reported purchasing a particular brand of card on a regular basis. In 2001, that percentage jumped to 49 percent. AT&T was the brand most often mentioned by one-quarter (24%) of all mainstream consumers.

Types of cards sold
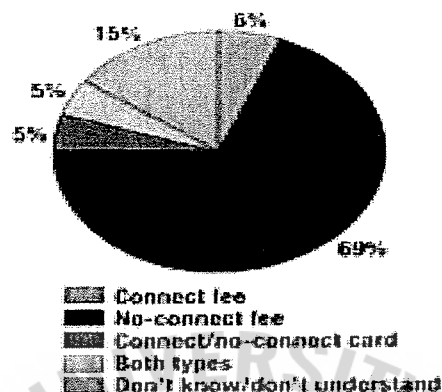
Figure 3.4.   Types of Card Sold.

The next most popular brands were MCI/WorldCom (5%) and Sprint (4%). The main reason for choosing a specific brand is price/rates (39%), followed by good brand (24%), "it's the brand the store sells" (16%) and reliability (10%). However, more than one out of 10 (12%) do not know why they buy the brand that they buy.

Mainstream customers indicate a strong preference for cards without connection fees. Nearly three-quarters (71%) report that they usually buy cards without connection fees. Only 6 percent say they usually buy connection fee cards. Equal numbers of respondents — 5 percent each — report buying both types of cards and cards that offer both connection fee and no-connection fee calling on a single card.

However, 15 percent do not understand what connection fees are and/or whether or not the cards they use have the fees. The main reason for the no-connection fee card preference is demonstrated by these customers' calling patterns. The vast majority

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(86%) of mainstream customers report making more than one call per card. Only 9 percent of these customers say they usually use up the entire card value in a single call.

Calling Pattern

Although the number of card users has increased dramatically over the past two years, call destination patterns have remained rather consistent. The majority (85%) of mainstream callers use the cards for domestic long distance calling. And more than one-fifth (22%) use the cards for local calling. Only 12 percent of mainstream callers ever use the cards for international calls.

The "Own/home phone" has become the top place from which callers make calls using a prepaid phone card. The percentage close to half (45%) of all card users report using their cards from their own telephone. The next most common location is payphones. One-third (34%) of customers use the cards from payphones. Hotel/motel room phones are also popular places for phone card usage. One out of five (20%) card users have used a prepaid phone card from a hotel or motel room.

The Reason to Use Prepaid Phone Card

The major reason mainstream customers use prepaid phone cards is to save money. Two out of five (42%) say they purchase the cards to save money on telephone calls. One out of five (21%) say they use prepaid cards because they are convenient. Avoiding long distance calls on telephone bills is also a common reason for usage. One out of 10 (10%) state they use the cards to avoid charges on other people's bills and a similar number (11%) say they use the cards to avoid toll/long distance charges on their own telephone bills.

In summary, phone card usage has truly penetrated the mainstream consumer base. Nearly everyone has heard of them, and half of the households are using them. The cards are used by all age groups, ethnicities and income levels. Many users

purchase cards on a regular basis, plan card purchases in advance and are developing at least some brand awareness and maybe even some brand loyalty.

In addition, mainstream consumers overall are aware of connection fees, and most choose no-connection fee cards. Card usage remains mostly for domestic calling and for several calls from a single card. Customers see the cards as a convenient and cost-effective way to make telephone calls and plan to continue using cards in the future.

3.4 Competition Analysis

The market size of prepaid calling card business is big. There are a lot of players in the market nowadays so it means we have a lot of direct competitors in the market. There are many websites that sell prepaid calling card to the customer the same as our business but they use different strategy to market their product and the quality of voice is also different according to the VOIP network.

www.thaidial.com

Figure 3.5.　Strengths of www.thaidial.com.

Strength

(1) The www.thaidial.com offers the variety of calling price to the customers and they also categorize calling card to many categories. One is call to Bangkok and others are call to mobile, other province, Laos and U.S. domestic.

(2) They show the picture of rewards in the index page so the customers may apply to be membership in order to get the reward.
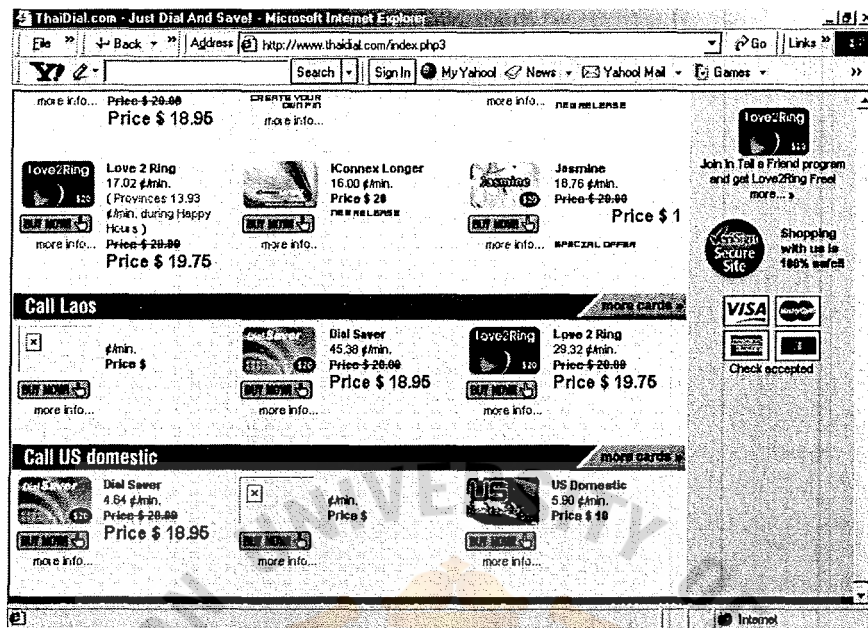
Figure 3.6.   Weakness of www.thaidial.com

Weakness

(1)   The pictures of products in some products categories have disappeared. These made distrust to the image of website. This problem had to occur with website that has a lot of products' picture.

(2)   The domain name "thaidial.com" communicates the feeling of calling back to Thailand to customers, which mean it is proper for niche market especially for the customer who wants to call to Thailand only. It made the weakness to website in term of opportunity in selling international calling card.

www.siamtown2000.com

Figure 3.7.   Strength of www.siamtown2000.com.

Strength

(1)   Siantown2000.com prepaid calling card can use from the United States, Australia and Canada with the cheap price.

(2)   The customers can use telephone as another solution to make their order.

(3)   The customer can get discount price when they buy the product and the discount rate is shown in the first page so it can encourage the price concern customer to make decision.

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Weakness

    (1)   The graphic design of this website does not look professional so it may be difficult for customer to trust in this E-commerce business.

    (2)   This website uses only Thai language and not have English version. It lose some opportunity in order to sell to the foreign market. It means the target of this website is focused only to Thai people.

IV. MARKETING ANALYSIS

4.1 Market Situation

Relevant to the situation analysis of international prepaid calling card in the United States we have seen the opportunity to develop E-Commerce website to sell international calling card product focused mainly to Thai people in the United States. We have seen opportunity because currently most calling card websites sell their product through the website and deliver their card physically through mail service. For customer it is inconvenient and waste of time in order to wait for the product.

For that reason ,we decide to develop E-Commerce website in order to sell international calling card with online deliver system to customers' e-mail address. We set our position as a dealer of calling card because we can avoid high risk of investment as VOIP network provider and longer payback period. As dealer of calling card, in this time we choose only two products in order to penetrate to market. The reason is we plan to roll out only high quality voice calling card with high profit margin. The rate per minute of these calling card is reasonable and the voice quality is superior than other cards. The brand of calling card that we choose are "Star of Asia" and "iDial Asia".

In the development process, we need to develop the Website with full function of E-Commerce system. Our website will compose of Product catalog, shopping card system, payment system, product delivery system and customer database. After gathering all requirement in order to settle online business, we need to register the domain name for our website. In this circumstance, we decide to register "Callingmax.com" as our domain name because the meaning of this word can represent directly to our business.

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In order to lead our business to be a success in high competitive market, we will set a lot of marketing strategies in the introduction period. The detail of marketing plan and marketing analysis are in the following part of this chapter. In accordance with situation and web development technology, the effective marketing campaign can lead our business to succeed and survive in the market.

4.2 Vision Statement

Regarding to current business environment of calling card website, the customer is reliable to website and product quality is the primary concern. Accordingly, we set our vision statement in order to be the core competency of business. For this circumstance the Callingmax.com's vision can be regarded as:

"The most reliable website with latest development technology and reliable product quality in order to provide the best customer satisfaction and generate profit in long-standing situation."

The vision statement will be the core competencies that can conduct Callingmax business into the same way. This principle facilitate all division of Callingmax cyber shop in order to settle business strategy to gain customer loyalty and generate profit in a longterm.

4.3 Mission Statement

Mission statement sets out the organization's basic purpose for being. Mission statement also identifies the industry that firm is going to penetrate as well as general clients it serves. Therefore, mission statement is the basic purpose and values of the organization. Mission statement's Callingmax.com can be regarded as:

"Callingmax is in online World Wide Web business to offer long distance communication service in term of prepaid calling card through automatic online delivery system mainly to those who live in USA and need to call to Thailand or

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domestic and other customers globally who need to make log distance call internationally. In doing so, our mission is to add value to our target customer by being the best call quality and meeting the expectations of customers."

Mission statement of Callingmax may share a little common with another, mentioned in the telecommunication industry but the most significant value of Callingmax.com is pure online business thorugh diversified cyber marketing strategy.

4.3.1 Marketing Objectives

A marketing objectives can be divided into long-term and short-term objectives, which are driven by the well-defined mission statement. The objective is a substitute more specific that it provides guidance in screening possible opportunities. The marketing objectives can also be divided according to organization structure. Production objectives, financial objectives or marketing objectives are the most important among the other.

In this circumstance, Callingmax will set marketing objective in term of long-term and short-term objective in order to govern the marketing strategy. Long-term objectives of five years ahead push Callingmax to take action in order to achieve targeted long-term performance, which will be guided by short-term goals. In this sense, Long-term and short-term objectives must be set in same directions to avoid any confusion and finally lead to failure in taken action.

Long-term objectives of Callingmax focus:

(1)   To introduce new calling card product for more value added service to the customer in the next two years.

(2)   To become the leader in prepaid calling card industry for Thai people in U.S.A. for providing online calling card business.

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(3) To improve company core competency in term of better voice quality service in order to acheive more competitive advantage.

(4) To develop and promote Callingmax website as a Thai community web portal for Thai people in U.S.A.

Meanwhile, short-term objective indicates the specific level of performance to be achieved. The current unsatisfied performance and external environment could be the key factors leading to the next short-term objective development of Callingmax. Callingmax.com's short-term objectives are governed by the long-term objective, where the setting time frame is within one year.

Therefore, the short-term objectives of Callingmax are

(1) Achieve 10 percent sales growth annually.

(2) Achieve Break even point within one year.

(3) Maximize customer satisfaction by offering high quality of both product and service.

(4) Gain customer loyalty by diversified marketing promotion.

3.5 Marketing Mix

Marketers use numerous tools to elict desired responses from their target markets. These tools constitue a marketing mix. Therefore, marketing mix is the set of marketing tools that the firm uses to pursue its marketing objectives in the target market. Those marketing tools refer to 4 major components product, price, place and promotion where target customer is considered as target outcome.

However, engaging in online business, different environment and product nature, leads Callingmax.com to plan their marketing mix and pursue their target customer different from the traditional store and conventional environment.

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Callingmax engage in online business by offering online calling card through the implementation of Electronic Commerce. Whereas, Electronic Commerce refers to the process of buying and selling or exchanging product, service and information through computer network including the Internet. The E-Commerce transaction can be categorized into six types Business to Business (B2B), Business to Consumer (B2C), Consumer to Consumer (C2C), Consumer to Business (C2B), Non-business EC and Intrabusiness (organizational) EC. While, Callingmax's transactions are primary considered as Business to Consumer and secondary as Business to Business.

As mentioned ealier, conducting an online business needs different marketing strategy. Callingmax can be regarded as significant so Callingmax plan their marketing strategy according to their assigned nature and environment. E-commerce assist Callingmax to improve direct marketing through pure and proactive cyber marketing approach, which means Callingmax.com can sell and distribute their products and services purely through the Internet.

Marketing variables of Callingmax.com are described as follows:

Product

A product is anything that can be offered to a market to satisfy a want or need Products that are marketed include goods, services, experiences, events, persons, places, properties, organizations, information and ideas. As dealer of international calling card, Callingmax.com's product categorize in term of both product and service. Physically, our product are pin code number and password that authorize user to use international call, served by Internet telephony network provider.

Accordingly, Callingmax cleary defined their product in term of offering communication services through the using of calling card to their target customer. In term of product assortment, Callingmax has only one major product line/width, we

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know as prepaid calling card. While, product length or total number in product mix have the length of two according to product items, "Star of Aisa" and "iDial Asia", The product differentattion are in term of price per minute and quality of voice service. However, there is no product depth remarked in Callingmax.

In E-commerce perspective, Callingmax is selling communication service by the using of prepaid long distance calling card through World Wide Web. In doing so, all of major activities and transactions are done on the Internet, callingmax can be recognized as full cyber marketing approach.

Price

Setting the price is one big challenge, price is only marketing variables that produce revenue. Price must be set according to product quality in order to position its product.

Callingmax set pricing objective according to the market situation. Currently, there are a large number of competitors in the same business. The market is highly price sensitive and elastic to demand, while lower price can stimulate market growth. Thus, Callingmax wants to maximize their market share rather than profit maximization. Callingmax believe that setting relative low price can increase sales volume, lower unit costs, and higher long-run profit. Therefore, Callingmax uses market-penetration pricing strategy by setting same card value at 20$ per card for both Star of Asia and iDial Asia. The price of international calling rate per minute is variant by different network and voice quality of each card. We differentiate voice quality product because we would like to offer vary pricing solution to our customers. Accordingly the detail of our pricing strategy can be described as follows:

(1)   Our price is set by 20% mark up is to generate profit.

(2)   There is no delivery fee in B2C because Callingmax can sell calling card
and delivery online. In B2B environment Callingmax set the standard cost
expense for delivery service in order to support wholesale customer.

Callingmax offers credit card service for payment methods:

(1)   Credit Card payment is treated as major payment method after we have imp-
lementtated the real shop. We will receive payment via VISA, MASTER
Card, TFB Local Card, and SCB Local Card

Place

While place refers to the availability of the goods and services, the importance of
the place is the critical key because it is only a marketing variable that customer can
reach to the product and service. Place also refers to channel of distribution starting
from supplier to end user.

Recently, the Internet is considered as the most dynamic, attractive and low
operation cost for using as a place. The Internet offers convenience, wide range of
information, and fewer hassles to the customer, while business owner can achieve
higher audience volume and greater relationship with lower operation cost

Therefore, Callingmax is based on cyber marketing. None of traditional physical
store is being used; pure virtual store is introduced as a new alternative to the customer.
Thus, the shop, to extend the market share, increasing customer value for their best
satisfaction, customer can order, do payment and receive product through online system.

Accordingly, our store is considered as purely full cyber marketing. Every
transaction functions in digitalized form. The use of digital distribution channels by
delivery card's pincode to customer's e-mail address are core system of our online
business. The card pincode are the password that customers have to register to IVR
system before dialing international call. The online payment method and SSL security

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system is considered as the implementation of proactive strategic posture toward cyber marketing.

In conclusion, since website is considered as our store, our placing policy will be focused on the web application and homepage development in order to attract more customer.

Promotion

Promotion is regarded as one element of marketing variable, where their major task is to communicate and attract the target customer in order to build up awareness and generate sales growth.

Currently, aggressive competition in telecommunication industry especially in prepaid calling card service, leads Callingmax to launch a strong and diversified sale promotion in order to increase market share.. However, to build up brand awareness by advertising campaign is another point that needed to be concerned.

In doing such sales promotion, Callingmax focus on price discount and allowance. Quantity discount is used to generate sales volume where target customers are reinforced to purchase Callingmax product for higher volume with lower prices. Meanwhile, customer loyalty could be achieved by membership program with special privilege to attract customer to apply for Callingmax' member. The Premium and Reward will be offered every month for those who usually purchase Callingmax product and collect their purchasing point. The Make-money campaign is also our strategic promotion that give more discount regarding to higher quantity purchse. Callingmax use this campaign in order to stimulate wholesale market.

By the using of web advertisement, the advantages of web advertising are listed as follows:

(1)   Highly accessibility, Internet advertisements can be accessed on demand anytime, anywhere.

(2)   Large number of target audience can be reached.

(3)   High opportunity to create one to one direct marketing relationship with customers.

(4)   Distribution costs are low; million of customers reached with cost the same as one.

Accordingly, a comparison is made to the conventional advertisement media, TV, Radio, Newspaper, we can find that Internet advertising has 3 major competencies. They are regarded as highly accessible, very attractive, low advertising costs (only technology costs are involved), and closer customer relationship.

Regarding to online advertising method, Callingmax will use the banners. By the function of both banner swapping and banner exchanges with our partners, we can promote Callingmax to customer effectively while advertising cost is still relatively low compared to the click ratio. However, the key to success of using banner advertisement is choosing the partner. We have to make a detailed study of number of audience browsing to our partners. More audience means more opportunity to attract our customer. The function of banner advertising is known as pull/passive advertising strategy.

Meanwhile, our push/active advertising strategy will be functioned by using of e-mail. We will randomly send e-mail to potential customer, target customer who live in USA and globally, for promoting our website. However, this may have some disadvantage as customer can regard our e-mail as a junk. Thus, the key is how well we select the customer to send our promoting e-mail. Moreover, Callingmax also reinforces our customers to introduce Callingmax products to their friend in order to promote sales

and build up brand awareness as well. By doing such advertising, those who advertise Callingmax product to their friend and can generate the sale will receive a price discount and commission.

Nevertheless, both active and passive advertising strategy of our web site according to the current market situation, have a same goal, to build up customer awareness and loyalty in order to increase market share and be a leader in online calling card market.

To promote a new website, build up customer awareness, is costly, more challenging than generating the sales promotion, but how we keep the existing customer by building up their loyalty is the highest challenge.

Customer

Customer is one of the most important elements in marketing mix. Therefore, in order to maximize their satisfaction, Callingmax will provide the best service both in voice quality and sale service to them. Since service is important to our mix. Callingmax has an obligation to provide the best online service. Fast, dynamic, customization and greatest value added will be brought to our customer's eyes.

Callingmax also recognized that customer orientation will be the key to success. In foundation of developing a customer orientation needs, attaining customer information, circulating customer information and evaluating customer information are those developing tools. Attaining customer information means to understand customer's buying behavior. This process should be done to both existing and potential customer. The market survey is one of the best approaches to attain customer information of existing and potential customers. Circulating customer information refers to the process of translating customer needs into effective actions. Every division that is directly (main division) or indirectly (supported division) involved in satisfying customer would take

action and monitor their performance against a common benchmark. Finally, evaluating customer information means to evaluate those action that have been taken from all divisions to satisfying customer meets the target and setting benchmark. Market survey in form of questionnaire is the most popular tool to evaluate those actions.

In compliance with customer orientation concept, Customer Relationship Management (CRM) will be used to collect the customer information in order to help Callingmax serve their customer individually as the customization concept. Every transaction and customer profile will be kept in customer database. They will be retrieved for multiple purposes such as order tracking, tracking customer's need, acquiring customer feedback and etc. CRM will help Callingmax satisfy their customer better. As a result, best customer satisfaction will increase our sales volume and finally improve our market share.

In conclusion, Callingmax focus on customer orientation concept, so customer satisfaction is the primary determinant of retaining the customers and then leads to customer loyalty. Accordingly, all of our strategies are focused on how the best customer satisfaction can be achieved.

4.5 SWOT Analysis of Callingmax

The overall evaluation of company's strengths, weaknesses, opportunities, and threats is normally called SWOT analysis. Swot analysis helps management team summarize the major facts and forecasts derived from the external and internal analyzes. From doing SWOT Analysis, management can derive a series of statements identify primary and secondary strategies and in order to capitalize on opportunities, counteract threats, and alleviate internal weaknesses.

SWOT Analysis of Callingmax can be described as follows:

Strengths:

(1) As calling card dealer, Callingmax can avoid high initial investment of VOIP network.

(2) Calling card product could be sold in purely digital form by generating card pin code through e-mail, therefore: Callingmax.com can use internet technology as high accessibility and flexibility delivery system to customer.

(3) According to high competitive situation in current business environment. The company can gain competitive advantage by diversifing sale promotion campaign.

(4) As positioning ourselves as calling card dealer, the company has high flexibility in order to change product to better voice quality card if voice quality of current product does not work as well.

(5) By advantage of authorized payment gateway service in online business, Callingmax can collect money before product is being sold and deliver to customer, the problem of credit term could be eliminated.

(6) The company can do business both in term of B2C (Business to customer) and B2B (Business to business) by directly selling calling card to end user and sell calling card in term of wholesale with greater discount through making money program on the website.

Weaknesses:

(1) The quality of voice depend on network provider so the company has no authority to control voice quality directly.

(2) According to high competition environment, the price and profit of product has been decreased in every year.

(3)   The market size of calling card business is still extended year by year and cost of technology is cheaper than the past so the number of competitors will increase every year.

(4)   Currently Callingmax's website cannot support the credit card issue by Bank of America so it is limited point in order to conduct business online with main target market in United State.

Opportunities:

(1)   Today, there are a large number of students abroad in USA, who are considered as our targeted customer.

(2)   The percentage of calling card users and market size still increase every year.

(3)   Advance of prepaid calling card technology generate more acceptable to the customer.

(4)   Internet technology is developing fast; as well as incoming broadband Internet will emerge in the near future. As a result, product display is available anytime and anywhere via online shop.

(5)   Nowsadays advance technology make the price per minute for long distance call through prepaid calling card cheaper than the past so the usage rate of customer has increase.

(6)   To advertise on the web, through the use of banner, can reach high number of target while effective rate is acceptable. Therefore, website can be promoted effectively and company can generate more advance promotion campaign through the web.

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Threats:

    (1)   The advance technology of mobile phone leads mobile operator to offer VOIP service in the near future.

    (2)   The growth of Internet technology allows customer to have more alternatives for such service. They are enhanced to use E-Mail, Chat, ICQ, Pirch, MSN and etc.

    (3)   Less confident of security in payment online and security of private information while doing business online. It is a global perspective.

    (4)   The lack of trust from customers to their business partners at the other side of online business.

4.6 Five Forces Analysis

Threat of Entrants

Determining the likelihood of new company entering the telephony industry and which competes away value, either by offering lower prices or by raising the cost of competition, there are multiple aspects related to this force in the telephony industry. With the advent of the Internet and the World Wide Web, people have more alternatives than the past for communication medium. Nowadays, live chat, teleconference, or internet telephony product are used for communication rather than conventional phone. With the growing of number of students aboard and tourist in USA, the using of prepaid calling card, there is a greater incentive for new entrants. However, while there are these incentives for new entrants into the telephony industry, there are also high costs in marketing and development relating to high barriers to entry.

Power of Buyers

Determining the extent to which buyers retain much of the value created for them, leaving firms in an industry only modest return the threat of buyers in the telephony

industry is extremely strong. Buyers may have more alternatives and lower switching costs so that the bargaining power is moderate to high. To decrease these barriers, the solution is to try to add value by providing demand value. Value is broken into multiple characteristics: high customer service, utilization of advancing technologies for communication process, quality of voice, ease-of-use of service, time-saving benefits and cost-saving benefits.

Threat of Substitutes

Determining the extent to which products or services, other than those in a given category, meet a buyer's needs. Therefore, buying limits a selection of Callingmax's card. Some of the possible substitutes for Callingmax are: inserting more value added service, advertising in all of the same places that Callingmax will advertise for them in the web site.

Power of Supplier

Determining the extent, to which value created for Callingmax will be appropriated by suppliers. For instance, Callingmax offers an online prepaid calling card, High level as well as high standard customer service are essential to those who buy our service. Supplier is important, because all components of calling card must be from the supplier such as quality of voice network, price per minute according to terminate traffic of VOIP, the carrier network, the driven technology such as IVR and billing system so the best customer service in specific technical issue and standardized for all customer could be generated by suppliers.

Rivalry among Existing Firms

The Telephony industry, prepaid calling card business in particular, is still attractive even through there are numerous, strong, or aggressive competitors already because the number of targeted customer is rapidly growing. Many prepaid calling card

services are entering this segment but most of them do not focus on how to contribute value to the customer. What they offer are selling plain product of racing equipment and free online community.

4.7 Customer Analysis

Either sorting out our targeted customer in order to plan and apply the best fitted marketing strategy or Callingmax has also concerned in customer orientation concept, the best customer satisfaction can be achieved as well as generate higher sales volume and higher market share.

However, to understand customer characterstics is also another key to achieve those objectives. Customer analysis is the process of analyzing customer want and needs in order to decide the appropriated approach for satisfying those needs. Customer behavior is influenced by cultural, social, personal, and psychological factors. Therefore, the best firms can understand these factors, the best firms can satisfy their targeted customer.

Callingmax can realize the essential of customer analysis so we can analyze our customer based on their primary need. Callingmax's targeted customers are those who live in USA and have some or many contacting point in Thailand and nearby countries. Our primary target are Thai students in USA and Thai tourists who travel to USA for a period of time. These targeted customers have to contact with their partners in Thailand, which matched to our marketing variables.

Moreover, our customer will be segmented into sub-group based on demographic feature in order to offer the best customization as rifle approach. As a result, we can achieve highest customer satisfaction. Our segment group will be shown in detail in Market Segmentation part.

4.8 Market Segmentation

Segmentation is a process that defines possible target market. Market segmenatation is involved in two step processes: First, naming broad product markets and segmenting these broad product markets in order to select target markets and develop suitable marketing mixes. In doing market segmentation, segmented group can be only single target market or multiple target market depending on product characteristics and company resources. Multiple target markets appropriate for those who have unlimited financial resources. Ideally, good market segments must follow these criterias:

(1) Homogeneous: Market segment should be as similar as possible with respect to their likely responses to marketing mix variables and their segmenting dimensions.

(2) Heterogeneous: Market segment should be as different as possible with respect to their likely responses to marketing mix variables and their segmenting dimensions.

(3) Substancial: The segment should be enough to be profitable

(4) Operational: The segment should be useful to identify target market and deciding on marketing mix variables.

Major transaction of Callingmax will be focused on B2C (Business to Consumer) environment. Customer can be both Thai and international according to our operation platform on the Internet. Callingmax segment our target group based on demographic, behavioral and geographic criteria in order to approach our target market group effectively.

Demographic

(a) Age : 18 - 35

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(b)   Income: 500 USD per month

(c)   Interests: Internet

(d)   Occupation: Student, Tourist

Behavioral

(e)   Personality: Fun,

Geographic

(f)   USA Based

Due to our financial resources, our major target group will be segmented as single target market approach, which focused on students abroad and tourist who based in USA, aged around 18 to 35, income around 500 USD per month.

4.9   Positioning and Differentiation

By differentiating, the marketing mix will do a better job meeting customer's need, the firm builds a competitive advantage in order to make customer view the firm's position in the market uniquely. Therefore, the customer's view perceived on the firm in a market refer to positioning process. Once you know what your customers think, then you can decide appropriate marketing strategy, repositioning or even leave the market.

Callingmax differentiates from his competitors by offering high level of service which our customer can find in after sales service or customer service. Moreover, closer customer relationship is another core competency, which also differentiate Callingmax from competitors.

In positioning of Callingmax from our customer, we try to make them perceive our store as the leader of online calling card provider. By the implementation of heavy sales promotion campaign, Callingmax will focus on generating sales volume and maximum customer satisfaction due to high competition in telephony industry. Build up

strong brand image and customer loyalty are the challenging key also and regarded as the root to generate higher sales volume as well as market share.

In conclusion, Callingmax differentiates his position from competitor buy generating core competency known as intimate service. In such differentiation, Callingmax's customer will position Callingmax store as the leader in online calling card provider.

4.10 Risk Associate

Product Defected Risk

Product defected is one of the major risks, defected product can occur anytime. In this situation, we offer 24 hours technical support and customer service through E-mail and chat room.

Hardware Breakdown Risk

Hardware breakdown is notorious and creates uncertainty in customer's minds. Reliable hardware with effective back up solution such as redundant servers including web servers and database servers, will be used in order to protect and prevent such problem.

The location of these servers should be placed in remote places from each other to ensure loss free from robbery, natural destruction and any possible damage.

Network protection such as firewall, intruder detection and virus protection are extremely important to prevent systems from computer attacks even unintentionally or intentionally from unauthorized party.

4.11 System Security

Customers' data is strictly protected against any unauthorized access at racingequipment.net. Protecting your order information is the highest priority.

Racingequipment.net makes every effort to protect your online order information by using Secure Sockets Layer (SSL) technology.

SSL encrypts your order information to avoid the decoding of that information by anyone other than racingequipment.net. To check the security of your connection, look at the bottom of customer's browser window after accessing the server.

Some versions of browsers and some firewalls do not permit communication through secure servers. In these cases, customer will be unable to connect to the server, so customers do not have to worry about mistakenly placing an order through an unsecured connection

At Callingmax, we are highly concerned with protecting our customer privacy. We use the information from our customer database by the implementation of customer relationship management, our customer can experience a dynamic webpage to serve their individual needs as customization concept. We may also use it to tell customers about special offers we think customers will appreciate. The customers will never have to worry about receiving a barrage of unexpected e-mail from us. We will not sell, rent or trade your information.

When registering with Callingmax, we will ask for some contact information, such as customer's name and e-mail address. We will use the customer contact information from the registration form to send customer information about our company and promotional material from some of our partners. If customers do not wish to receive future mailing, they have a choice for denying this service.

Moreover, by the function of online payment through credit card, highest security is the most important and needs to be concerned. Callingmax has used special online payment engine from the bank in order to secure every transaction done with Callingmax.

4.12   Future Plan of Callingmax.com

Expand Market Coverage

Besides maintaining our exising group of customers, we will try to expand our market by focusing on another segment of market. Thai people in Thailand are the first priority target when communication law in Thailand is liberalized.

Extend Product Variety

In the near future, we will expand our product range by varying the price of our calling card in order to increase customer choices. We also aim to develop our product as a universal calling card.

Develop Callingmax Store as Dynamic Website

In order to promote website and attract new customer, Callingmax will develop website as a web portal in order to increase customer loyalty and satisfaction.

V. FINANCIAL ANALYSIS

5.1 Break-even Point Analysis

To conduct business in order to make total revenue cover all costs and gain profit in the setting period, the company should do calculation in order to calculate the break-even point analysis. From output of calculation the company should know how much of product being sold in order to cover total cost and when company begin to gain profit. The specified time to get return on investment that calls payback periods could be acquainted with this calculation.

At the first of calculation we should know the total sales volume and total cost of each period. The total sales volume come from sales forecast multiplied with product price. For that reason, both of our calling card products, Star of Asia and iDial Asia, have selling price at 20 dollars per card and they have average gross profit about 20% caculated from average selling price. Eventhough we have a diccount price promotion, the average net income variance year by year between 6-10% calculated from sales volume and different total fixed cost for each year. The detail of total cost includes both fixed cost and variable cost are shown in the table below. We can measure our monthly revenue from monthly sales forecast and we can calculate break-even point from precisely forcasting sales technique.

In the first year we have forecast sales volume about 5,040,000 baht for product quantity sold about 6,000 cards per year. For the detail of product price, the average price is about 840 baht per card (card value 20$ with exchange rate at 42 baht per dollar.) The fixed costs for the first year is about 608,000 baht and total variable cost including cost of product is about 680 baht per card and we have chosen 160 baht to represent our average revenue per unit

Although we have reseller program to provide more discount to wholsale customer, the average revenue per unit is still constant due to the economy of scale for the total fixed cost. According to our policy, we want to engage in a practical analysis of company profitable both in short-term and long-term period. In light of this, the Break-even analysis merely becomes a measurement by which we can estimate our monthly revenue in order to predict long-term profitability.

Our break even point calculated from this formula:

Break Even (quantity) = Fixed cost/ price – variable cost per unit

Break even point in quantity equal to 3,800 cards according to following formula;

608,000/ 840-680 = 3,800

The calculated breakeven point equals to 3,800 cards so total sales volume that can achieve break-even point is equal to 3,192,000 (3,800 cards*840 baht). The time to achieve break-even is about eight months according to sales forecast at 500 cards per month (3,800/500).
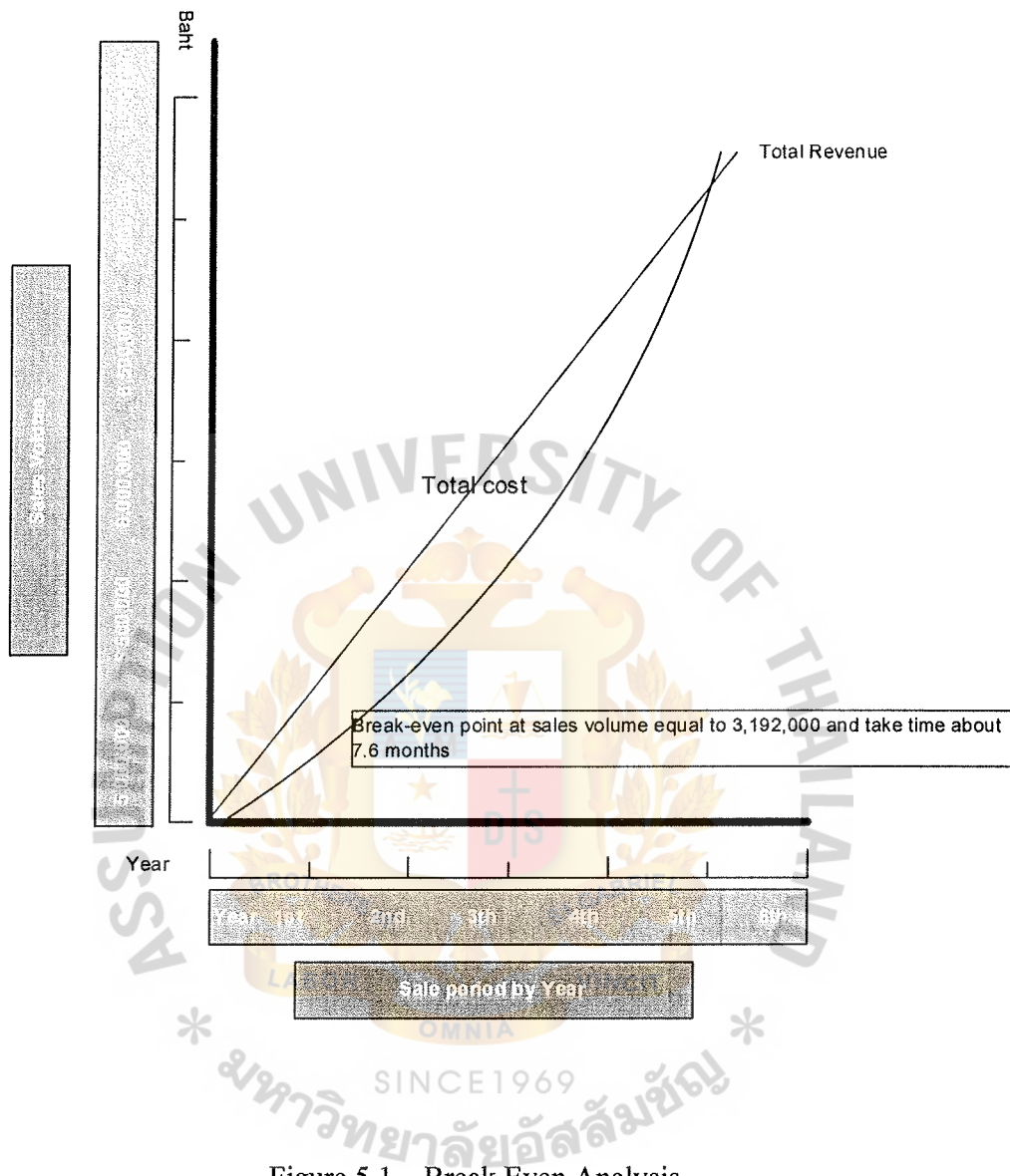
Baht

Total Revenue

Total cost

Break-even point at sales volume equal to 3,192,000 and take time about 7.6 months

Year

Year 1st   2nd   3th   4th   5th   6th

Sale period by Year

Figure 5.1.   Break Even Analysis.

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Table 5.1. Break Even Analysis.

Break-even point in Sales Volume	3,192,000
Break Even period	7.6 months
Assumption:	
Average Per-Unit Revenue	160
Average Per-Unit Variable Cost	680
Estimated Monthly Fixed Cost	50,667

5.2 Return on Investment

In accordance with the Return on investment, the estimate value will be calculated by subtracting revenue with overall capital investment, pre-operation cost, costs of good sold and total operating expense. The annual fixed cost and variable cost is included. The expense and revenue summary in the first five years is shown below.

Table 5.2.   Expense and Revenue Summary.

Expense	1st Year	2nd Year	3rd Year	4th Year	;th Year
Fixed cost					
Web Implementation	100,000	-	50,000	-	-
Missalaneous Exp.	36,000	36,000	36,000	36,000	36,000
Internet/Hosting	12,000	11,000	10,000	9,000	8,000
Marketing Expense (Sales Promotion, etc.)	400,000	400,000	450,000	450,000	500,000
Internet Marketing	60,000	60,000	60,000	60,000	60,000
Variable cost					
Outsourced labor	60,000	60,000	60,000	120,000	120,000
Total expense	668,000	567,000	666,000	675,000	724,000
Revenue					
Sales	5,040,000	5,544,000	6,098,400	6,703,200	7,378,560
Cost of Goods Sold	4,032,000	4,435,200	4,878,720	5,362,560	5,902,848
Gross Profit	1,008,000	1,108,800	1,219,680	1,340,640	1,475,712
Total Oprating Exp.	668,000	567,000	666,000	675,000	724,000
Net Income	340,000	541,800	553,860	665,640	751,712

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According to the financial data, Return on investment is calculated as follows: Total net income for the first year is 340,000 baht.

Therefore, the ROI period is within one year.

5.3 Net Present Value

Due to current economic situation, the interest rate from Bangkok Bank is at 1.5% for June 2003. However, this rate will be constant for one year approximately due to the unpredictable event of the world situation such as Gulf War and Sars Syndrome.

This will calculate NPV for the next five years since it is estimated that the ROI is one year. Moreover, the revenue is estimated up to five years.

Therefore, this interest rate will be used for calculation for net present value for the next five years.

Net Present Value = Present Value Of Cash Inflow - Present value Of Cash Outflow

Present values of cash out flow

Assumption: The payment is paid at the beginning of the year.

Present value of cash out flow for the first year = 668,000

Present value of cash out flow for the second year = $567,000/1.015$ = 558,620.68

Present value of cash out flow for the third year = $666,000/1.015^2$ = 646,460.72

Present value of cash out flow for the fourth year = $675,000/1.015^3$ = 645,513.97

Present value of cash out flow for the fifth year = $724,000/1.015^4$ = 682,141.38

Therefore, present value of cash out flow = 3,200,736.75

Present value of cash in flow.

Assumption: The money is recceived at the beginning of the year.

Present value of cash in flow for the first year = 1,008,000

Present value of cash in flow for the second year = $1,108,800/1.015$ = 1,092,413.79

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Present value of cash in flow for the third year = 1,219,680/1.015^2   = 1,076,269.75

Present value of cash in flow for the fourth year = 1,340,640/1.015^3   = 1,282,076.81

Present value of cash in flow for the fifth year = 1,475,712/1.015^4   = 1,390,392.57

Therefore, present value of cash in flow = 5,849,152.92

Net Present Value = Present Value of Cash Inflow - Present value of Cash Outflow

Net Present Value = 5,849,152.92 - 3,200,736.75 = 2,648,416.17

As seen from the calculation, the net present value is positive for five years estimation. From the analysis, return on investment is one year which is reasonable in today's economic situation.

.Net present value is positive for 2,648,416.17 Baht.

The result shows a positive sign to invest since after the first year the investment will return. Moreover, the opportunity to grow in the business is possible. Therefore, this project should be invested.

VI. WEB DEVELOPMENT AND DESIGN

6.1 Building a Product Catalog

E-Commerce systems involve three basic functions:

(1)   Displaying a product catalog

(2)   Allowing customers to browse through the product catalog.

(3)   Allowing customers to buy items from the product catalog

The Callingmax website has the basic function as other E-Commerce systems. The customers will look through product catalog in order to find what they want. They will add the item they have chosen into the shopping cart and then they will complete their order by providing payment information through the secure payment system serviced by Velocall Payment Gateway and then product which are pincode of calling card delivered to their e-mail automatically.

Here is a simple diagram to illustrate the process:
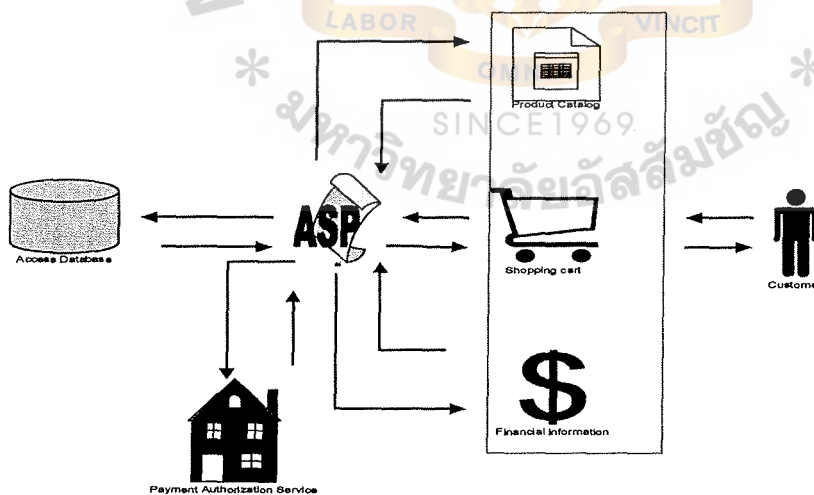
Figure 6.1.   Product Catalog of Callingmax.com.

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The product catalog processes in E-Commerce system have procedures as follows:

(1) User visits the website and accesses the product catalog.

(2) The server generates the product catalog by retriving items's information from the database.

(3) User browses through the catalog and adds items into his shopping cart.

(4) The server updates the user's shopping cart with the items user has selected.

(5) User goes to the checkout to complete his order.

(6) The server generates order summary by calculating the price of the order and notify order quantity and total price to the user.

(7) User verifies the order and then then provide credit card number for validation.

(8) The server sends credit card information to a payment authorization service to validate the credit card status.

(9) The payment is authorized and the result is sent back to the server.

(10) After financial transaction is completed Callingmax's customer will waiting for product delivery through e-mail.

All steps are entire process for online shopping through product catalog and shoping cart system. By the way the problem may occur from lack of users' knowledge and stealing of credit card information by the internet hacker so we may need security technology such as SSL technology in order to make more confidence to the customers and Callingmax also has FAQ webpage to provide knowledge to the custmers.

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6.2 Shopping Carts and Payment System

We briefly explain about the product catalog and the shopping cart in online shopping activity in topic 6.4. We will now extend it in more detail about how the shopping cart and the payment system work together. The diagram below will show about the payment system of Callingmax.com:
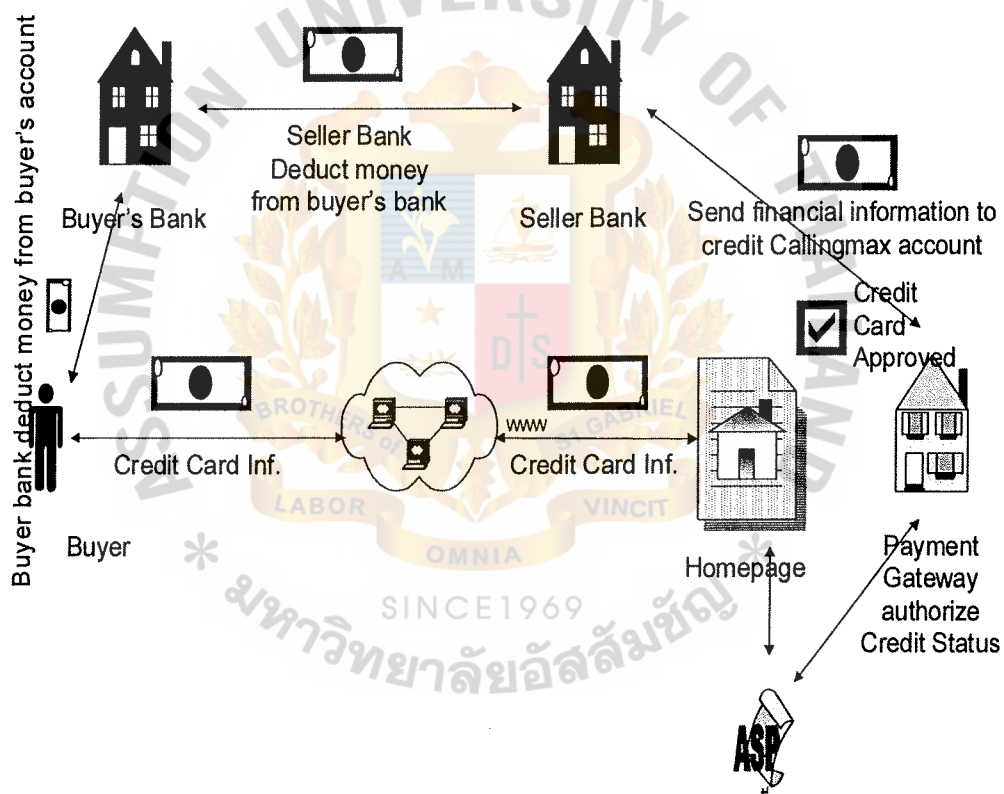

Figure 6.2. Payment and Credit Card Process.

The diagram shows the process of financial transaction for a whole system composes of buyer, seller, buyer's bank, seller's bank and payment gateway who are the third party that offer the service about credit card status checking and financial

management. The payment gateway has a connection with credit card issuer and the bank. The payment gateway also offers security transacation in order to protect the credit card information during transaction through the internet. Callingmax.com chooses Velocall to be our partner as payment gateway in order to provide convenience to customers who desire to use their credit card with online shopping.

The whole process of the shoping cart and payment system and the set of interaction the customers have to make with Callingmax.com are shown below:

(1) Customer shopping at Callingmax.com through the internet.

(2) Customer browses the product catalog.

(3) Customer adds items to shopping cart.

(4) Customer confirms the purchase Payment Processing. We process their payment by ASP.

(5) ASP Transaction script goes to Velocall which is payment processing / transaction are clearing company.

(6) Velocall verifies credit status the amount of purchase and then credit money to the Callingmax's account at the Callingmax's bank.

(7) After the account is already credited Callingmax's bank sends inquiry to buyer's bank in order to deduct money from buyer's account.

(8) The buyer's bank accepts the inquiry and pays the seller's bank, then buyer's bank bills to the buyers in order to collect money by month.

(9) After transaction is completed Callingmax will deliver product that is pincode and password to the buyer's e-mail account. The overall process takes a few minutes in order to complete the purchasing online.

Online product catalog is the most important sales tool for E-Commerce business. According to our sales strategy, we need to market only two products in the beginning state of our business. We believe in the simplify concept so it means easier to see your product catalog bring you more customers. For that reason what we have to do is to provide the web surfer with an easy way to see our product so it is the reason why we show our product in our website's homepage.

Here is a simple layout that for the shopping cart:

Section 1: Header of Homepage		
Section 2: Site Navigation	Section 5: Header of Shopping cart	**Section 11:** Special Promotion
	Section 6: Shopping cart overview	
Section 3: Web Board	Section 7: Product item	
	Section 8 : Order Summary	**Section 12:** Membership
Section 4: Payment Syetem	Section 9: Delivery e-mail address	
	Section 10: Going to payment system	

Figure 6.3.   Shopping Cart Prototype.

Section 1: The site header is the standard header we have been using for a whole website. It shows the name of the current page (pagename.asp).

Section 2: Our standard site navigation links go here.

Section 3: For this section is a webboard positioning, the free service for our customer. Here customer can post free message to advertise any inquiry.

Section 4: The position of payment system is the same as every page. The image of supported credit card is shown here.

Section 5: The header of shopping cart page that is shown to customer when they access the shopping cart system.

Section 6: The overview message for shopping cart system.

Section 7: The details for total product summary of those customers already choose. The detail includes item, product description, product quantity, unit price and total amount.

Section 8: The order summary is the detail of each order, it can notify customer about the amount of money and the discount price.

Section 9: In this section, customers need to provide their e-mail address in order to receive their purchase product.

Section 10: After customers check their order detail, they need to process in the next step by accessing to the payment system in order to provide their credit card information.

Section 11: The special promotion is the template the same as every page, the detail of promotion is to invite customer to try the sampling product.

Section 12: The membership section is to invite customer to apply to be our member in order to get special privilege.

This is a prototype of our product catalog page. . Since everything is in template files, you are free to rearrange things to make the site more customer-friendly. Make it easy to find your products, and make it even easier to buy something. It follows to the concept of our E-Commerce business "The more simplifier will lead more customers to your website".

6.3   The Setting Up Method of Database Application

Since ASP is especially good at reading and writing to databases, we are going to choose very simple database and scripts in order to store information of sales history, customer profile, E-mail address, pin code, password and other data related to our business. Callingmax.com use the Microsoft Access version 2000 on NT server as the database platform.

Concerning to the proposed Script Program that we choose ASP and VBScript to run many database related content. Callingmax.com use OLE DB in order to work as Universal Data Access (UDA) technique in term of database connectivity technology. Callingmax.com does not use Open Database Connectivity (ODBC) because this procedure cannot support every data pattern.

For the installation process, our web hosting server has to install the majority software already. The compulsory program works as web server, database server and a server-side scripting tool that ties everything together should be offered from the web hosting service operator. To begin accessing various databases, the correct driver must first be installed. The Microsoft Access, dBase, FoxPro, and SQL Server drivers are the standard drivers installed with Windows NT Server version 4.0.

It is helpful to have a feeling for what goes on behind the scenes, so here is an over simplification of how things would work. The proposed system of Web Server and Database is shown below in the diagram below.
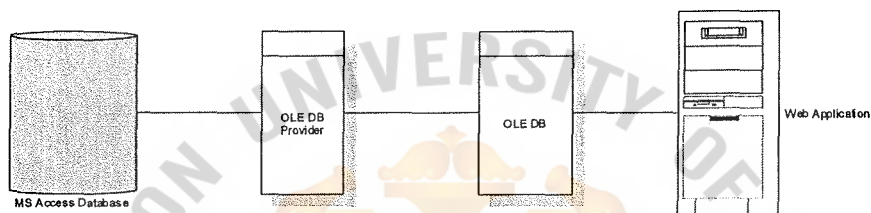
Figure 6.4. Web Application and Database Server Connected Technique.

According to this diadgram scenario a web application pulls some data out of a Microsoft Access Database. The user requests the application from his browser and the request is sent to the web server through OLE DB connection technique. Because the OLE DB is data connection program it is developed by the lower language such as C++ or Java. It is inconvenient for program developer in order to use higher language such as Visual Basic. It is necessary to divide OLE DB into two forms, data provider and data consumer. In this diagram the data in Microsoft Access Database such as calling card pincode and password is retrived by the OLE provider and then sent to data concumer that is web application through OLE DB technology.

6.4 Developed Instruction Script by Active Server Page (ASP)

The Callingmax.com is a dynamic webpage so we use Active Server Page (ASP) version 3.0, the technology developed by Microsoft Corporation. The reason is that ASP can enable Callingmax to work with Client-Side Script and Server-Side Script in the mean time. The ASP can enable our web page to work dynamically.

The Active Server Page is saved in file .asp, so web browser can process only instruction script on server-side in order to convert program to process only for client-side script. The processing result will be in HTML Tag and deliver to Browser program.

The diagram below represents processing function of ASP both in server-side script and client-side script.
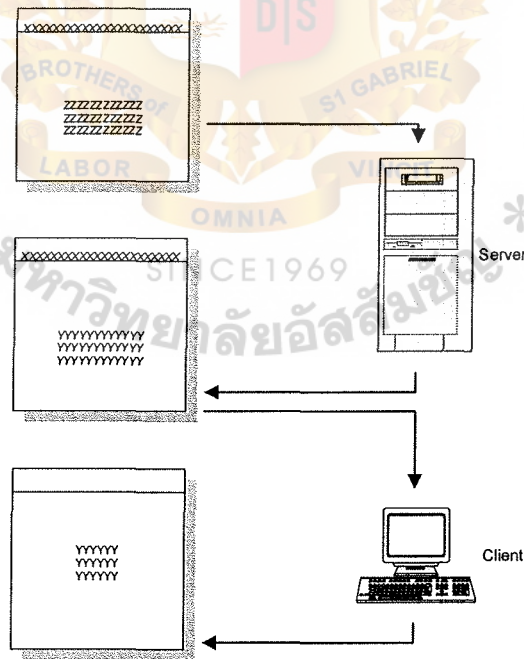
Figure 6.5.   ASP Processing Script of Server-Side and Client-Side Server.

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From the diagram, in the beginning processing function of the script program compose of Client-Side Script (content X) and Server-Side Script (Content Z). Therefore after the processing of web server the content Z within server-side script program will be processed to be result which is the content Y and will be delivered with Client –Side Script program (content X) for process in the next step at web browser.

Regarding to this processing theory, we can present the ASP processing function in the diagram below.
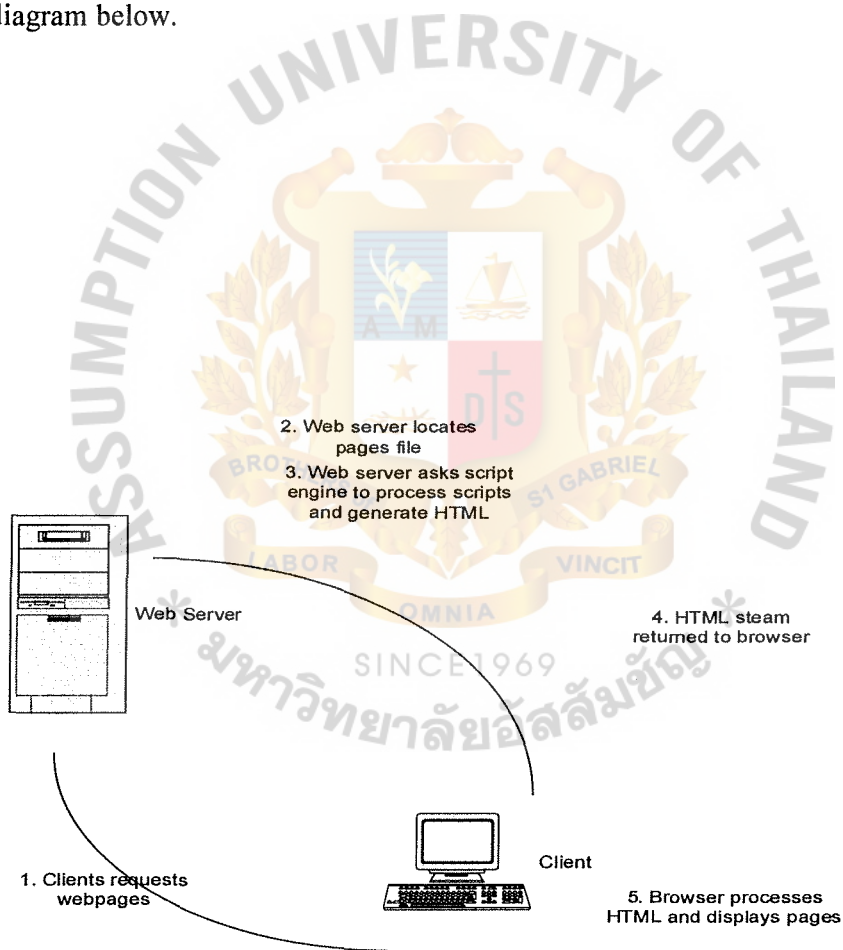
Figure 6.6.   ASP Processing Procedure.

From the diagram, we can summarize the processing procedure of ASP step by step as follows;

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(1)   The users click on a link from his web browser; his web browser sends a request.

(2)   The file which has the extension name like ".asp" is a PHP script that contains commands. One of these commands is to open a connection to a database and grab some data. ASP talk to the database by OLE DB and then Web Server will find the location of request file in database server.

(3)   For web page that has server-side script program, after web server finds the requested page following to the client requirement. The web server will request script engine to bring server-side script to process and then get the result to convert to HTML file instead of sending HTML directly to web browser.

(4)   HTML return to browser after processed by script engine.

(5)   The HTML page showing through the browser.

6.5   Register the Domain Name.

After developing web application we need to register the domain name for our website. In regarding with marketing concept we decide to use the name "Callingmax.com" to represent our business. When we decide to use .com as our domain name we have to check availability of the name before going to register. We use domain name registration service from www.register.com to check availability and then register this domain name for 10 years. The expense of registration service is charged about 900 baht per year so the total expenses are about 9,000 baht for ten years.

After domain name is already registered, the next step is to upload the website's file to web hosting server. The uploading technique is using of File Transfer Protocol (FTP) in order to make more convenience. The Web-Hosting service operator will assign the user name and password specifically for our website in order to access their

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web-server and upload file through FTP. After all file is upload to web-server and IP address is specified to registered domain name, the website is now available on the internet.

6.6 Hardware and Software Requirements

<u>Hardware Requirements</u>

We used two computers in order to create prototype of Callingmax, one is used as client workstation to create webpage and another one is server-side computer and use as Web Hosting Server. As capacity of personal workstation is greater more than the past we use our workstation to be database server also. The database server computer also contains database application and customer data and connects to web-server once a day in order to update customer information on the web. The lists of all hardwares below are the detail of hardware's specification.

Table 6.1. Hardware Specification.

WORK STATION HARDWARE	DESCRIPTION
CPU	Intel Pentium IV 1.8 Ghz
MAINBOARD	Chipset i845E
MEMORY	Double Data Rate Sdram 256 Mb
HARDDISK	Maxtor 80G /ATA133
GRAPHIC CARD	ATI Radeon 8500 64 Mb
SOUND CARD	Sound Blaster Live DE5.1
FLOPPY DISK DRIVE1.44	TEAC
DVD-ROM	Pioneer 106S /16X Speed
CD-WRITER	Plexter 24x10x40A

Table 6.1.   Hardware Specification (Continued).

WORK STATION HARDWARE	DESCRIPTION
MONITOR	EIZO LCD L355/15 inch
MODEM	3COM U.S.Robotics 56k External
SCANNER	EPSON STYLUS C60SX
PRINTER	CANON N640P 600x1200 36BIT

Table 6.2.   Hosting Hardware Specification.

WEB HOSTING HARDWARE	DESCRIPTION
CPU	Intel Pentium IV 1.8 Ghz
MAINBOARD	Chipset i845E
MEMORY	Double Data Rate Sdram 256 Mb
HARDDISK	Maxtor 80G /ATA133
GRAPHIC CARD	ATI Radeon 8500 64 Mb
SOUND CARD	Sound Blaster Live DE5.1
FLOPPY DISK DRIVE1.44	TEAC
DVD-ROM	Pioneer 106S /16X Speed
CD-WRITER	Plexter 24x10x40A
MONITOR	EIZO LCD L355 /15 inch
MODEM	3COM U.S.Robotics 56k External
SCANNER	EPSON STYLUS C60SX
PRINTER	CANON N640P 600x1200 36BIT
UPS	Leonics Acura 500VA

Software Requirements

For the beginning process we need to install Internet Information Server version 4.0 in order to enable the computer to work as Web server and the operating system is Microsoft Window NT 4.0 because of the reliability and ability to support both client-side script and server-side script. We choose to rent web hosting that has softwares specification following our requirement instead of setting our own dedicated server. The Web Hosting service provides convenience and save cost for our company. In part of client computer we need the browser program in order to enable the web page at client site. The most favorite program for Browser is Internet Explorer and Netcape Navigator.

The Callingmax.com is dynamic web page because we develop Instruction by VBScript to enable the webpage. We use Active Server Page (ASP) version 3.0 that is the technology developed by Microsoft Corporation Vresion. We use ASP in order to enable Calling Max to work with Client-Side Script and Server-Side Script in the mean time. The ASP can enable our web page to work as dynamic web page.

In term of Database, we are using Microsoft Access as majority database software. For Web Editor Program we use Adobe Golive 6.0 because it provides quick design, build, manage, and deploy dynamic databse tool so it can help our website move rapidly from concept to site development.

Table 6.3.   Software Specification.

SOFTWARE	DESCRIPTION
Web Server	NT 4.0/Internet Information Server 4.0
Database Server	OLE DB connectivity Microsoft Access 2000
Server-side Scripting Tool	Active Server Side (ASP) version 3.0 VBScripting
Web Development Tool	Adobe Golive 6.0
Graphic Tool	Adobe Photoshop version 7.0.1
Screen Capture Tool	HyperSnap-DX version 4.22.01
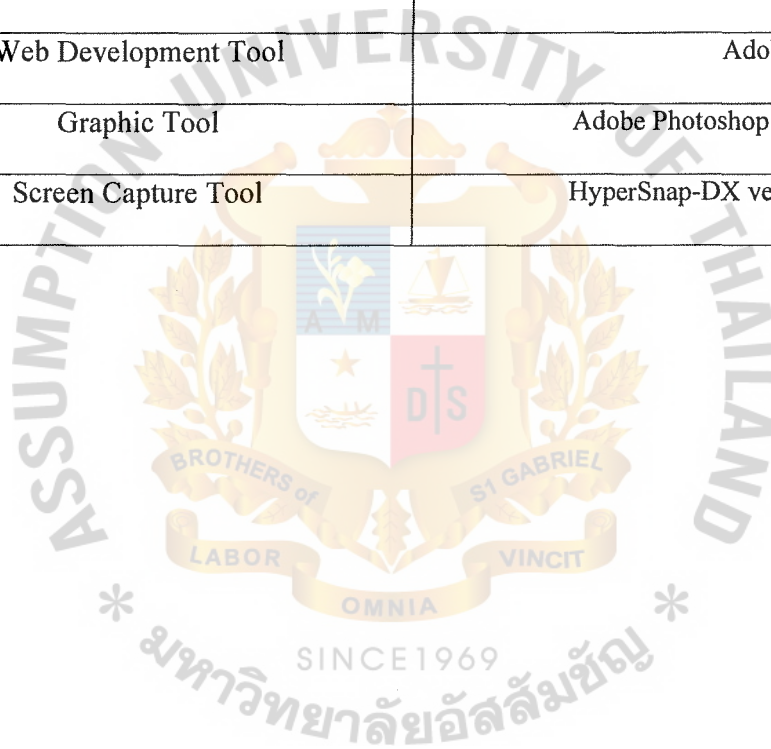
VII. CALLINGMAX.NET WEB SITE

7.1 Site Structure
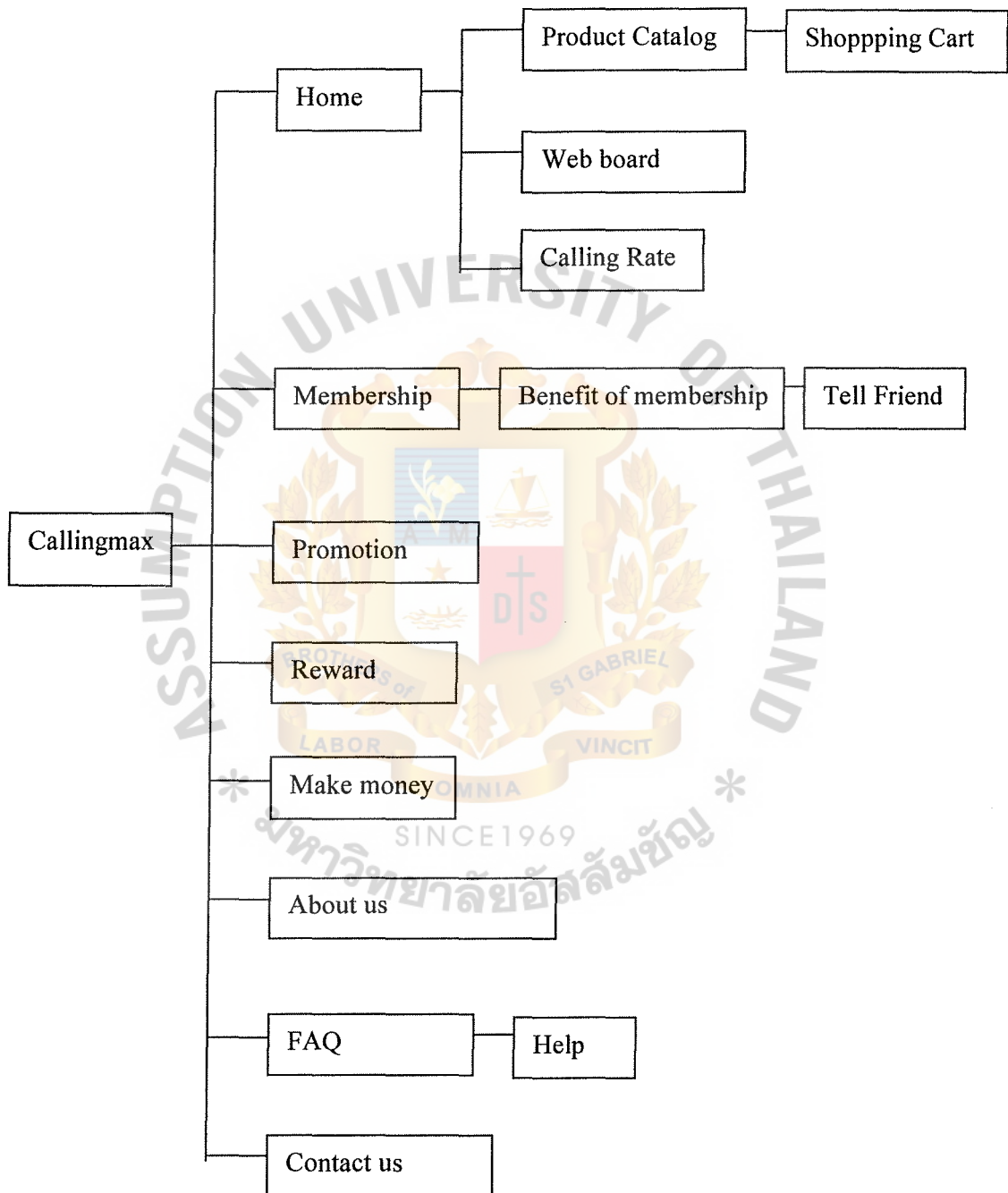
Figure 7.1. Site Structure.

For a more detail of Site-map layout, it is fully shown in Appendix A. Site navigator and menu has to set as template design on every page in order to provide convenience to site visitors.

7.2 Homepage

Figure 7.2. Homepage.

This website has completed all process in E-Commerce system. The website offers one-stop service for customers who want to buy prepaid calling card. The site offer credit card payment system, delivery system through e-mail, calling rate both for international and call to Thailand, user instruction, frequently asked question and etc. Even though we have a completion process of E-Commerce business we have to do further development in Thai language version because it not available in this time.

The content on the home page will show the image of our calling card product in the most visible position in the middle of the page. We have a navigation link to webboard, promotion, shopping cart, calling rate checking, tell friend in the left menu. We also have main navigator on the top of page which link to membership, promotion, reward, make money, about us, frequently asked question and contact us.

For special focus section that is new promotion or other marketing activity will be on the right menu. However, the most visible position is in the middle of page that contains two of our product images as follows;

(1)   Star of Asia.

(2)   Idial Asia.

Figure 7.3   Product Page.

7.3   About Us

About us page has information about the company profile, some of promotion campaign, customer privacy and new technology. All content are in the same page as follows.
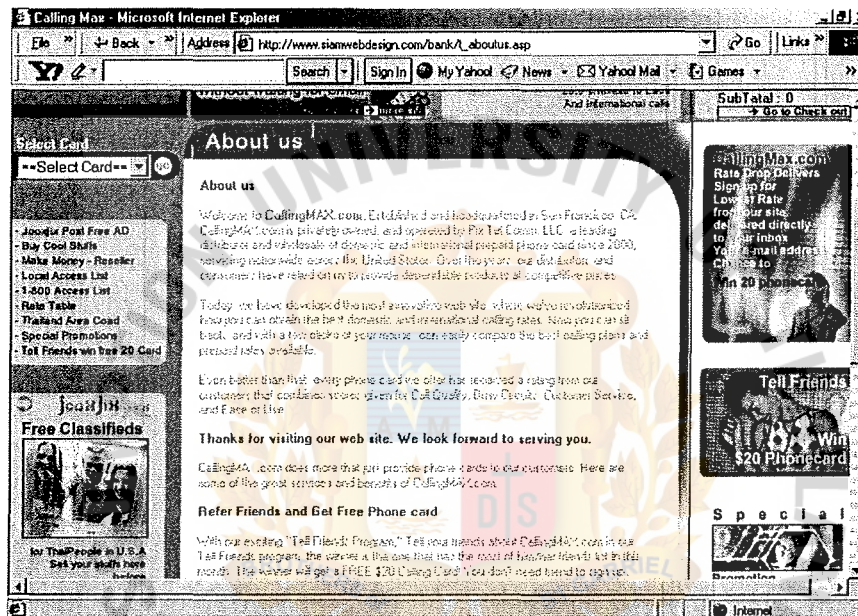
Figure 7.4.   About Us Page.

7.4   Shopping Online

In E-Commerce website the shopping online is the most imperative menu, the same as Callingmax.com. Even though we have only two products "Star of Asia" and "iDial Asia" following to our policy in order to provide only the best quality product to the customers. Callingmax has planned to extend our product line in the near future in order to cover all target market.

Our current product catalog provides clear information about our service because the international call minute selling is the price sensitive market. The service instruction is also the important information to include in our product page the same as the detail of minute rate pricing. We describe all necessary information in details as follows:

Online Catalog
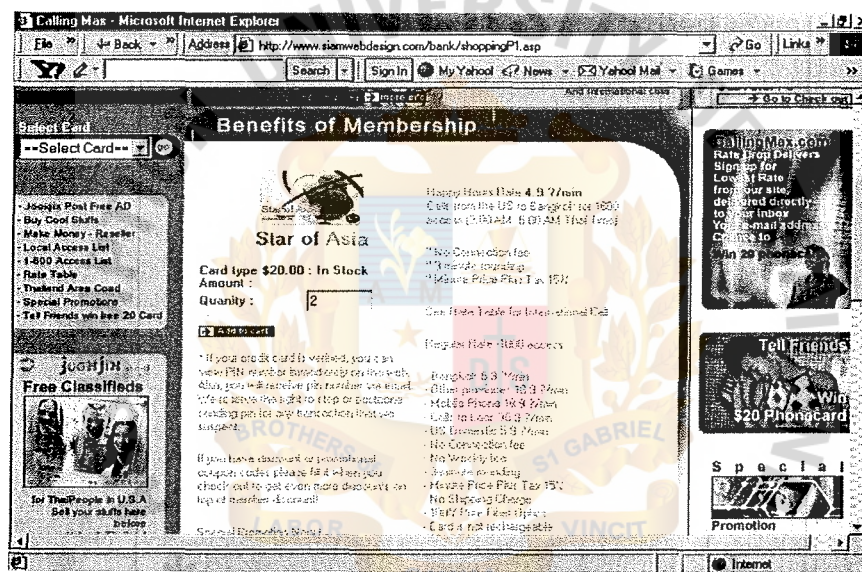
Figure 7.5.   Online Catalog "Star of Asia".

Figure 7.6.   Online Catalog "iDial Asia".

In the middle of the product catalog page we have "Add to cart" icon and blank

form in order to provide convenience to customers and lead them to the shopping cart

system. The example of shopping cart is shown as follows:
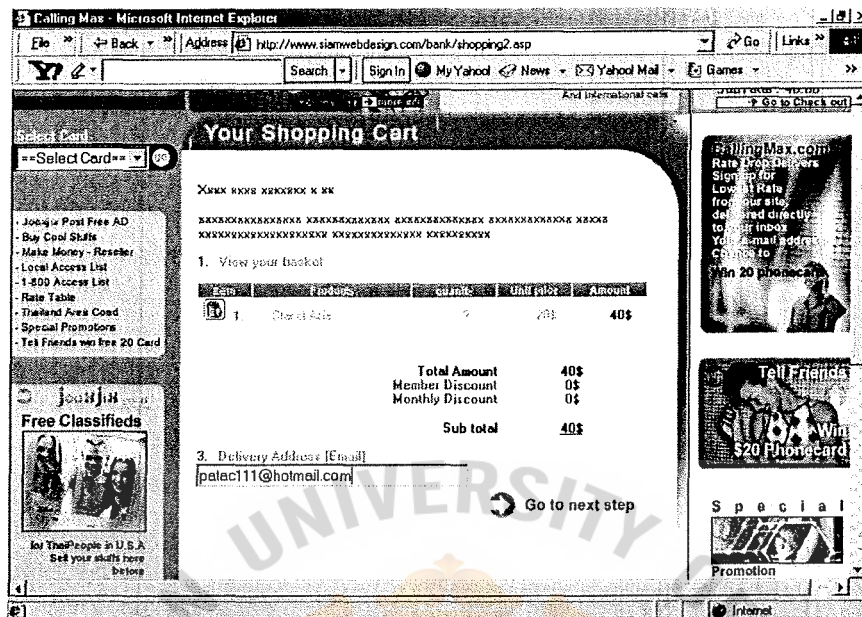
Figure 7.7. Shopping Cart System.

At the home page we provide log in for members who have already created an account. The Callingmax's member will have special endorsement.

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Figure 7.8.   Member Login.

7.5   Membership

The customer relationship management and brand loyalty are the most important key to driving business succeed in all business. Callingmax offers a variety of special privilege to our members as the following details;
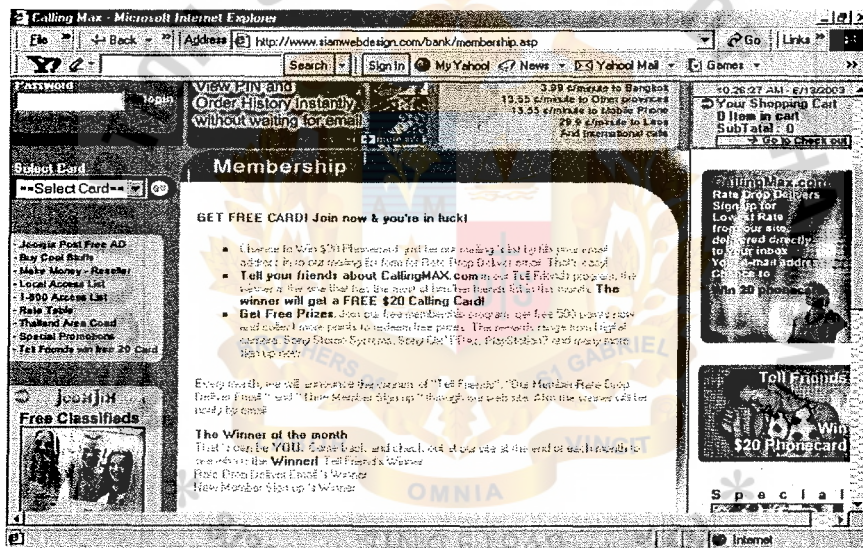
Figure 7.9.   Membership Page.

7.6   Promotion

Callingmax also offers special promotion as one of the marketing mix strategy, our promotion will be updated every month.

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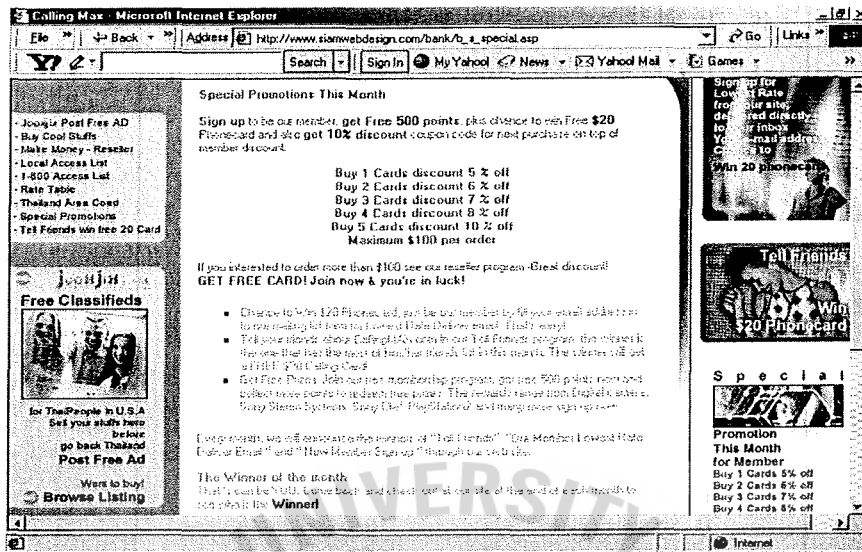
Figure 7.10. Promotion Page.
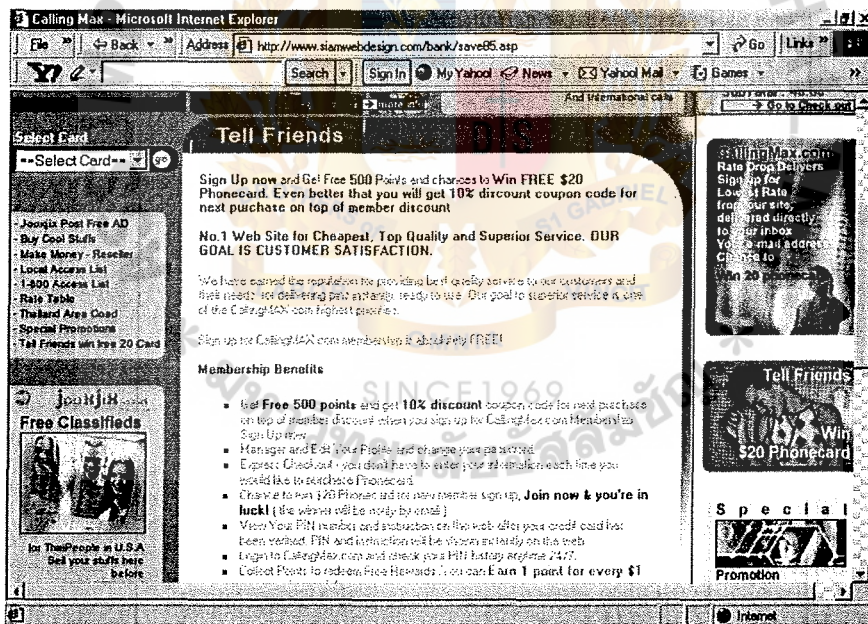
Figure 7.11. Special Promotion

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7.7 Reward

The reward will be offered to a member in order to generate higher sales volume. We offer a various kind of reward with a different rate in order to attract customer at all purchasing levels. The reward instances such as LCD monitor, audio mini combo set, brand name product. We emphasize more on trendy product because it is suitable with our target customers. The details of reward are as follows;
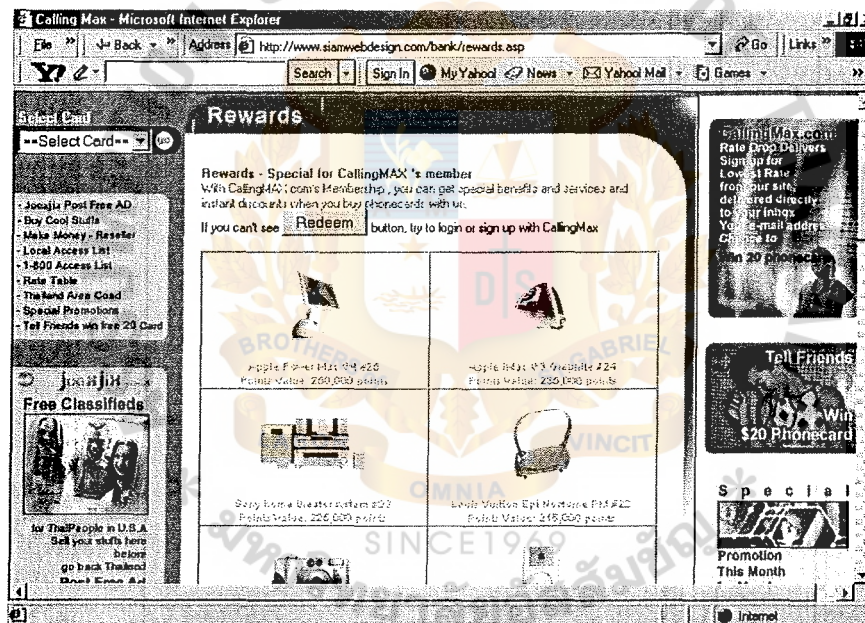
Figure 7.12.   Reward Page.

7.8 Make Money

Callingmax.com has involved in B2B business model. We have wholesale rate in order to support wholesale customer of calling card. The pricing rate will drop relevance to higher purchase volume. The page details are as follows:
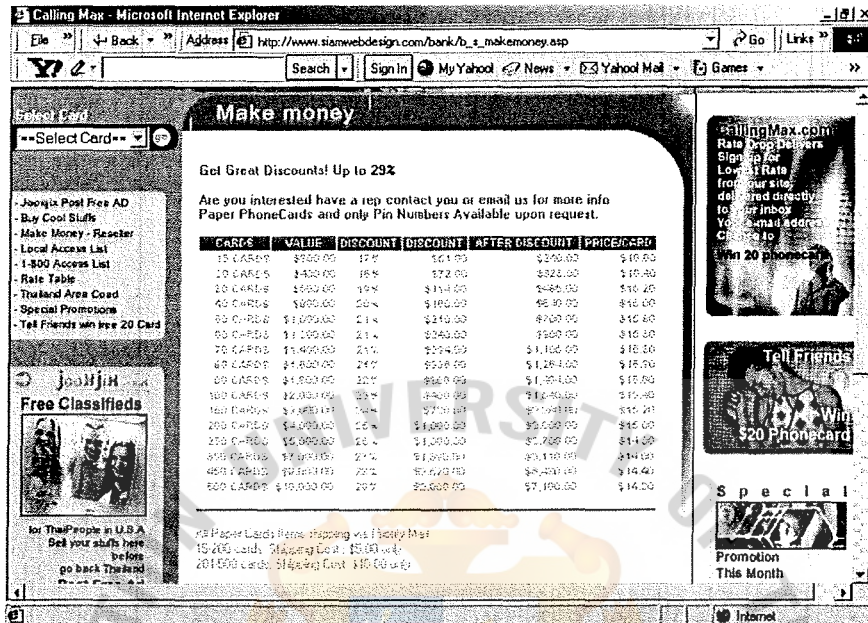
Figure 7.13.   Make Money.

7.9   Frequently Asked Question (FAQ)

FAQ is customer services that tends to provide information concern in calling card service, technology and instruction. This menu can generate more confidence to our customers.
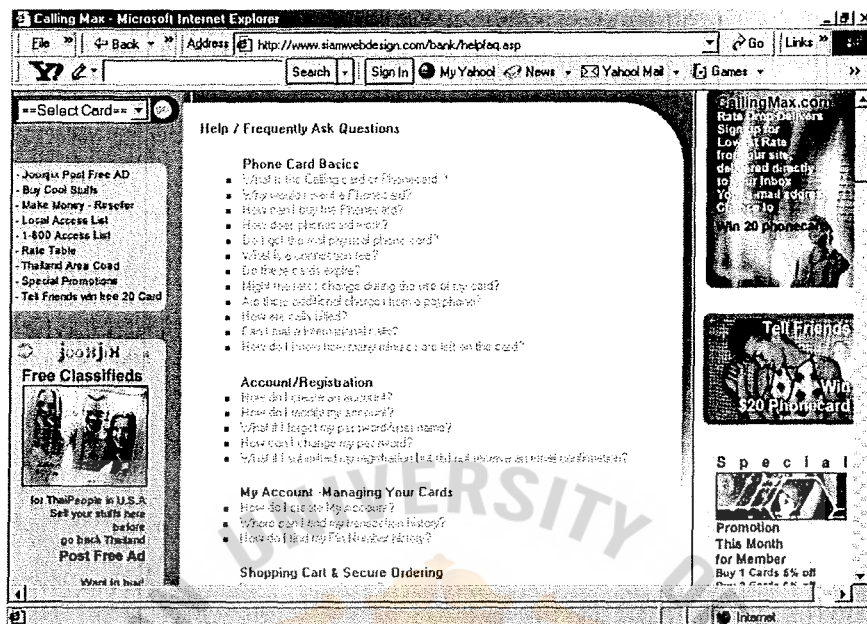
Figure 7.14. FAQ Page.

7.10 Contact Us

The two way communication between company and customer is a very important feature of our website. Callingmax can get customer feedback, market response, customer requirement and other important information through Contact Us page. Accordingly the Help page also provides in order to help customers to send their inquiry easily. The page's details are as follows;

Figure 7.15.   Contact Us Page
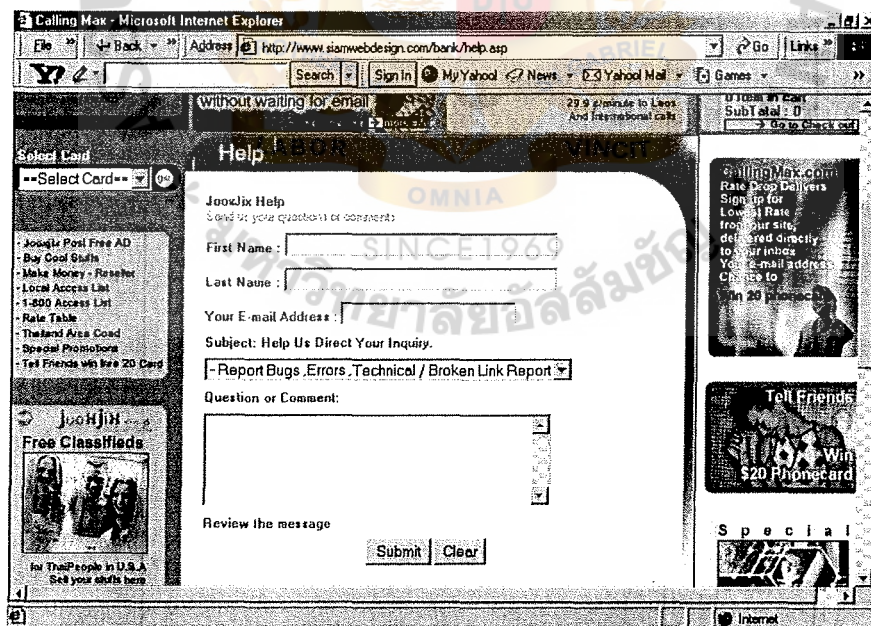
Figure 7.16.   Help Page.

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7.11 The Left Menu

On the left menu we provide navigators to other important information of our business. They compose of text navigator to calling rate table, Thailand access code to each province and the link to make money, special promotion and tell friend promotion as we described earlier. The menu also has image navigator to free classified message board in order to create community to our website. All the details of each page are as follows:

Figure 7.17. Web Board.

Figure 7.18.   International Calling Rate

Figure 7.19.   Thailand Access Code

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7.12 The Right Menu

On the right menu we provide image navigator to our promotion campaign. The reason is we want to advertise our promotion campaign in higher visibility area. The detail image navigators on the right menu are as follows:

Figure 7.20.   Image Navigator on the Right Menu

VIII. CONCLUSIONS

Callingmax.com will be an E-Commerce website with complete business process covering all areas of shopping online. The company has core business to sell international prepaid calling card with the use of Voice over Internet Protocol (VoIP) technology. In business model we are dealer of calling card and we sell directly to end user and resellers, both B2B and B2B business perspective.

For the features of Callingmax website, the customer can shop online through product catalog, make their order through shopping cart system, transfer their money by credit cad through payment gateway service with SSL security technology and receive online delivery through E-mail service. We can deliver our product online because the nature of prepaid calling card is pin code that can deliver in digitalized form to customer's e-mail address.

The payment method of Callingmax.com supported only credit card payment. The credit card authorization service was supported by Velocall.com, the reliable third party with use of SSL (Secure Socket Layer) in order to provide information security during transaction process.

For financial analysis, Callingmax online business has payback period within one year according to sales forecast based on marketing analysis in current situation. The break even point in sales volume are 3,192,000 baht. The breaks even time period are about 7.6 months with average sales forecast about 500 cards per month. The net present value for five year estimation is positive, about 2,648,416.17 baht. The attractive of investment in calling card online business is outstanding following the analysis.

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IX. RECOMMENDATIONS

After introduction period Callingmax has plans to extend the product length with variety of product pricing in order to offer various products to the customer. The price will range around 5$, 10$ and 20$. The voice quality is same as current product or better in order to preserve our standard quality.

The company also has plans to support more credit cards according to higher sales volume with 10% growth rate. We already choose Verisign's service for the development technology because it has international standard and reliability.

Callingmax plans to develop the website to be community website for Thai people abroad in the near future. We plan to join as strategic partner with other websites in different business characteristics; the travel website is an instance according to achieve the company's business objective in this circumstance.
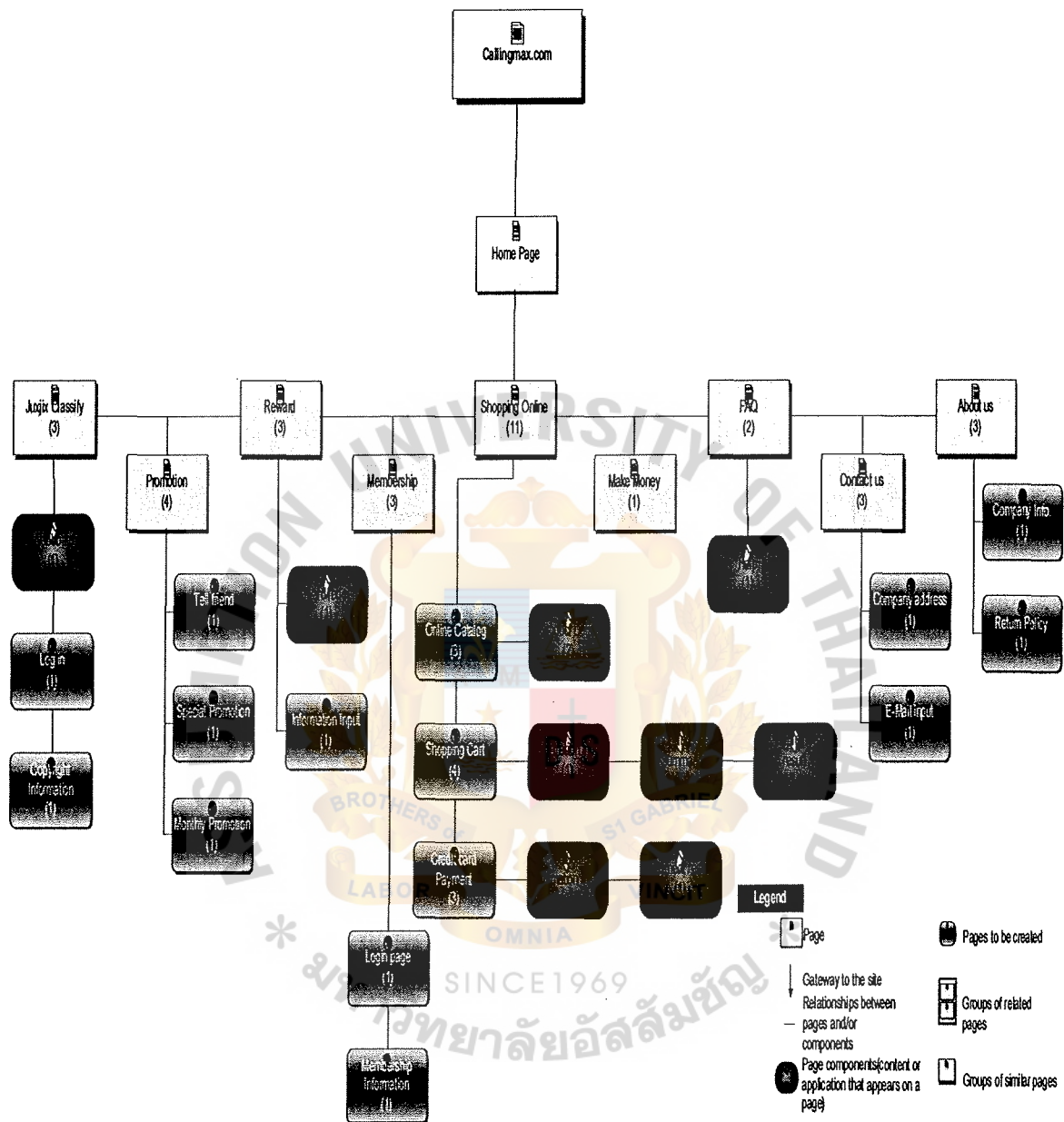
APPENDIX A

SITE MAP

Figure A.1.   Sitemap.

APPENDIX   B

DATABASE DESIGN

Database Design for Membership Program

Table B.1. Database Structure of Membership.

Field Name	Data Type	Field Size
Member_Id	Number	50
First_Name	Text	50
Last_Name	Text	50
Address	Text	50
Address2	Text	50
City	Text	50
State	Text	50
Other_State	Text	50
Country	Text	50
Zipcode	Text	50
Telephone	Text	50
Gender	Text	6
Birthday	Text	50
Job_Title	Text	70
Industry	Text	70
Email	Text	50
Password	Text	50
Question	Text	50
Answer	Text	50
datetime	Date/Time	Short Date

Database Design for Product information

Table B.2. Database Structure of Product Information.

Field Name	Data Type	Field Size
Product_ID	Number	Long Integer
Product_Name	Text	200
Product_Picture	Text	50
Short_Description	Memo	-
Calling_Rate	Memo	-
Product_Price	Number	Long Integer

Database Design for Shopping Cart Information

Table B.3. Database Structure of Shopping Cart.

Field Name	Data Type	Field Size
Purchase_ID	Number	Long Integer
Product_ID	Number	Long Integer
Product_name	Text	200
Purchase_Qty	Number	Decimal
Purchase_Unit_price	Number	Decimal
Purchase_Amount	Number	Decimal

Database Design for Card discount

Table B.4.   Database Structure of Card discount.

Field Name	Data Type	Field Size
Quantity_Card	Number	Long Integer
Discount	Number	Long Integer

Database Design for Member collecting point

Table B.5.   Database Structure of Member's Collecting Point.

Field Name	Data Type	Field Size
Member_ID	Number	Long Integer
Points	Number	Long Integer
Type	Text	1
DateTime	Text	50

Database Design for Tell friend Member

Table B.6.   Database Structure of Tell Friend Member.

Field Name	Data Type	Field Size
Member_ID	Number	Long Integer
Times	Number	Long Integer
DateTime	Text	50

Database Design for Monthly discount

Table B.7.   Database Structure of Monthly Discount.

Field Name	Data Type	Field Size
Member_ID	Number	Long Integer
Coupon_code	Text	7
Discount	Text	10

Database Design for Customer Order

Table B.8.   Database Structure of Customer's Order.

Field Name	Data Type	Field Size
Purchase_ID	Number	Long Integer
Member_ID	Number	Long Integer
Total_Amount	Number	Decimal
Discount	Number	Decimal
Monthly_Discount	Number	Decimal
Sub_Total	Number	Decimal
Datetime	Text	50
status	Text	1

Database Design for Reward

Table B.9.   Database Structure of Reward Information.

Field Name	Data Type	Field Size
Reward_ID	Number	Long Integer
Reward_Name	Text	255
Reward_Description	Text	255

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