



Jewelry and Gemstones on the Internet

by

Mr. Harpreet Singh

A Final Report of the Six-Credit Course
IC 6928 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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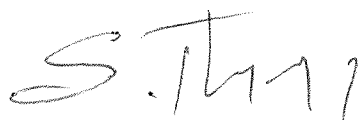
The Graduate School of Assumption University has approved this final report of the six-credit course, IC 6998 E-Commerce Practicum, submitted in partial fulfillment of the requirements for the degree of Master of Science in Internet and E-Commerce Technology.

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ABSTRACT

Selling on the Internet is still a new adventure for many of the businesses. Many of the businesses are still using traditional ways of record keeping. The writer discusses that the use of Internet to sell and share information among the staff is a useful method and is cost saving too. On the other hand the company also receives benefits of populism and internationalism to the company. There are millions of people already connected to the Internet and this number is growing at an enormous rate.

The writer talks about how Punjab Jewelers can make use of the Internet technology through making company's Website rather than opening up new businesses around the world to provide company-made products that the company has to offer to the people. Then the writer discusses various steps in the development process of a website and the estimated costs of the new proposed system and the estimated benefits to be gained from the proposed system after it is put into action.

This project assists the writer to not only get more outlooks about selling jewelry in this new market, but also learn to adapt the Internet advantages to support goals that the company will find tough to attain by using traditional methods. This project applies computer and some of the marketing management techniques to push the company into the new market by using Internet as the main tool. This project developed a website as storefront and uses the computer system to provide accuracy, timeliness and provide organized information to the employees and management when required. It will furthermore decrease the cost and will increase customer satisfaction, in a way that customers can shop from anywhere, anytime and at their comfort.

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This acknowledgement cannot be completed if he does not mention management and staff members of Punjab Jewelers. Therefore, he would like to express his gratitude to all members of Punjab Jewelers who have given him very useful information and the essentials about the company.

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I. INTRODUCTION

1.1 Background of the Project

Punjab Jewelers is now a fully integrated jewelry manufacturer and retailer with talented in-house designers and craftsmen. Today Punjab Jewelers employs over fifteen highly skilled and knowledgeable employees in its 100 square meter place or so called factory. After the successful establishment and operations of the offshore branch in Canada, the company now wants to expand its operations in New York, USA.

Punjab Jewelers is not yet exposed in the use of computer technology. Opening the old fashioned way business is very pricey and requires a great deal of legal barriers to be crossed first, especially when opening business in another country. On the other hand the existing system also sometimes runs into many obscurities such as long delays in processing orders, making reports and so on.

With the development of the business they also insist on using modern technology, to trounce the existing pitfalls as well. The new computerized system will use the Internet medium to make the website as a storefront and will have database in which data is shared among company staff, which will provide accuracy and timeliness and information can be sorted out in controlled ways. In addition, the company will be able to serve its customers better and faster, this will provide customers more satisfaction. We all know that customer satisfaction is the main goal of any business and provides stronger backbone to the business if customers are satisfied with the products and services are provided to them.

Internet technology could be very helpful in this matter as it's much easier to open up a website and some are even free of charge and can become another channel to give

services to customers and attract new customers from around the world. Website will expose the products to the people around the world rather than just one place.

The company's website not only will give exposure to the products, but can also provide added services to the visitors, such as 24 hours customer service online, order tracking online or even giving some special discounts if the customer orders the goods through the Internet. With the use of Internet, customers could send their enquiries about the company and its products anytime and from anywhere in the world. More people could be attracted towards the products and services that the company has to offer to its customers.

Internet-integration is a paradigm shift. The Web provides a network whereby companies, clients, employees, and vendors share critical information with a speed and insight that redefines business as we know it. By connecting people and enterprise information in innovative ways, Internet-integration expands markets, attracts and retains customers, improves productivity, and empowers employees, while improving shareholders' return on investment.

Enterprises that move swiftly and strategically to leverage the Internet's power and accessibility will establish the benchmark for decades to come. The time for Internet-integration is now, and the need for a well conceived strategy and implementation is absolutely critical. The objective is fundamental business change, accomplished while the technological toolset evolves, even as it is employed.

Internet is a very useful medium to convey the message and do business online at very low cost and is very easy to setup as well. It is making more and more businesses far-reaching. It is also stated by many of the researchers who did surveys or researches related to Internet and E-Commerce that digital products and information related business are doing really well on the Internet. On the other hand if we look at the

normal or non digital or information businesses they are also doing well. As Internet become their extra medium of communication with the customers and can reach more people at the same with lesser costs. From this we could guess that Internet could be used by anyone and can procure benefits from it.

For example, Volvo achieved astonishingly high Sports Utility Vehicle (SUV) sales using only Internet promotions. New media and the ability to use them in different and interesting ways as technology evolves, that remains the opportunity. Volvo used the Internet to market its sports utility vehicle, selling out the first season's worth of cars without spending "a dollar on traditional marketing."

1.2 Objectives of the Project

Objective of this project is the development of the website to give company exposure to the US market and around the globe, which will provide customers with another option of buying online with the help of Internet and to provide faster and better services to the customers. Objectives of building a website are to provide the following matters to put in to action:

- (1) To give customers choice to buy goods online at their ease and comfort.
- (2) To improve the speed of retrieving information to increase the performance for Customer Services.
- (3) To compare the cost between the existing system and the proposed system.
- (4) To build a company database for different departments to share among them.
- (5) Providing customers' security seals from the company to gain customers confidence that doing business online is of no or very low risk and things could be done easily and reliably on the Internet as well.

1.3 Scope of the Project

There is a big scope in building this project which will include many of the main features of the Internet and the companies. This will help us understand the relations of the companies between the uses of Internet Technology more easily and clearly.

- (1) Effective management of the website to make customers and other website users to find the information effortlessly.
- (2) Make the website use, more reliable and secure to make customers buy on the Internet.
- (3) To produce reports and responses to queries about sales and customer information records.
- (4) Conducting the Strength and Weakness Opportunity and Threat (SWOT) analysis to know how a company is performing.

1.4 Deliverables

Mainly there are only two deliverables after the project is completed. Firstly the prototype of the website, which is included in the Appendix A to give a summary look at the website. How website looks like, what features are available to the visitors and customers and how they can go through each of the available information.

Finally, a report taking into account all the details mentioned earlier in the objectives, like how they are achieved and what kind of strategies are used to attract more people to the website to bring more benefits to the company through the use of the Internet.

II. THE EXISTING SYSTEM

2.1 Background of the Organization

The current system which we must mention is totally done by manual processes. Sales Department issues the new merchandise certificate, prepares invoice and collect customer information when any sale occurs. Salesperson must remove or remark such item in Catalog Inventory that the item has been sold, so that another could be ordered to be made.

The customers' information is also recorded in each specific item. If a custom order has been placed, then the salesperson will write out an order form and send to the Manufacturing Department. Sales Department will keep the deposit from the customer until the complete transaction has been achieved. These custom orders are treated same as item in the catalog. The management then enters custom item information and certificates are issued to the customers.

Punjab Jewelers cheerfully provides after sale service to all its loyal customers for the merchandises purchased from the company such as polishing, cleaning, resizing, resetting and fixing etc. The Customer Service Department retrieve the information of the item for verification, which takes a very long time because everything is done manually and all the records are kept in the normal ledger books. After the verification, Service Request is issued and then desired action is taken. This service is also provided to other customers who did not buy from the company but they pay a little amount as service charges.

Customers can also return or exchange the previously purchased items with the payment of any difference between the new and old items. This policy is to serve its customers for lifetime, as fashion changes people tend to change their tastes as well.

Punjab Jewelers has formed its way from a semi-integrated jewelry to a fully integrated jewelry manufacturer and retailer with now talented in-house designers and craftsmen. It used to give out orders to contracted manufacturers to perform the order completion tasks, which cost a bit higher as the job was given according to the orders taken in and no permanent salary was given to them.

The company is using the old implemented traditional ways to handle its inventory and sell its products to customers. This company is having physical stores for selling its jewelry and is not yet exposed to the Internet technology and how useful it is to their business. Store opens everyday and sales people try to sell its products to the people who visit its stores and are looking for jewelry for themselves or for others to give them as gifts.

It's just a common logic that not everyone who comes to the shop will buy for sure. Some people just come to visit and make up decisions for the future, some might think it's out of their range or some won't like the designs and don't want to give custom designs because then it will take time to prepare the things. People buy things according to their own tastes such as jewelry or gemstones. Another thing is that these things are not that cheap and also everyone can't afford therefore it normally takes a bit longer in time for people to decide whether they want to buy such things or just want to wait a little bit longer.

Now if they want to increase the sales situation and want to make more customers then it is first necessary that more and more people visit the store. This could be possible some days such as if it's a holiday or so, but normal days will still come back to normal routine. If company decides to open another store at different location where it thinks more people will visit, then it has to bear in mind the cost and risks it has to go

through. Opening a new business somewhere else is not that difficult if we have enough money but to make that business run successfully is always the key question.

It took over three years to start earning any profit from the offshore branch in Canada, because cost of opening any business is very high, especially when there is currency differentiation. In the first three years, the company can only cover up all the costs incurred during the opening process of the branch.

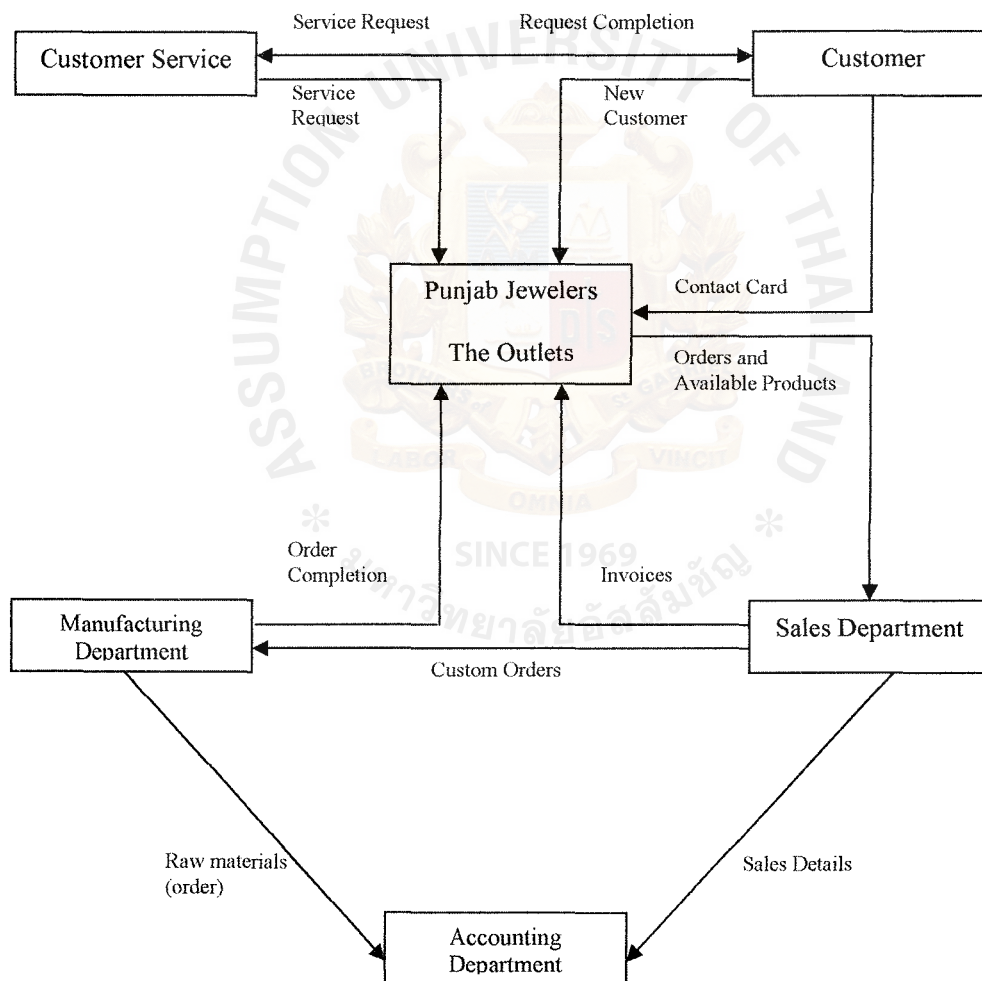


Figure 2.1. The Existing System.

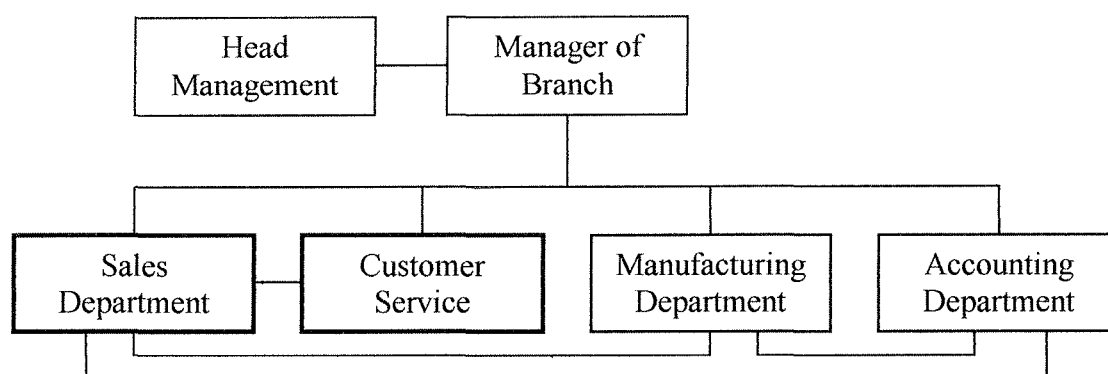


Figure 2.2. Organization Chart for Punjab Jewelers.

2.2 Existing Business Functions

There are many business functions which are part of the system and are required by the company staff members to fulfill it properly to make the work flow smoother and softer, so that it can be handled with ease.

- (1) Inventory control of the jewelry and gemstones.
- (2) Placement of new order to Manufacturing Department.
- (3) Record of new customer information.
- (4) Keeping records of customers' history of purchasing.
- (5) Issuance of merchandise certificate.
- (6) Assignment of Invoice number for the purchase made.
- (7) Assignment of new item numbers for the new product.
- (8) Providing customers' after sale services.
- (9) Summarized monthly or yearly reports for the management records.

2.3 Current Problems and Areas of Improvement

With having many physical stores and manual handling it's always difficult for the original owner to look after them all the time, especially if they are far away from

each other and in this case abroad. It's not possible for a person to be at two places at the same time. Everyone prefers to be free of time obligations and would like to do things on its preferred time and release some tensions. Some of the problems occurred are:

- (1) Manual process is timely and has become old-fashioned as the business rapidly grows.
- (2) Keeping inventory records, bookkeeping and maintenance is getting harder as Catalog of the company grows. This takes a longer period of time to process simple actions.
- (3) Not all the items available can be put into the showroom; more place is needed for the things to place and high security is necessary as well. As the store is physical, therefore of high risk, because we have to take care of the showroom and then at the place kept after the store is closed.
- (4) Customers' data is kept in the books and sometimes take a long time just to deal with the customer. This is also the reason why sometimes customer service takes a long time because information needs to be cross checked.

2.4 Existing Computer System

Only the manager at different branches has a stand alone personal computer in the offices. No networking or Internet connection is available at the moment to help them in a way of research or communication. Purpose of that computer is to simply help prepare some reports from the manual records to present it to the management. The main applications used are Microsoft Word and Microsoft Excel. All the database of merchandises and customers are kept in the normal ledger books. Manual handling is done whenever any customer places an order to make the jewelry or so. Even when its

time to reorder any of its raw materials, manual scrutiny is needed to be done before to see how much stock is available in hand and how much should be reordered.



III. THE PROPOSED SYSTEM

3.1 System Specifications

The proposed scheme is that company should use the website to promote its products and use the Internet medium as a way to advertise and attract more customers. With the use of the Computer System, which includes the use of computers and Internet technology, the company could lower its expenditures and could gain more profits. It becomes easier to handle the things online as anybody could access the website from anywhere, anytime and at their own convenience.

The system will facilitate the various processes of the physical shop as well and solve the problems taking place from the existing manual processes. Punjab Jewelers desires to offer the effective response to the customers' requests with the computerized database and information system, in order to gain more customer contentment and which will lead to more sales.

According to the previous chapter, Punjab Jewelers now insists to use effective techniques to sell the products to customers and handle information professionally. The organization wishes to offer efficient response to the customers', to give them an opportunity to buy things at their own convenience, as people, these days, tend to make themselves more relaxed and prefer things the trouble-free way. This can attract more customers and give them more satisfaction to do shopping while they are working, relaxing or just having fun time with their family members.

This is what people call freedom and not attached with any strings. Giving more ways for the customers to do shopping and make them interested into buying process, rather than coming to physical stores and then try to find something they like. Physical shopping requires more time than the new technology or the Internet way.

The proposed plan is that the company should use the website to bolster its products and use the Internet agent as a way to promote and invite more clientele. With the use of a Computer System, which includes the use of computers and Internet technology, the company may well lower its expenses and make bigger profits. It develops into an easier way of handling things online as anybody can access the website from wherever, anytime and at their own expediency.

In order to achieve the target, the new proposed system should have the requirements as follows:

- (1) Website encompassing all the information about the products and company.
- (2) Should be simple enough for the visitors and customers to look around the website for different products, without being lost.
- (3) Should be easy enough to create, update and delete information concerning to the management request, such as old product information.
- (4) Security for online shopping.
- (5) Database replacing the manual system to facilitate all the departments to systematically keep track of customer contacts and solving problems taking place from the current manual system.
- (6) Staff members should be able to print requested reports, such as merchandise certificates, receipts and invoices etc rather than lettering them by hand.

3.2 System Design

The new system is created to meet all the users' requirements as described earlier. New website and database are designed under the Client-Server architecture. The design phase expands and details the analysis by taking into consideration all the technical insinuations and precincts. The proposed design is to specify a working solution that

can be easily translated into programming code such as website, database; communication and so on.

The objectives of the design are to improve the resource efficiency and reduce cost and additionally making the maintenance and modification easier to oversee. From the clients view making the website interaction and navigation easy enough for them to search around, place orders and communicate with the company.

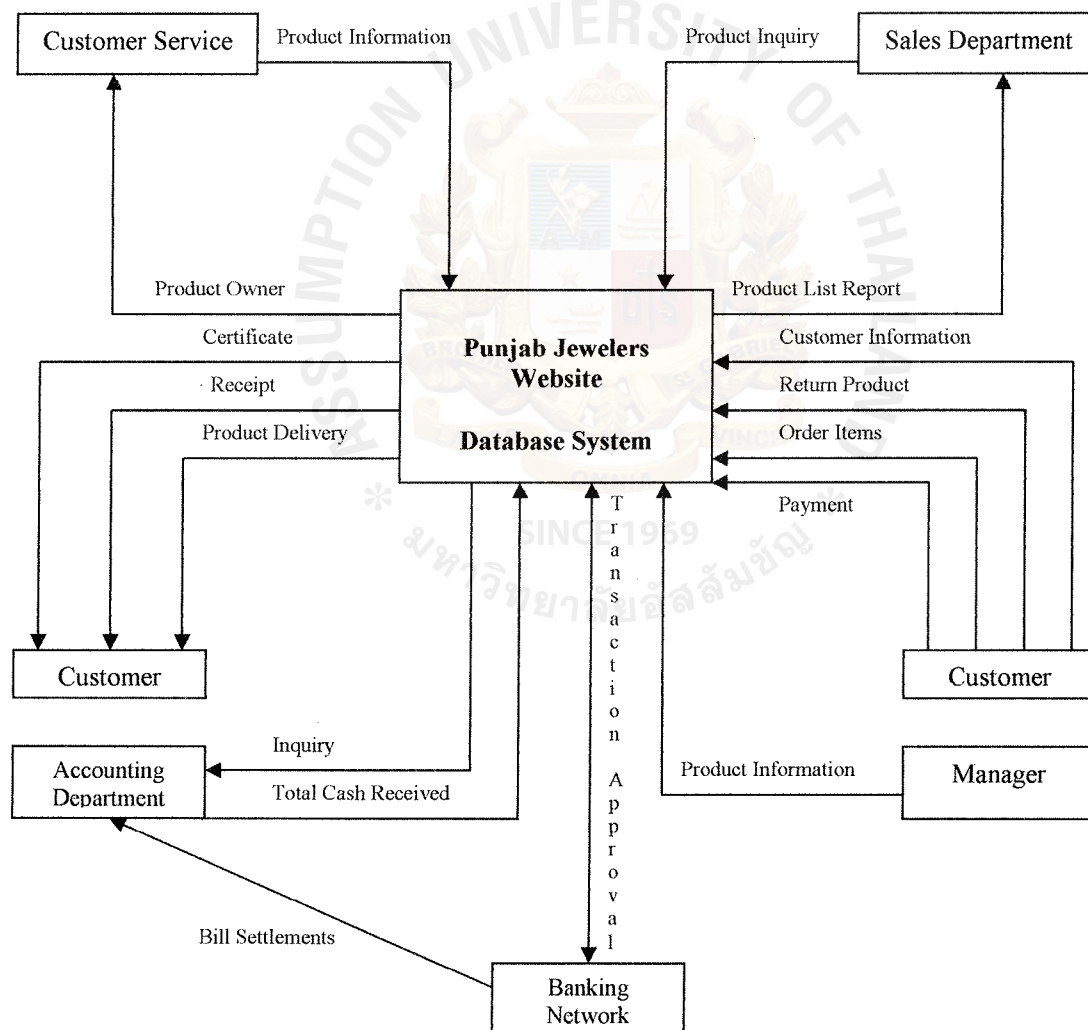


Figure 3.1. Diagram of Interaction with the Proposed System.

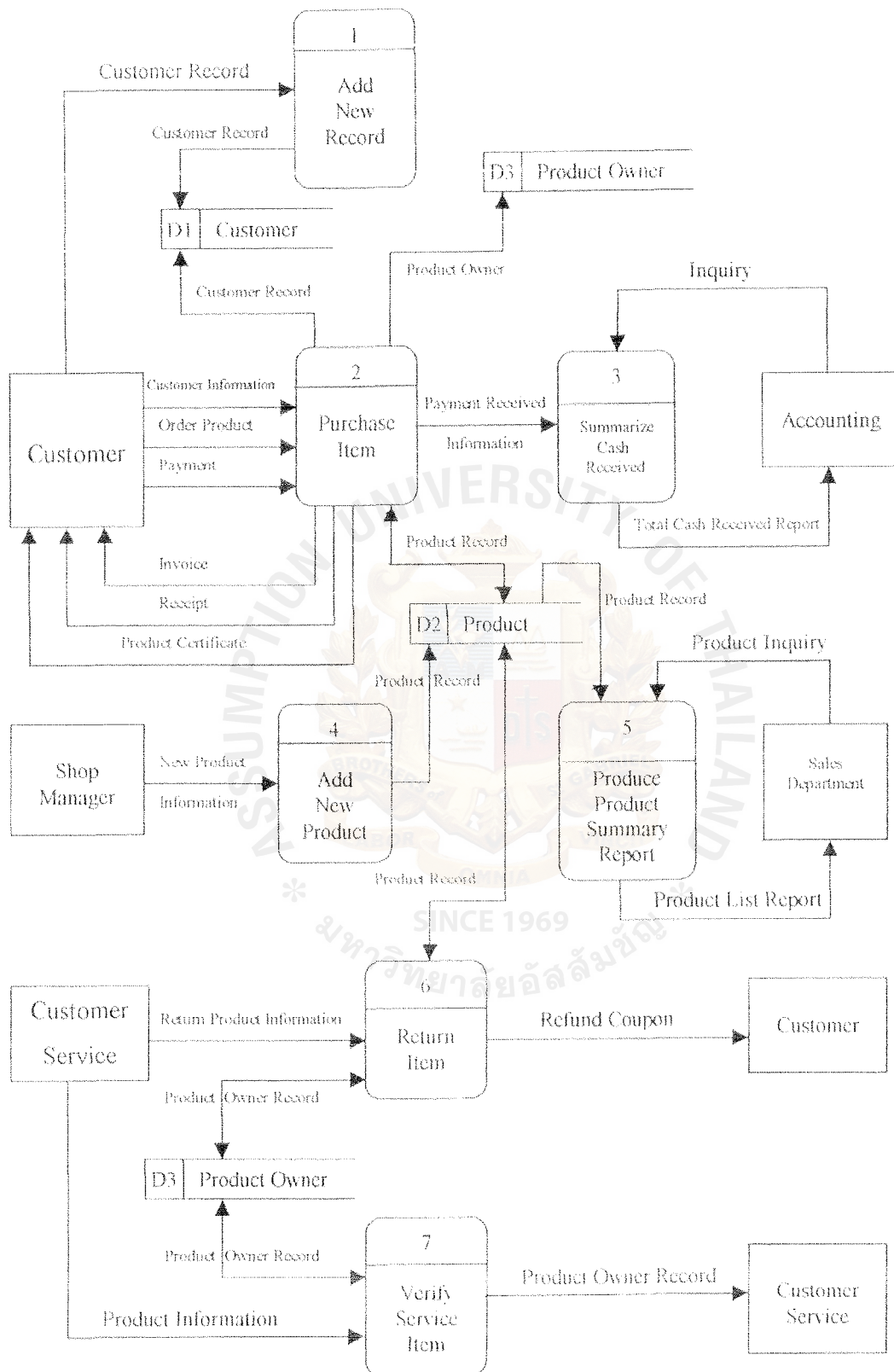


Figure 3.2. Data Flow Diagram of the Proposed System.

In Figure 3.2 above, the design system has also defined the data flow diagram which includes seven processes in the new system as follows:

- (1) Add New Record - This module is used to insert new customer records into the database, update existing record on database and delete existing record from database. The basic data construction consists of Customer Name, Address and Telephone number.
- (2) Purchase Items - This module is for the Sales Department, when customer places an order. The process is used to create invoices, receipts, print certificate and send the chargeable amount and invoice number to Process 3. The basic data construction consists of Customer Record, Product Record and Term of Payment.
- (3) Summarize Cash Received - This module is for purpose of calculating the actual cash received for Accounting Department. The process will determine the term of payment and then subtract any sub-charges. The basic data construction consists of Invoice Number and Term of Payment.
- (4) Add New Product - This module is for entering the new product information into the system, which will be done by the shop manager. The basic data construction consists of Product Code, Product Name, Product Description and Product Price.
- (5) Product Summary Report - This module is for retrieving the product information and print report as requested. The basic data construction consists of Product Code, Product Name, Product Description and Product Price.
- (6) Return Item - This module is for retrieving the product information to be returned. Then process will calculate the after deduction amount or amount

to be paid for the exchanged product. The basic data construction consists of Product Code, Product Name and Product Owner Record.

- (7) Service Item - This module is for verifying the product to be serviced by customer. All the products must be verified to provide the free service to the customers. The basic data construction consists of Product Code, Product Name and Product Owner Record.

3.3 Hardware and Software Requirement

To serve the new system, company website and the database system, personal computers are the main communication devices for the man and machine interface. Four computers are required to be installed, one at the manager's office is already available and can be connected as well and one out of them must be installed as server to control all the other computers, making all the computers interconnected so that all the computers work like Local Area Network (LAN).

Server will be used to store all the database and allowing file sharing between different departments and staff members. The personal computers then will be connected together from each department, such as Manager's office, Sales Department, Customer Service and Accounting Department.

As seen in Figure 3.2 below, we can see that there is one server and another four clients, installed in the new system, plus we have the E-Commerce Service Provider which will provide the company with the Internet access and hosting of the website plus other features. The server is also connected with the Dot Matrix printer to print out invoices at the Sales Department and Laser printer at the Manager's office for the report printings and all. With this Manager also has control over what reports are printed and the facilities available are not used for personal purposes.

The server would also be able to connect to internet to check the website status, such as online orders, customer services. Mainly personal computers would be used to help staff members in a way that they can do their work better and more efficiently. For example Merchandise Certificates looks much better printed than hand written; customer information can be easily found and sorted in the database and can provide faster interaction with the customers.



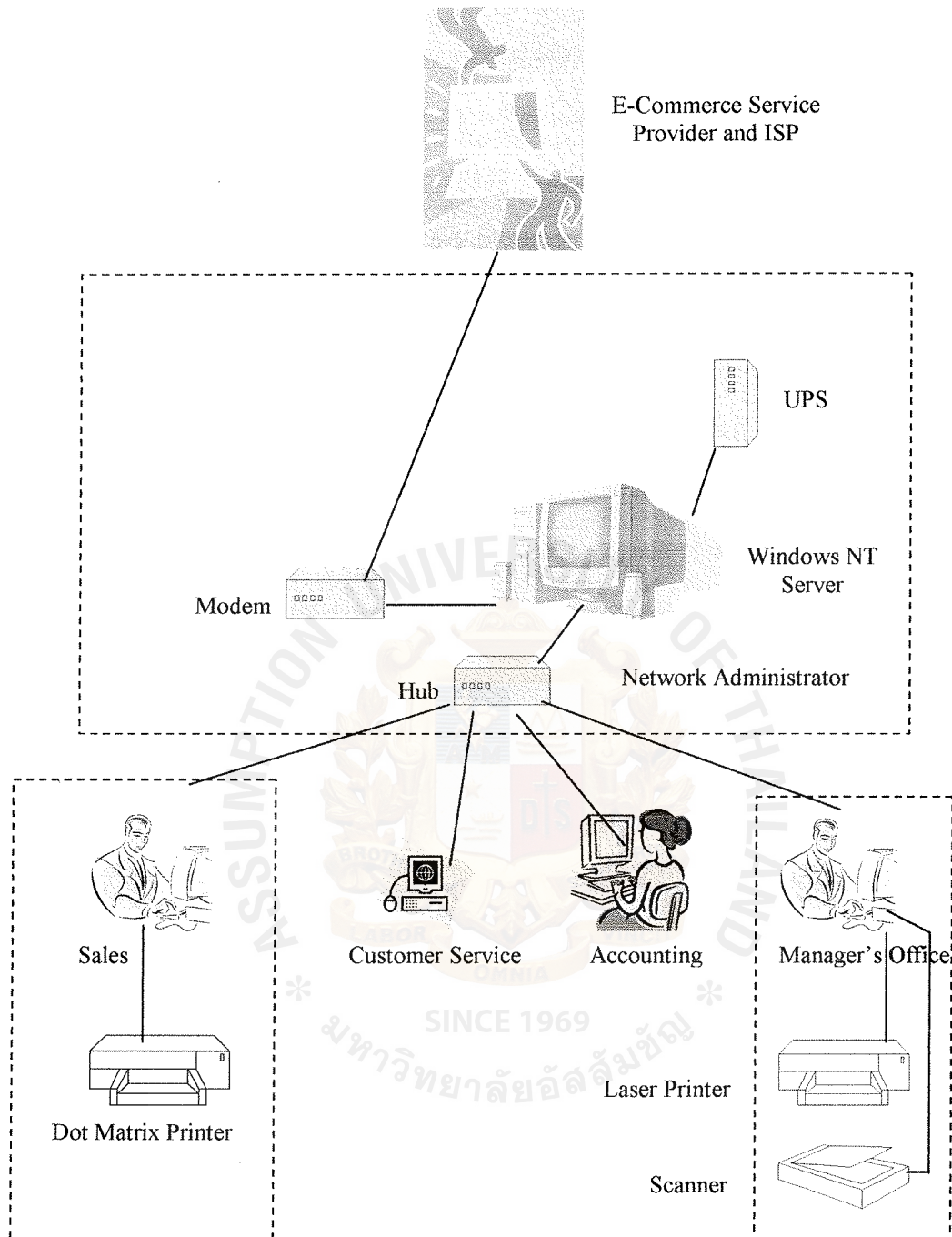


Figure 3.3. Hardware Configuration.

Microsoft has provided mostly all the software, which can transform a normal Personal Computer into a fully working server, such as Application Server and Database Server. Mainly the installation of Windows NT converts a Personal Computer to a server as Windows NT is designed for Server and provides all the functionalities even though installed on a normal PC. Mostly all the developers use Visual Basic language to develop Front-end Software which are compatible with all the Microsoft products. Mostly all software are designed to integrate with Microsoft Windows, therefore software can be easily upgraded in the future as well for the future projects.

Company has decided to use the Microsoft Office 2000 suite which seems to be more reliable than Microsoft Office XP suite, as major software for the purpose of interaction between the LAN users. The hardware and software specifications are shown in Tables 3.1 and 3.2 correspondingly.

Table 3.1. Hardware Specification for the Server.

Hardware	Specification
Central Processing Unit (CPU)	Pentium III 700 MHz or higher
Cache Memory	256 KB or higher
RAM Memory	128 MB or higher
Hard Disk	20 GB or higher
CD-ROM Drive	52X or higher
Floppy Drive	1.44 MB
Network Adapter	Ethernet 10 Base T
Display Adapter	SVGA card
Display	17" screen Monitor
Printer	Dot Matrix and Laser Printer
Uninterrupted Power Supply (UPS)	220 Vac, 50 Hz, 20 Amp

Table 3.2. Software Specification for the Server.

Software	Specification
Operating System	Microsoft Windows NT 4.0
Web Server	Microsoft IIS 2.0
Application Server	Microsoft ASP
Database Server	Microsoft SQL Server 6.5

In the Punjab Jewelers Database system, the client machines will have enough capacity to run the Front-end applications and Web Browser, such as Microsoft Internet Explorer, Netscape Navigator and the Microsoft Office 2000 applications. In general it should give a hardware specification high enough to run Microsoft Windows 98 and Microsoft 2000, as Windows 98 is faster and more reliable than other Windows and does not need high specifications to run on a personal computer, which will save costs as well. The hardware and software specifications for each client machine are shown in Tables 3.3 and 3.4 respectively.

Table 3.3. Hardware Specification for the Each Client Machine.

Hardware	Specification
Central Processing Unit (CPU)	Pentium III 500 MHz or higher
Cache Memory	256 KB or higher
RAM Memory	68 MB or higher
Hard Disk	10 GB or higher
CD-ROM Drive	52X or higher
Floppy Drive	1.44 MB
Network Adapter	Ethernet 10 Base T

Table 3.3. Hardware Specification for the Each Client Machine (Continued).

Hardware	Specification
Display Adapter	SVGA card
Display	15" screen Monitor
Printer	Dot Matrix and Laser Printer
Uninterrupted Power Supply (UPS)	220 Vac, 50 Hz, 20 Amp

Table 3.4. Software Specification for the Each Client Machine.

Software	Specification
Operating System	Microsoft Windows 98
Web Browser	Microsoft Internet Explorer 5 or higher
Application Software	Microsoft Office 2000

We do need Ethernet adapter for the client machines as well; otherwise the Server and client computers cannot establish the connection to share the information together.

3.4 Security and Control

The proposed system has three levels of user verification processes. These user verification processes compose of the authorized username and password, but only the username verification does not always guarantee one hundred percent security. The users of the system will be divided into seven levels of authorizations as depicted in the Table 3.5 below.

Table 3.5. Authorization of the System.

Level	Description	RU	WU	RP	WP	PC	UM	NM	DM	AM
0	Unauthorized User	X	X	X	X	X	X	X	X	X
1	Guest	√	X	X	X	X	X	X	X	X
2	Data Entry	√	√	X	X	X	X	X	X	X
3	Officer	√	√	√	X	X	X	X	X	X
4	Supervisor	√	√	√	√	√	√	X	X	X
5	Administrator	√	√	√	√	√	√	√	√	X
6	Manager	√	√	√	√	√	√	√	√	√

RU Read unprotected information

WU Write unprotected information

RP Read protected information

WP Write protected information

PC Password change

UM User Management

NM Network Management

DM Database Management

AM Administration Management

Data encryption and decryption engine is installed in the system as well, to make sure in case any intruder enters the system, he cannot read the encrypted information. This ensures more security levels to the system. Likewise database will only store encrypted data and to decrypt the information and make it readable a person must know which data encryption is used and how to convert data back to readable format. This will make the intruder's job harder to find readable information from the system.

3.5 Cost and Benefit Analysis

(1) Costs of Manual System

Table 3.6. Manual System Cost Analysis, Rupees.

Cost Items	Year				
	1	2	3	4	5
<u>Fixed Costs</u>					
Typewriter (1 unit)	8,000	-	-	-	-
Calculators (5 units @ 400)	2,000	-	-	-	-
Total Fixed Costs	10,000	-	-	-	-
<u>Operating Cost</u>					
<u>Salaries</u>					
Manager (1 @ 30,000 per month)	360,000	396,000	420,000	444,000	480,000
Salesperson (3 @ 8,000 per month)	288,000	324,000	360,000	396,000	432,000
Accountants (4 @ 9,000 per month)	432,000	480,000	528,000	576,000	624,000
Total Annual Salary	1,080,000	1,200,000	1,308,000	1,416,000	1,536,000
<u>Office Supplies & Miscellaneous Cost</u>					
Utilities (per annum)	40,000	46,000	50,000	55,000	61,000
Stationary (per annum)	30,000	35,000	38,000	42,000	47,000
Paper (per annum)	136,000	145,000	153,000	160,000	172,000
Miscellaneous (per annum)	60,000	63,000	67,000	72,000	80,000
Total Annual Office Supplies	266,000	289,000	308,000	329,000	360,000
Total Annual Operating Cost	1,346,000	1,489,000	1,616,000	1,745,000	1,896,000
Total Manual System Cost	1,356,000	1,489,000	1,616,000	1,745,000	1,896,000

Table 3.7. Fives Years Accumulated Manual System Cost, Rupees.

Year	Total Manual Cost	Accumulated Cost
1	1,356,000	1,356,000
2	1,489,000	2,845,000
3	1,616,000	4,461,000
4	1,745,000	6,206,000
5	1,896,000	8,102,000
Total	8,102,000	-

(2) Costs of Computerized System

Table 3.8. Computerized System Cost Analysis, Rupees.

Cost Items	Year				
	1	2	3	4	5
<u>Fixed Costs</u>					
<u>Hardware Cost</u>					
Computer Server with UPS	55,000	55,000	-	-	-
Workstations (4 @ 31,500)	126,000	126,000	-	-	-
Laser Printer	55,000	55,000	-	-	-
Dot Matrix Printer	8,500	8,500	-	-	-
Scanner	12,000	12,000	-	-	-
Token Ring Hub	13,500	13,500	-	-	-
Total Hardware Cost	270,000	270,000	-	-	-
<u>Network Cost</u>					
Domain Name Registration	1,500	1,500	1,500	1,500	1,500
Website Development	30,000	-	-	-	-
Internet Service charges	24,000	24,000	24,000	24,000	24,000
Total Network Cost	55,500	25,500	25,500	25,500	25,500
<u>Software Cost</u>					
Microsoft Windows NT 4.0 & 98	15,000	15,000	-	-	-
Microsoft Office 2000	6,000	6,000	-	-	-
Total Software Cost	21,000	21,000	-	-	-
<u>Implementation Cost</u>					
Training	20,000	20,000	-	-	-
Setup	32,000	32,000	-	-	-
Total Implementation Cost	52,000	52,000	-	-	-
Total Fixed Costs	398,500	368,500	25,500	25,500	25,500
<u>Operating Cost</u>					
<u>Salaries</u>					
Manager (1 @ 33,000 per month)	396,000	414,000	432,000	456,000	480,000
Administrator (1 @ 15,000 per month)	180,000	198,000	216,000	240,000	264,000
Salesperson (2 @ 9,000 per month)	216,000	240,000	264,000	288,000	300,000
Accountants (1 @ 10,000 per month)	120,000	132,000	156,000	180,000	198,000
Total Annual Salary	912,000	984,000	1,068,000	1,164,000	1,242,000
<u>Office Supplies & Miscellaneous Cost</u>					
Utilities (per annum)	40,000	46,000	50,000	55,000	61,000
Stationary (per annum)	15,000	17,500	19,000	21,000	23,500
Paper (per annum)	36,000	45,000	53,000	60,000	72,000
Miscellaneous (per annum)	30,000	31,500	33,500	36,000	40,000
Total Annual Office Supplies	121,000	140,000	155,500	172,000	196,500
Total Annual Operating Cost	1,033,000	1,124,000	1,223,500	1,336,000	1,438,500
Total Computerized System Cost	1,431,500	1,492,500	1,249,000	1,361,500	1,464,000

Table 3.9. Fives Years Accumulated Computerized System Cost, Rupees.

Year	Total Computerized Cost	Accumulated Cost
1	1,431,500	1,431,500
2	1,492,500	2,924,000
3	1,249,000	4,173,000
4	1,361,500	5,534,500
5	1,464,000	6,998,500
Total	6,998,500	-

- (3) The Comparison of the System Costs between Computerized System and Manual System

Table 3.10. The Comparison of the System Costs, Rupees.

Year	Accumulated Manual Cost	Accumulated Computerized Cost
1	1,356,000	1,431,500
2	2,845,000	2,924,000
3	4,461,000	4,173,000
4	6,206,000	5,534,500
5	8,102,000	6,998,500

As shown above in the table, it can be seen obviously that the cost difference between the manual system and the computerized system is only in the first and second year of implementation of new system, which is

mostly from the Hardware and Software installation and the training course made available to learn the new system.

However in this case we cannot determine the cost and benefits from the Mathematical statistics, since the increasing cost came mainly from the computerized installation and while the benefits gained came from the re-entry of the lost customer or so called the opportunity. Less staff needed to handle the tasks, which also reduces costs since more tasks could be carried out with the use of a computerized system.

(4) Benefits

From the above explanation, we can say that benefits came in aspects of tangible and intangible benefits. A new proposed computerized system will show the benefit of its utilization as follows:

(a) Tangible Benefits

Certainly after utilization of the new system, Punjab Jewelers can serve customers with full satisfaction in terms of speed and accuracy. The shop can serve more customers than ever and can serve as many as the number of incoming customers, which means that company sales volume certainly will increase.

Payback Period

$$\text{Payback Period} = \frac{I}{(1+T)*R} - 1$$

Where I = Investment

T = Tax Rate

$$R = \text{Annual Saving}$$

$$\text{Total Investment} = \text{Cost of Hardware} + \text{Cost of Software} + \text{other expenses}$$

$$= 6,029,801.00$$

$$\text{Tax Rate} = 0.10$$

$$\text{Annual Saving} = 3,129,455.92$$

$$\text{Payback Period} = \frac{6,029,801.00}{(1+0.10)*3,129,455.92} - 1$$

$$= \frac{6,029,801.00}{3,442,401.512} - 1$$

$$= 7.5 \text{ months or } \cong 8 \text{ months}$$

Net Present Value (NPV)

Net Present Value is a discount cash flow approach based on the present value of money in the period of time. The Net Present Value formula is shown below:

$$\text{NPV} = \frac{R}{(1+k)^1} + \dots + \frac{R}{(1+k)^n} - \text{PV}$$

Where

$$\text{NPV} = \text{Net Present Value}$$

$$\text{PV} = \text{Cost of Proposed System} = 6,029,801.00$$

$$R = \text{Cash Inflow or Annual Savings} = 3,129,455.92$$

$$K = \text{Interest Rate or Discount Rate} = 7.5\%$$

$$N = \text{Number of Years saving Available} = 5 \text{ Years}$$

$$\text{NPV} = 4,628,562.35$$

From the calculation above we can conclude that after using the new proposed system instead of manual, the payback period will be within 8 months and NPV

calculation shows a positive figure, assuming that discount rate is 7.5% for the next 5 years.

Therefore, it will be worth bringing in the proposed system of introduction of the website and computerized system, instead of manual system continuation and opening new physical store in USA.

The details regarding the payback analysis for the proposed system with the approximate costs and benefits which the company may incur during the coming period of 5 years for the proposed system, is shown in Tables 3.11 and Figure 3.3 respectively. Figure 3.4 is used to present the break-even point analysis to see when the company will break-even and start making profits onwards.

(b) Intangible Benefits

Intangible benefits are the expected benefits from this project. The trigger of this project is that the company wants to open a new business in USA and at present is using manual processing, which causes lack of accuracy and slow in processing. Therefore, after implementation of the new proposed system and good training process, those problems can be solved and these can't be measured in terms of money.

Servicing will become a lot easier with higher speed of processing requests the most important factors, which surely will help make more customers satisfied.

Table 3.11. Payback Analysis for the Proposed System, Rupees.

Cost Items	Year				
	0	1	2	3	4
Development Cost	-1,431,500.00	-1,492,500.00	0.00	0.00	0.00
Operations & Maintenance	0.00	0.00	-1,249,000.00	-1,361,500.00	-1,464,000.00
Discount factor of 7.5	1.000	0.925	0.856	0.791	0.732
Time adjusted costs (adjusted to present value)	-1,431,500.00	-1,380,562.50	-1,069,144.00	-1,076,946.50	-1,071,648.00
Cumulative time-adjusted costs over time	-1,431,500.00	-2,812,062.50	-3,881,206.50	-4,958,153.00	-6,029,801.00
Benefits derived from operation of new system	0.00	2,157,264.00	3,005,546.00	3,742,972.00	4,275,213.00
Discount factor of 7.5%	1.000	0.925	0.856	0.791	0.732
Time adjusted benefits (adjusted to present value)	0.00	1,995,469.20	2,572,747.38	2,960,690.85	3,129,455.92
Cumulative time-adjusted benefits over lifetime	0.00	1,995,469.20	4,568,216.58	7,528,907.43	10,658,363.35
<i>Cumulative time-adjusted costs + benefits</i>	<i>-1,431,500.00</i>	<i>-816,593.30</i>	<i>687,010.08</i>	<i>2,570,754.43</i>	<i>4,628,562.35</i>

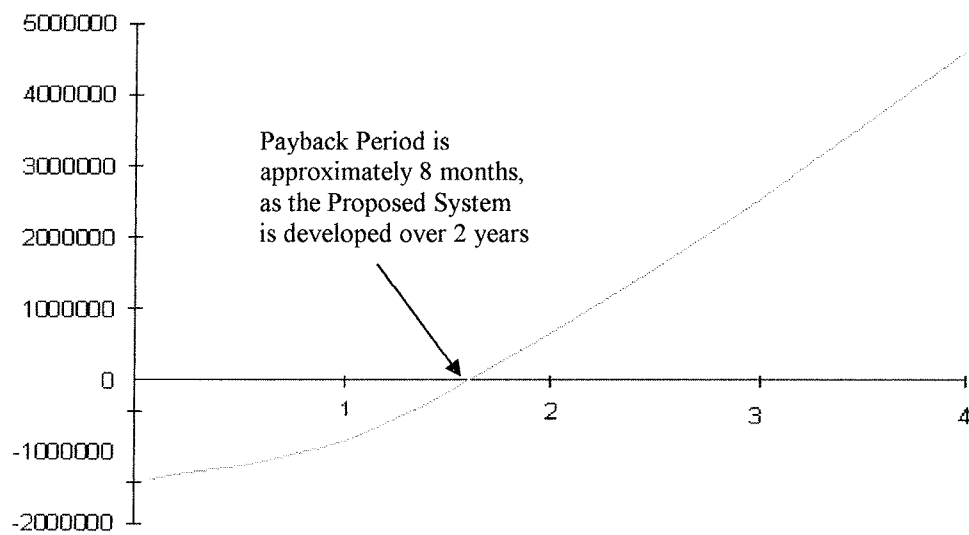


Figure 3.4. Payback Analysis.

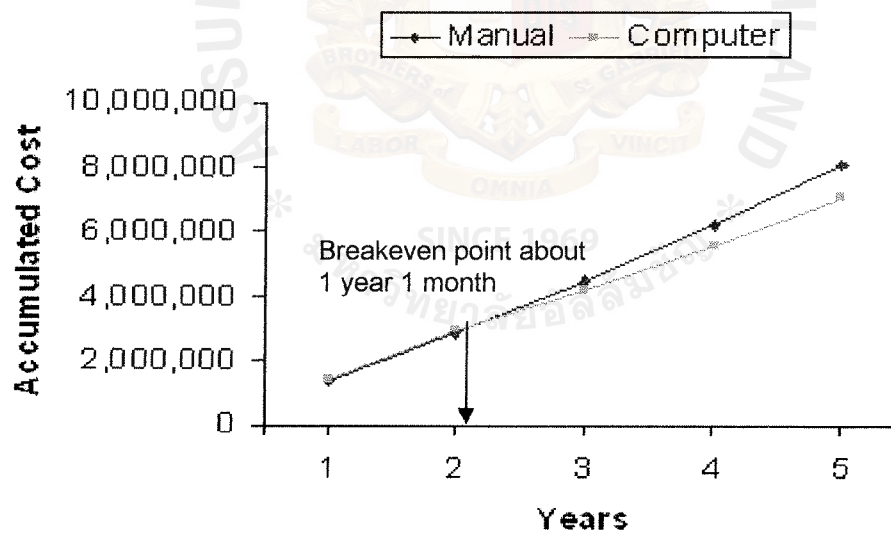


Figure 3.5. Cost Comparisons between Existing System and Proposed System.

IV. MARKETING ANALYSIS

4.1 Benefits of the Internet

Some of the main general benefits of being connected to the Internet for any business would be:

- (1) Reduce the costs related to business development.
- (2) Test market new products and services.
- (3) Take advantage of the newest technologies involved with the Internet and the WWW to more effectively find and serve customers/clients on a global scale, increasing sales and profits.
- (4) Provide top-notch, on-line support for customers.
- (5) The costs of using the Internet and the WWW are much less than they would be for using conventional methods of marketing/advertising, with 24 hours per day, 365 days per year exposure in a more cost-effective way (regional, national and international).
- (6) You can promote your products and site in a number of ways so that people will find and use it.

Most people get into internet marketing because it looks like a good way to make money from home. These people usually don't realize that initial sales are only a small piece of the pie. The Internet has created an interesting paradox in the world of business. Email, in particular, has created an informal communications environment where the emphasis is on speed of thought. However, at the other end of the spectrum, the ecommerce website is a very formal environment where the user wants precise information.

Both of these developments are having major impacts on business and are changing the very shape of the organization as we enter the new millennium. The Internet challenges the organization to be both formal and informal, to be highly flexible and yet highly structured.

In The Digital Age or Internet Era, it pays to care. Many of the products made today are becoming commodities with the same basic components and performance levels. To differentiate itself, a company can start by using the Internet to engage with its customers more, seeing them as partners so as to develop solid, long-term, mutually profitable relationships. By developing products that truly match customer needs, by focusing on service and by being friendly and helpful.

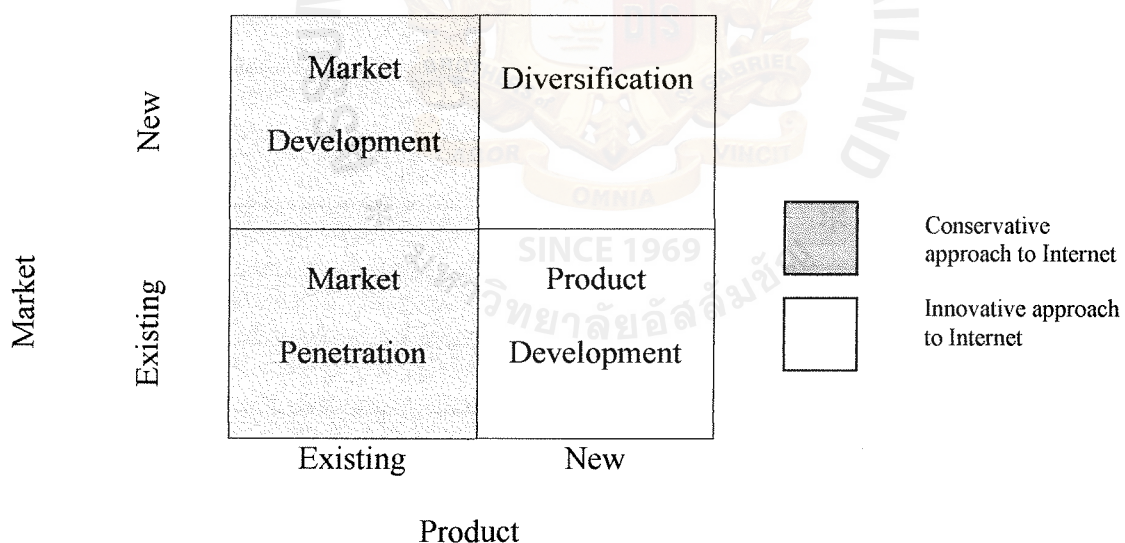


Figure 4.1. Market and Product Strategy Grid.

4.2 Target Customers

Old customers would be added into the target as well, because all the businesses do depend a lot on the repeat sales to the old clients. When selling on the internet its really hard to setup the target segment, therefore the target customers will also include people who are interested in buying jewelries and related products and this could be categorized into experienced and inexperienced buyers.

It is vital that we are able to look at the world with fresh eyes and are willing to learn new things, new business practices. It is vital that we take nothing for granted; that we assume nothing, that we question everything and that we particularly question the things that we believe to be absolutely true. Because setting up target customers is a very crucial assignment and can severely affect the whole business, such as wrong segment.

4.3 Why to Sell Online?

If the company decides to open up a store in USA, there are many things that we should keep in mind. For example, if a location is found at a decent rent, say \$1,000.00-\$2,000.00 per month for 1,000-3,000 square feet which is quite difficult to find in decent places, we might consider it. But that's only the very beginning. A security deposit and at least one extra month's rent are standard in most commercial rentals, as are monthly maintenance charges for common areas, parking lot, etc. Then we add store fixtures and perhaps general fix up, painting, flooring, furnishings such as counters and cabinets, alarms, locks, bolts, lighting, cash register, telephones, fax, office desk, chair, accessories, etc. If the person in-charge can't be there all the time, key employees become necessary to deal with every situation. Advertising in local papers, the Yellow Pages, perhaps local cable television, add to the operating expenses as do local business tax, merchant operating license fees, etc.

Before the store is even opened a conservative startup sum is already up in mid-five figures, as a minimum. Unless we can obtain adequate outside financing, starting a store, almost any store, is an expensive proposition that requires much planning, saving, and serious consideration before undertaking. Many jewelry, antiques and collectibles dealers have at one time or another been involved in physical retailing and know this. They may have done very well in it, or not. In any case, they are very much aware of the expenses and hard work a store requires of its owners to even pay for itself and especially to make it a success.

Whether we open a web store or a physical retail store, the inventory of wares must be there. It varies depending on the owner, it should be mentioned though that to open a web-store with less than 100 items on it is hardly worth the bother. On the other hand, there is no shame in starting small and adding to inventory constantly and frequently. It's actually good to do because then there is always something new and fresh to present to customers.

Office supplies, etc., would also be necessary to purchase for a physical store so the cost for them would be similar. However, more printing paper for invoices is probably needed for a web-store and less receipt books as used in a physical store.

Even if we open up a business and then suddenly if the economic situation changes then it could even lead to shutting down the business because of over investing. Asian economy suffered very badly when people were spending more but actually didn't have enough money to payback what they were spending. It led to shut downs of hundreds of companies and an enormous amount of people were unemployed, one situation led to another and another led to another.

The company may have enough money to open up a business at a new situation and bear the cost of closing, but being on the safe side is always a plus. If we plan

things ahead it becomes easier to deal with the situation if in case that situation may come and then those plans could be put into action, so that it leads to less cost expenditure and less risk of losing something.

Company website will help the customers to find what they are looking for and also try to provide the information on the gemstones and jewelry in it. In doing this, the company could generate more customer attention towards the services and try to make them satisfied with the products and services. The company also provides certificates from specialists in the industry to make customers feel more satisfied in that they are buying the original products and not duplicates in anyway.

The company will also provide a guarantee to return the goods within a certain period of time after they have received the goods, if they feel that they have not received what they ordered, such as different stones, diamond, design or if goods have defect in any way at all.

There are many reasons to open up a web-store than a physical store. An Internet website has with the whole wide world for a marketplace! Specially when compared with all the expense, work, limitations and headaches involved in operating a physical store.

Building a website is much cheaper than opening another physical store. Suffice it to say that it all depends on what we want and to whom we turn to. The best website writers employed by graphic design companies and Internet website hosts charge top money while freelancers who often are just as good come a lot cheaper. Still we could figure anywhere from \$500.00 to \$3,000.00+ to have a catalog website designed, from Ford to Cadillac style.

4.4 What Is Needed?

What exactly do we need to setup a web-store is quite simple, the basic brief checklist of the minimum equipment is:

- (1) A computer with Internet access
- (2) A scanner, a printer
- (3) Merchandise inventory: Jewelry, collectibles, etc.

The serious Internet seller usually has an additional camera, a regular photo print ditto, and/or a digital camera, not to mention a separate telephone line for an exclusively-for-Internet connection, or a cable modem or DSL line. Other optional office equipment may include a small photocopier, and a fax machine.

Every web site is quite a wonder of construction and composition. In its most simple form, it's just a page with some information on it, perhaps an image or two, but basically a billboard. An information site may have lots of pages and hundreds of links to interconnecting pages and/or other sites.

But a catalog web site would be necessary for this company, because it belongs in the top category of intricate web designs. Not only does it provide information but also more interaction than many other information-only sites. It has tons of images, descriptions, and hundreds of links to enable navigation among its many category pages, follow up pages, order forms, even shopping carts, internal search engines, and links to other sites as well. It is also constantly changing as merchandise is sold and added.

When selling on the Internet or physical location, delivery of the wares is done by postal mail or package delivery service. Packaging, wrapping such as bubble wrap, Styrofoam "peanuts," tissue paper, cartons, and boxes, are therefore necessary for selling by mail.

Jewelry and fragile collectibles must be properly packaged to arrive in the same condition they left. Poor or sloppy packing of shipments spells amateur about the site owner so this aspect cannot be stressed enough. Broken items because of poor packaging is a big disappointment to the customer and a total loss to the seller. It therefore pays to invest extra effort in insuring that vulnerable items are well protected.

Think of each shipment as a *Most Treasured Keepsake* being sent to your own mother. It can't be replaced if it breaks because there is only one in existence. Should it break, think of how Mother would react, and you, too?

With this mindset when wrapping for postal or parcel service delivery, a mail order package from you should be able to withstand a ride on the space shuttle without anything bad happening to its contents. Based on the above prices and fees ranges, we can calculate an approximate personalized budget for starting the type of web store we envision.

Website is planned, even designed and is ready to launch. Full of wonderful jewelry and collectibles that the company has carefully photographed or scanned, it's awaiting its entry into the wonderful world of the Web, after studying how others do it, shopping policy in place, and even spell-checking all the descriptions that took seemingly forever to compose, complete with sizes and prices.

4.5 SWOT Analysis and Strategies

Below in the Table 4.1 we will find some of the issues discussed and put into the SWOT Analysis for having developing an online store for an already recognized company.

Table 4.1. SWOT Analysis and Strategies.

	STRENGTHS – S 1. Well-known with the people (old customers) 2. Higher product quality 3. Fully integrated, which gives low labor costs	WEAKNESSES – W 1. Not fully exposed with new technology, therefore unaware of all the benefits 2. Has no ventures with other companies yet
OPPORTUNITIES – O 1. Internet industry is growing 2. Interest rates are declining	SO Strategies 1. Could acquire another company 2. Increase in exports, with new system	WO Strategies 1. Form joint venture with companies to serve around the globe 2. New website launched
THREATS – T 1. Unrest in the Middle East could increase product prices	ST Strategies 1. Boosting advertising could come over some of the threats	WT Strategies 1. Launching new website, will attract more people

V. WEB DEVELOPMENT

5.1 Web Structure

The structure of the web is increasingly being used to improve organization, search, and analysis of information on the web. For example, Google uses the text in citing documents for search. We analyze the relative utility of document text, and the text in citing documents near the citation, for classification and description. Results show that the text in citing documents, when available, often has greater discriminative and descriptive power than the text in the target document itself. The combination of evidence from a document and citing documents can improve on either information source alone. Moreover, by ranking words and phrases in the citing documents according to expected entropy loss, we are able to accurately name clusters of web pages, even with very few positive examples.

The following guidelines are implemented to retain consistency of a “look and feel” on the Punjab Jewelers website. The pages within the website will conform to the following guidelines:

- (a) Affiliated sites will not identify themselves as “Punjab Jewelers” and will affirm that they are not OFFICIAL pages of Punjab Jewelers.
- (b) All pages will include a title in the “head” element. The title will reflect the content of the page.
- (c) The Punjab Jewelers logo will be displayed in the upper left of all the pages.
- (d) All links will be made by using relative paths rather than absolute paths. Pages in the same directory will not need paths; however stock images will require a relative path.
- (e) The page title will be displayed on each page.

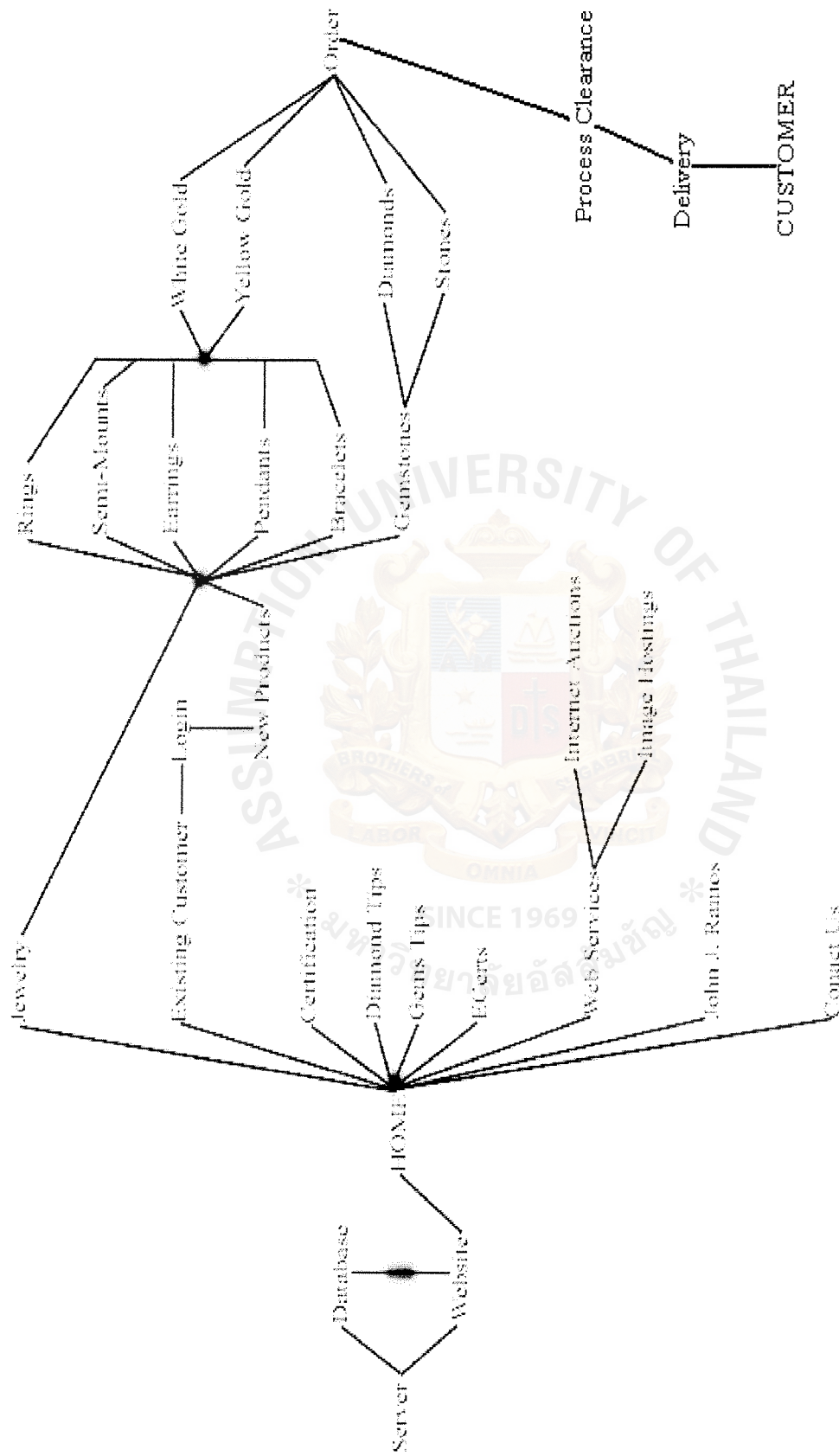


Figure 5.1. Web Structure.

From Figure 5.1 of the Web Structure, we could see that the whole process is made up of many steps and folios. The website itself starts with the main page or so called Home Page, which incorporates all the features provided by the company to the customers through the website.

Home Page includes the Jewelry, Existing Customer, Certification, ECerts, Web Services, John J. Ramos and Contact Us pages which provides customers and visitors with the options to look through the website and the products and services provided by the company.

Jewelry page further provides the links to the Rings, Semi-Mounts, Earrings, Pendants, Bracelets and Gemstone products. This allows customers and visitors to go through all the products that are currently made available to public through the use of website. These products have further links to the products in different categories of White and Yellow Gold options to choose from. When finally if they have made the choice then they can order the products through Internet as well or Contact the company through manual means to make an order.

Website also provides customers with Username and Password so that when they come back again and visit the site they can Login into the system. After they login into the system they then will be taken to the New Products in the category that they are interested in automatically. This is done through checking the history of the customers' visits to the website and the products that they have purchased from the company. All this information should be kept in the database to keep track of all the visitors and customers so that the best services and products could be made available to them to persuade them to come again, with good services and quality products

5.2 Web Development

Mainly there are seven steps that any company or business can follow for the development and designing of any website.

(1) **Website Design** - before we can determine web site's requirements. Web site design concerns encompass a wide range of factors to be considered and evaluated with regard to their effectiveness in supporting website's objectives. These may include, but are not limited to:

(a) **Deciding Scope of Features:** Producing a checklist of web site features that company wants in web site to have. It's always good to visit many websites of similar purpose to generate ideas for your own. Determine the degree of web site sophistication needed and the scope of user interaction that will be provided, e.g., online credit card processing, shopping carts, bulletin boards, chat rooms, site search, etc.

Web Site Design Desired Features Checklist

Prospective Title: _____

Prospective URL: _____

Planned Purpose: _____

BASIC FEATURES

Background Image:_____	Site Search:_____
Photos:_____	Animation Clip Art:_____
Recommend Us:_____	Contact Us:_____
Password Protected Pages:_____	Product Catalog:_____

Figure 5.2. Website Features Checklist.

ADVANCED FEATURES

Chat Room:___	Message Forum:___
Flash/Animation:___	Product Database:___
Streaming Audio/Video:___	Subscription Access:___
Shopping Cart:___	Credit Card Processing:___

Figure 5.2. Website Features Checklist (Continued).

- (b) **Deciding Page Layout & Navigation Scheme:** Estimation of the total number of web pages and name and define the purpose for each one. Plan the positioning and contents of the pages common areas - headers, footers and side-links. Also, deciding upon a navigation scheme that will be consistent throughout the website, because consistency is always needed so that the visitor doesn't get lost in the website in search of simple information. This may be as simple as a static set of side links on every page or as sophisticated as a pull-down cascading menu system which becomes more detailed as you go deeper into the site. Visiting web sites of similar purpose or surfing the internet freely generates quite a lot of ideas of your own and be sure to consider the use of free web design templates to save costs of building website.
- (c) **Determining Keywords:** Doing keyword analysis to determine most effective primary and secondary keyword phrases with respect to search engine positioning, so that whenever somebody key in that keyword in any search engine they could easily find the company website.

- (d) **Drafting the Content:** Producing the text content that will appear on each page. Revision of the rules for incorporating keyword phrases into page content and the specific concerns relative to writing for the internet before beginning.
- (e) **Deciding Artistic Enhancement:** Planning the artistic aspects; graphics, animations and text appearances. Checking out the free web design templates on Psychology of colors, Font selection and Performance considerations always give ideas on what is needed in our website or what is missing.
- (2) **Bandwidth & Web Space Requirement** - Bandwidth allowance (a.k.a. web traffic) and host web space requirements (disk space) must be determined here before we can correctly select any hosting company. It is also necessary to determine what web development software will be used to create the site and whether or not it will require any special host accommodation; e.g. FrontPage2000 and Macromedia Flash produce websites that can only be hosted on specially equipped hosts.

Additionally, if company has decided upon a database driven website, we must here decide what your database requirements will be in terms of the actual database that will be created and the SQL scripting language that will be used to access it. Again, the host selected must accommodate these choices. It is also necessary to know the amount of web space, in megabytes of disk space that will be required from a host to house web site. This must be enough to accommodate web pages (.html files, graphics and multimedia files), any server side scripts that you might be using (CGI, Perl...), any server side database software, traffic logs and email accounts.

It is also necessary to know the amount of web traffic, in gigabytes per month that you will require from a host. This is based on the anticipated number of monthly page views; every page view increases the monthly running total by the pages' size.

As stated above, it is necessary to know whether or not web development software will require host side accommodation. E.g. FrontPage2000 and Macromedia Flash produce websites that can only be accommodated by specially qualified web hosting services.

Additionally, if decided upon a database driven website, the host you select must be able to create for you an instance of this type of database (e.g. an empty MySQL database created in your own area for you to populate) and it must be able to process whatever SQL scripting language that you have decided to use in your web pages HTML to access the database (e.g. PHP).

- (3) Domain Name Registration** - All web sites have an internet "address" in the form of either a DOMAIN NAME or SUB-DOMAIN NAME. FREE web sites usually limit you to a sub-domain name, however, some free website providers allow you to obtain your own fully registered domain name. Free hosted web sites generally require a fully registered domain name.

Fully registered domain names will generally run \$15 - \$35 per year (with a similar one time setup fee) depending on market prices. An example of a fully registered domain name would be "www.yourname.com". Sub-domain names cost nothing; your host will tell you what it is. An example of a sub-domain name would be "www.geocities.com/yourname/".

Here also comes the question, why should the company pay for a fully registered domain name if sub-domain names are provided for free by free host providers? The reason is that unless building a personal or hobbyist web site everyone wants fully registered domain name because one or more of the following reasons may be true:

- (a) Company is required to go with a fee based host provider, because the FREE host providers cannot meet web site needs and fee based hosting services require fully registered domain names.
 - (b) Company wants people to be able to easily remember internet address (www.freehost.com/yourname/ is harder to remember than www.yourname.com).
 - (c) Search engine rankings are an important means of attracting traffic to website and search engines don't rank sub-domain named web sites reliably.
- (4) **Web Hosting** - The vast majority of web sites today, from personal pages to small business e-commerce, rely on the shared web site hosting option. There are many FREE shared web hosting services available that may or may not meet needs. Typically, shared web hosts offer package plans that are an assortment of storage space, traffic allowances, server side software capabilities and management tools. This makes it imperative that you define your web hosting requirements BEFORE you begin the selection process.

Define Web Hosting Criteria: Disk space required, monthly traffic requirements, Software accommodation, Database accommodation, Traffic statistics tool and Control Panel. Selecting at least three or four hosts that satisfy defined requirements is always good. These sites will let you search

for a list of hosts which meet these criteria. Notice that these searchable host databases all claim to perform the same service but don't always give the same results.

- (5) **Website Development** - The method for making the web pages was chosen in Step 2. Basically, till now company should have decided to either use a WYSIWYG editor like FrontPage 2000, or an HTML editor like 1stPage 2000. In this case the company has decided to hire a new person to do the website development and then take care of the computer system after the development and will pay development charges additional to the salary discussed.

- (a) Learn how to use the web authoring software that company has selected, in this situation new employee is hired.
- (b) Producing the web pages on computer.

There are two basic problems when it comes to dealing with browser compatibility issues: they're boring and they're complicated. But for designers, developers, and managers alike, it's essential to grasp these fundamental problems that we face when putting web pages on the Internet. Therefore before putting the site up and running it is essential that we check out that the website made is compatible with all the web browsers. The company has hired a new employee for the computer administration and therefore it becomes his duty to check out all the possibilities of error which may occur before or after the website development.

- (6) **Website Promotion** - Web site promotion by way of proper search engine submission is essential for the web sites to attract more people to come and visit. It's an ongoing effort to get indexed and stay indexed. The company

wants rankings to improve over time - the goal is to be within the top 30 search results in at least one of the major search engines for main keyword phrase, or not ranked at all, because if the company is rated below 30 the chances of people seeing the website are rare as people tend to go to the top most website which comes up after the keyword search is done.

There are many software and sites as well which help many people to submit their sites to different search engines at a time. At this point it becomes the administrator's responsibility to keep the website up-to-date and well into the top rankings of the search engine to make sure that more and more people are attracted towards the company's website.

- (7) **Website Maintenance** – Last step but not the least, making and selling is one thing but keeping up the good work is always an uphill struggle. That's also the same with the website maintenance, people will prefer to go to the sites which have information updated on a regular basis such as weekly or monthly, so that they find something new whenever they go and visit. Main tasks would be Tracking Search Engine Rankings, Link Validation to see that there is no invalid links in the website, Testing Site's Performance to see that visitors doesn't have to wait for long time just to open one page.

5.3 Web Development Process

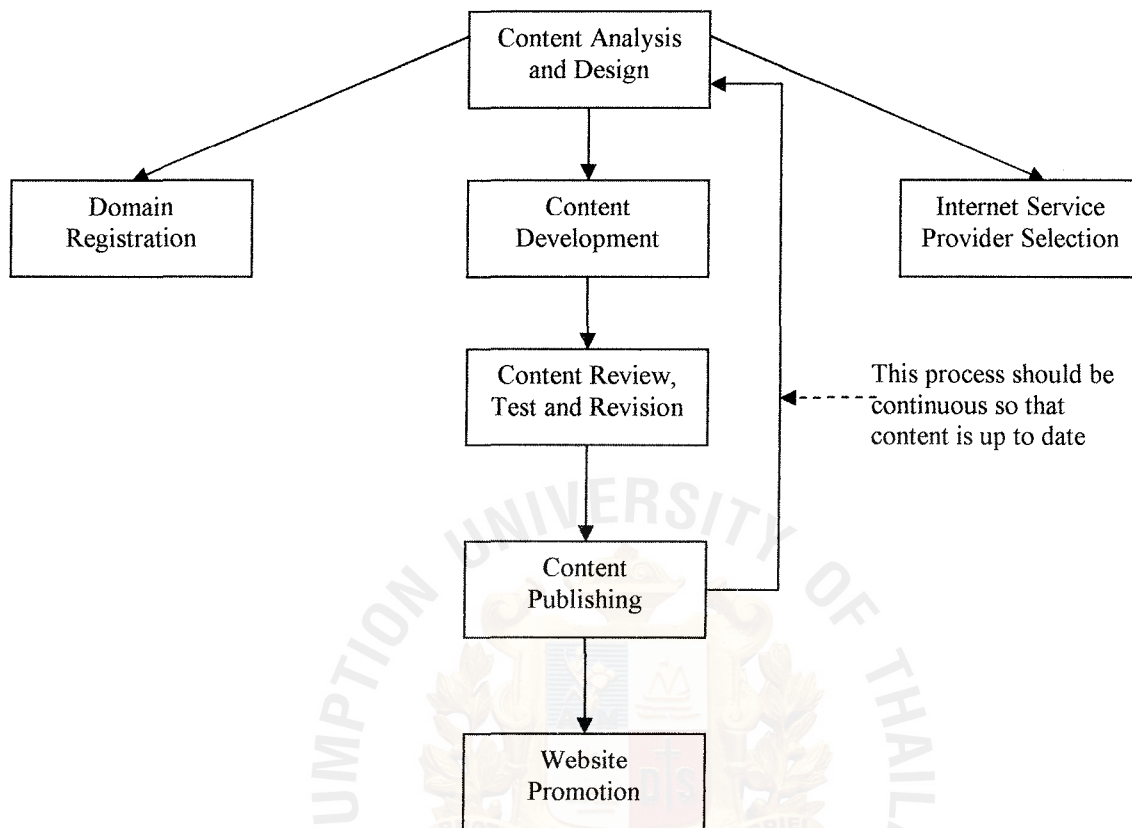


Figure 5.3. Web Development Process Diagram.

5.4 Web Strategy for Achieving Objective

The key success factors for a website design strategy can be summarized in SIX Cs, as mentioned by K. Johnson, *Internet Marketing Strategy: Implementation and Practice*, 2000.

- (a) Capture: there are millions of websites in the Internet mesh and it is highly unlikely that someone may visit some site by chance, therefore designer must promote website timely and efficiently.
- (b) Content: the content is always the key to any website. If the content is not good then it would not attract anyone to the website. If visitors recognize

value then they will visit again and use the services provided. Interactive content, catalog and personalization to every visitor can assist in generating more visitors and customers.

- (c) Community: if website developer can tie together the specialized web communities to the website, then it could also generate great value in repeat visits to the site.
- (d) Commerce: all the contents on website should be designed in a way that it generates additional sales directly or indirectly.
- (e) Customer orientation: in accordance with the mantra of many marketing researchers and authors, customer orientation is the key to all the business and should be the key in the website design as well. To help customers find the information they need, content should be concise and informative.
- (f) Credibility: since Internet is the medium and there are likely to be many competitors, therefore it is important to use the medium to establish that company is reliable and trustworthy. This always attracts more customers to do repeat purchases.

5.5 Finding Customers

How to find customers is a big after question and where are they we don't know. Still it is much cheaper promoting through Internet than promoting your products in newspapers, magazines or billboards. Most of these will cost a lot and could sometimes eat up all the profits gained from the sales.

Our company already has a database of its old customers and could send emails to the ones who already have email address, for everyone that could possibly be interested in your new site. Some customers may have email addresses but it's so new they haven't added it to their cards. Inquire and ask for the email address, add it to your

records. You never know that old customers may now be interested in the wares that company has to offer to them and they come back and buy more.

Another way is to put the website address into the search engines. There are several ways to get the search engines to work for you. One is to engage a company, that for a fee, submits your site to hundreds of search engines. The fees range from \$25.00 to hundreds of dollars, depending on who is doing it and how many search engines to which they submit your site information.

Submitting to search engines is not a one-time thing that you do and then forget. It needs to be done periodically, about once a month to be sure that the information is fresh. But the good news is that you don't need to go to every individual search engine address to submit your site. There are many sites which could do this for you such as www.addme.com

This site goes to many individual search engines, usually with free listings. There is however some where you are asked to pay a fee and you decide if you want to do this when those screens show. There are many free search engines so it's a business decision if you choose to pay for some of them. These submissions must also be done periodically. There are several other good submission sites also; some which may even advertise by email you have received.

Other good places to advertise your site are product-specific bulletin boards, discussion forums on other specialty sites and Usenet newsgroups. Do not just advertise there. Contribute to the discussions with helpful replies to inquiries. Always include your URL link and name of your site under your signature. Plus, you make a new contact every time you are helpful. You may never hear from that particular person but hundreds of other readers saw your post. You will never know how many you actually reached but you can rest assured that your message was seen and remembered.

One of the most important benefits of networking is the exchange of links between sites. Your site linked to as many other sites with similar products or interests is paramount. Do not let up on your promotion of your site. As soon as you do that, you lose visitors and therefore potential customers. Keep up the advertising on a regular basis in the avenues you have chosen.

Thousands of new readers arrive on the Internet daily. They have not seen company's posted messages of several months ago. How are they to find you if you don't show yourself again. Administrator must be diligent and should keep up the never stopping promotion, because that'll be the end of site if the promotion is finished. Work should be done on both the site and promotion continuously. Business will be there, sometimes lots, sometimes not. But it will grow steadily if we adhere to a program of updates and promotion, just a little bit of time is needed and everything needs time though.

5.6 Appearance and Condition

In real estate, the mantra is Location, Location and Location. But in the jewelry business or collection it's all about Appearance and Condition. How do we rate jewelry condition? *Mint, Excellent, Fine, Very Good, Good, Fair, Poor?*

There are almost as many ways of looking at condition as there are jewelry collectors and dealers. And there are variations in how we grow and mature in collecting. The piece that looked *Excellent* to us a few years ago may not look much better than *Good* today as we continue to educate our own eyes and refine our tastes.

Beginner collectors often overlook condition in their excitement of having located particularly interesting or potentially valuable jewelry. They may have read about certain names or signatures in value guides and therefore assume that a name alone means high value. Serious collectors, however, examine jewelry with a 10X or stronger

magnifying glass before they invest in collectible and potentially appreciating pieces. In view of the fact that jewelry and gemstones are normally expensive and can't be bought everyday therefore people have to be careful in selecting and buying process. Over here it's the company's job to make sure that they have the best available products in the market and can make its customers satisfied in all the fields that they may think is a grey area; such as cloudy, dead, chipped, scratched, or poorly replaced stones, chipped enamel, verdigris (that *green stuff*), loose, missing or misshapen components, peeling pearls, broken or missing prongs, worn, missing or discolored plating or coating. These kinds of things normally affects the business a lot because providing goods of high quality is what everyone prefers to buy and also not from somebody who doesn't know how these things should be taken care of.

Many people are often offended if there is evidence of poorly executed attempts at restoration of the jewelry. These may include replacing stones clumsily with the wrong color, size, cut, or even the wrong shade in the same color. For example, clear rhinestones are made in thousands of different variations. If not viewed in strong full spectrum light under high magnification it's very easy to misread the exact shade, tint or facet pattern (cut). Protruding cement or the wrong glue used, poorly inserted stones, and modern replacements of components such as vintage clasps with new lobster claw clasps, are more glaring proof of attempts at restoration at which someone was not very adept or skillful.

Company must look from the point of view of the customers and what they would prefer to buy rather than just making something and then saying here it is and do you want to buy. This kind of selling doesn't work anymore as each and everyday people are becoming more and more conscious about how good a quality of product it is rather than believing on someone else's description.

5.7 Order Handling and Customer Relations

New website with gorgeous collectible jewelry and, lo and behold, here comes your first sale! Very first response to an order is very important. It sets the tone for how you are viewed by your customers, their important first impression of how you handle transactions. Therefore we need to make sure that your acknowledgment, or order confirmation letter, has all the right ingredients in it and clearly states how a transaction with your new site will proceed.

How do we know what should be in an order acknowledgment? It's as easy as it gets we can just ask ourselves what we expect to be told when we order something. Such as, What did I order?, What is my total?, How do I pay for it?, When can I expect to receive it?, How can I send it back if I don't like it?

After the customer has ordered something from the site there should be confirmation email going out from the company as well stating all the details, so that the customer has a record to look at what actually he ordered and what are the niceties. For example, description of the order, total price, sales tax and shipping charge if applicable, a total order amount. Payment options used by the customer, and also including shipping procedure details in each option with an approximate time frame for shipping. Last, but the most important, is the referring to the site guarantee and return policy with specific time limits for notification and receipt of returns and then thanking the customer for doing the shopping with the company.

So that customer is aware of what he has to do in case he receives damaged goods or not the same as ordered. The secret to a smooth transaction over the Internet is that nothing is left up to assumptions or guesses. If we have spelled it out, it should be clear. If we leave even minor details up to the imagination, everyone will use theirs which may not necessarily correspond with what we envisioned.

The Internet can network information in a thousand-and-one wondrous ways, more than we dreamed were possible. It can not do one thing though: Beam a physical object magically to our doorstep. When doing business involving physical objects on the Internet we must therefore rely on shipping companies to transport our wares to customers.

Shipping is a very important part of your website business. How company ships shows what type of company and person you are to your customer who only saw your lovely web site but doesn't know what else to expect. Company has to make sure the way we ship does not disappoint the customers. Everything must be done professionally; it pays in the long run. Not only is customer impressed with the care taken to ship the valuable jewelry he or she has paid in advance, but company can be certain that repeat business will come your way when you have demonstrated how carefully you ship.

What do the customers do when something they can't use or is not what they expected? Well bring them back to the store for a refund or exchange, of course. This practice is so universal today that we don't even think twice about it. We expect the web store to extend this courtesy. Most reputable stores do, with very few exceptions.

Mr. John Wanamaker may be universally known for having invited young Henry Ford to sell his modest automobile from the Wanamaker store at a time when the American car manufacturers actively boycotted it everywhere in the U.S. Wanamaker's was the first dealership that launched the Model T Ford, the car that would change the auto industry and its customers forever.

But for retailers throughout the world, John Wanamaker's name has become synonymous with customer satisfaction as he is the first documented merchant to allow a customer to bring back for refund merchandise that did not suit. Return policies are

now in effect in stores everywhere, but what about mail order purchases over the Internet? Can they be sent back?

Most web catalog stores permit returns and refunds as they agree with Wanamaker's assessment that a good customer is worth keeping. And that no customer is good if he or she does not come back. Therefore having a return policy is always of benefit and not of loss. Therefore a first purchase should never be the last purchase and a generous return policy ensures that it is not.

A good return policy is a web catalog site's first guarantee that every customer will want to be what John Wanamaker noted: "A good customer (that) is worth keeping".



VI. PROJECT IMPLEMENTATION

6.1 Overview of Project Implementation

The project plan could be divided into four stages.

Firstly, to analyze the existing system, in order to spot out the pros and cons of the system. Secondly, define the problems for developing matters of the new system. Thirdly, to gather all the information analyzed and then designing the new system. Lastly, to setup the prototype of the project, in order to do trial and error for the completion and perfection of the new system implementation.

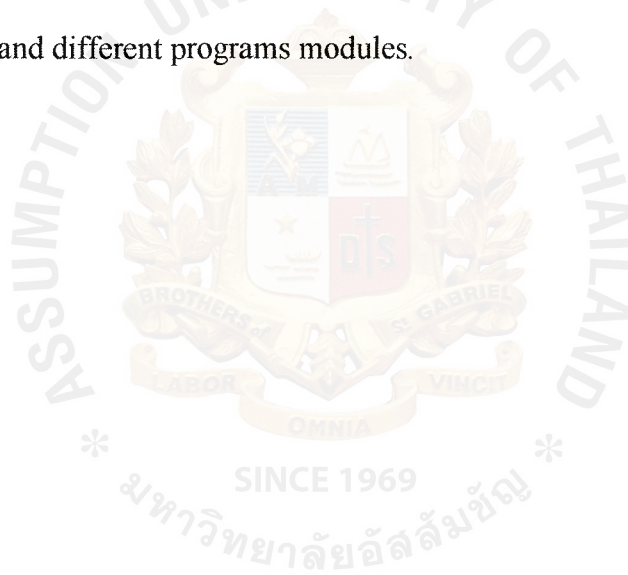
In the beginning it's always possible that the system may have some loop holes, which can only be rectified and changed after testing the system. Sometimes these small points may lead to major risks to the company and its information if not corrected, because information is the key in today's world.

6.2 Test Plan

After the completion of the project, the working group and sample test must be set up and selected. Test planning must be assigned to the working group; objective of this is to ensure that new system, blending with existing system will be used perfectly and efficiently to gain more advantages of the new system. Such as testing that website will not crash down while someone is using and no unexpected errors will occur. During the test plan, in case any mistake or any cracks are found in the system those points still can be rectified before putting the system online and available for the whole community in case of website and database system for the staff members of the company.

Signing off by management is required at this stage of implementation. The major concerns are defined as below:

- (1) System testing to ensure that all programs which make up the new system work properly together.
- (2) Module testing to make sure that each and every module that makes up the programs work suitably.
- (3) Testing and debugging the website and individual program must be completed during the website development and programming task by the development team. Testing concentrates on the website and programs itself in an attempt to make sure that each program works correctly.
- (4) Testing the links to see the upstream and downstream associations between the server and different programs modules.



VII. CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

It can be concluded that the Internet is a valuable complement to a company's traditional marketing strategy and the firms that establish an effective Internet presence at an early stage have a distinct advantage over their competitors.

From the business point of view it is said that there is "no one best way" or "one right way" to perform any action but there is "best way" to do the same job or action. It is also same with the Internet selling. The primary consideration is finding a sales system that fits the company's goods and selling goals and objectives.

The main objective of the Punjab Jewelers is to open up a business in the USA market and this is achieved by developing the company's website to use the web front as the means of opening up a store. It is risky for a company who sells non well-known products in comparison with Ashford.com, Ice.com and Jcpenny.com. Therefore cost and benefit analysis was done to see whether it is feasible to open up the web store or not.

From the cost and benefit analysis we could see that it is feasible to develop a website and use it as another selling medium. We see that the Payback period is within 8 months after the full development is done, which is quite good for any new system. We can also see that the company will start making profits after about 1 year and 1 month. This is also good, because from the company's information we know that they didn't make any profit for the first 3 years when they opened up a branch in Canada.

Therefore we can be confident enough to say that investment in the Internet store front for company promotion and sales is worth more than the investment in the opening of physical store. From the estimated figures we could see that the cost is lesser

than physical system and therefore we can expect to decrease more costs in the future as well. Even if this project cannot decrease further costs, at least it will meet the marketing and promotion goals and attract more customers and bring the company's name and products more knowable within the world wide community through the one big Internet medium at lower costs.

This project presents and confirms positive future of the Internet website of the company by the raw data and estimated figures. This project also presents the wide variety of options to be offered through selling online.

New database system has followed the objectives of the company and created the system with predefined steps. Firstly, the new system has studied the existing system to identify the new development system in every transaction of the existing system. Secondly, analyses of the existing system were done in order to know the real situation of the system to design the new system. The new database system eliminates a lot of lengthy jobs to smaller and easy procedure.

Table 7.1. Degree of Achievement of the Proposed Database System.

Process	Existing System	Proposed System
Add New Product	25 min.	5 min.
Add New Customer	15 min.	5 min.
Purchase	30 min.	10 min.
Summary of Cash Received	25 min.	5 min.
Product Report	90 min.	10 min.
Return Item	20 min.	5 min.
Verify Service Item	25 min.	5 min.
Total Time Consumed	230 min.	45 min.

7.2 Recommendations

Since this system is a delicate project to solve the problem of opening the physical store in USA and problems which occurs from the manual handling of the current system, this also includes the management system to help the managers in the decision making. The website development and the making of the database central and computerized will solve a lot of problems but it's not the whole picture of any organization. There are a lot of aspects which should be considered and developed.

Punjab Jewelers could consider other supporting systems, which could be the integrated accounting system for the whole organization than just having different systems at each of the branches. This will also fulfill the requirements of the central management to see the whole picture of the company.

Local vendors can also open up an online store to become multi-channel players in the Internet, which consists of whole world. It is not easy but still Internet cake is quite big and many more people could take a piece out of it. Customers' relations will no longer be buying and selling, but more onto customer satisfaction. Online strategy should focus on developing long-term strategies that create new revenue opportunities.

To conclude we could say that the system should develop links with the other systems in the future to share more information with each other and departments and also bring in the new technology to be applied to get higher performance in the near future. Internet made the world a small room but this isn't it, if we don't take advantage of it, somebody else will and the world will still be bigger for us.



APPENDIX A

WEB INTERFACE DESIGN

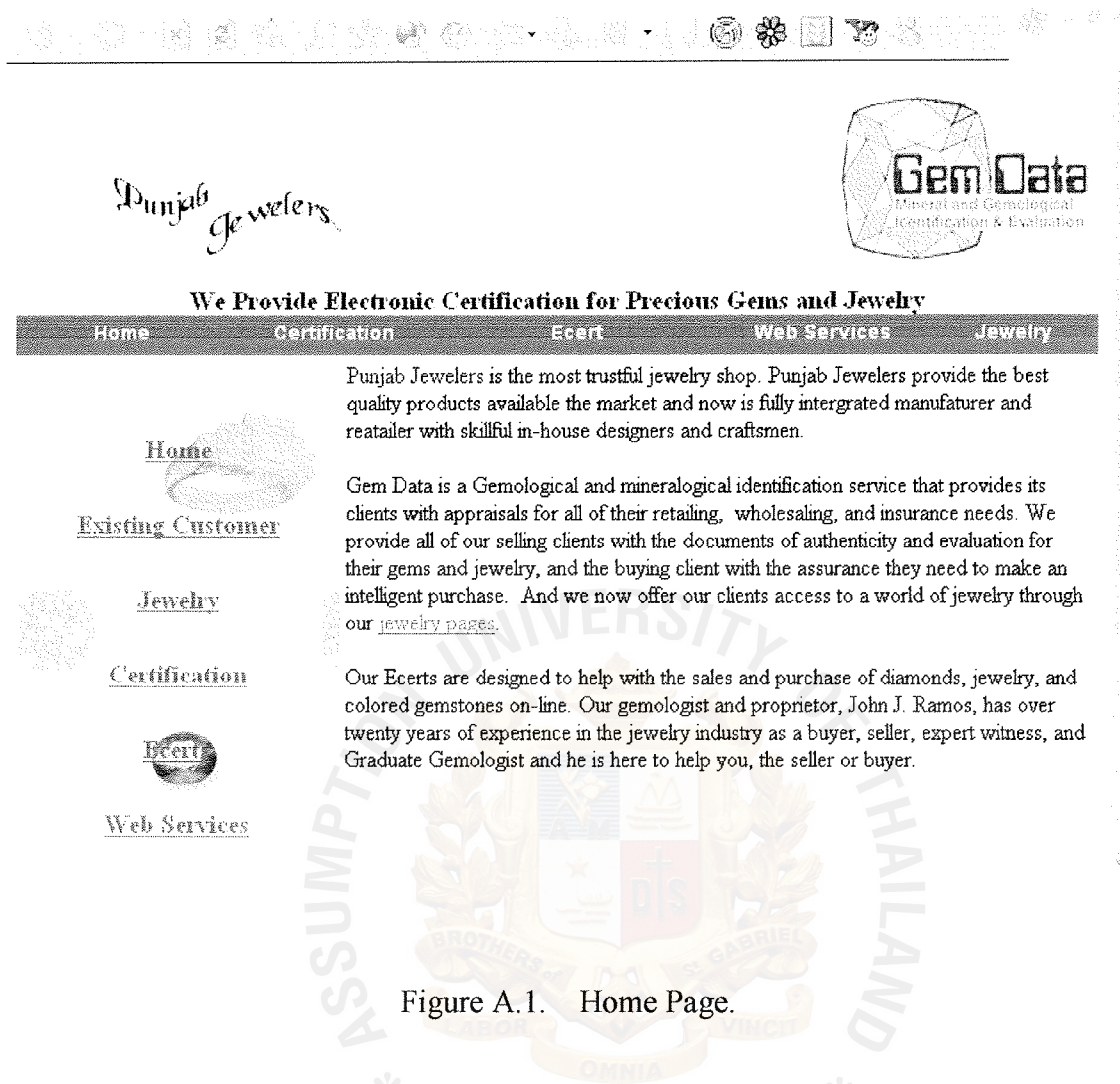


Figure A.1. Home Page.

Home page introduces the company and tells about the company. Company is having in-house workers and also provides certificates from certified Gemologist to its customers.

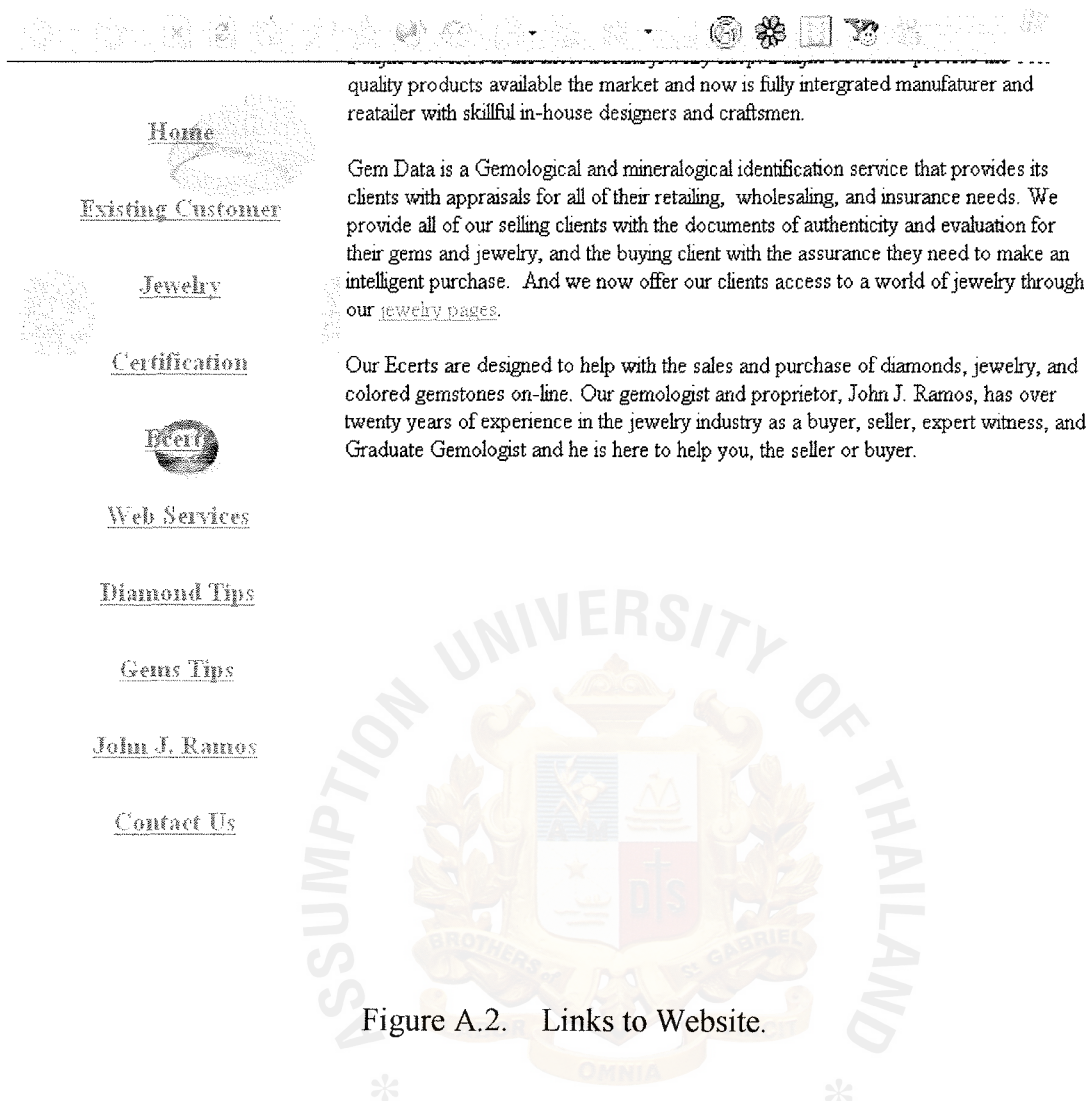
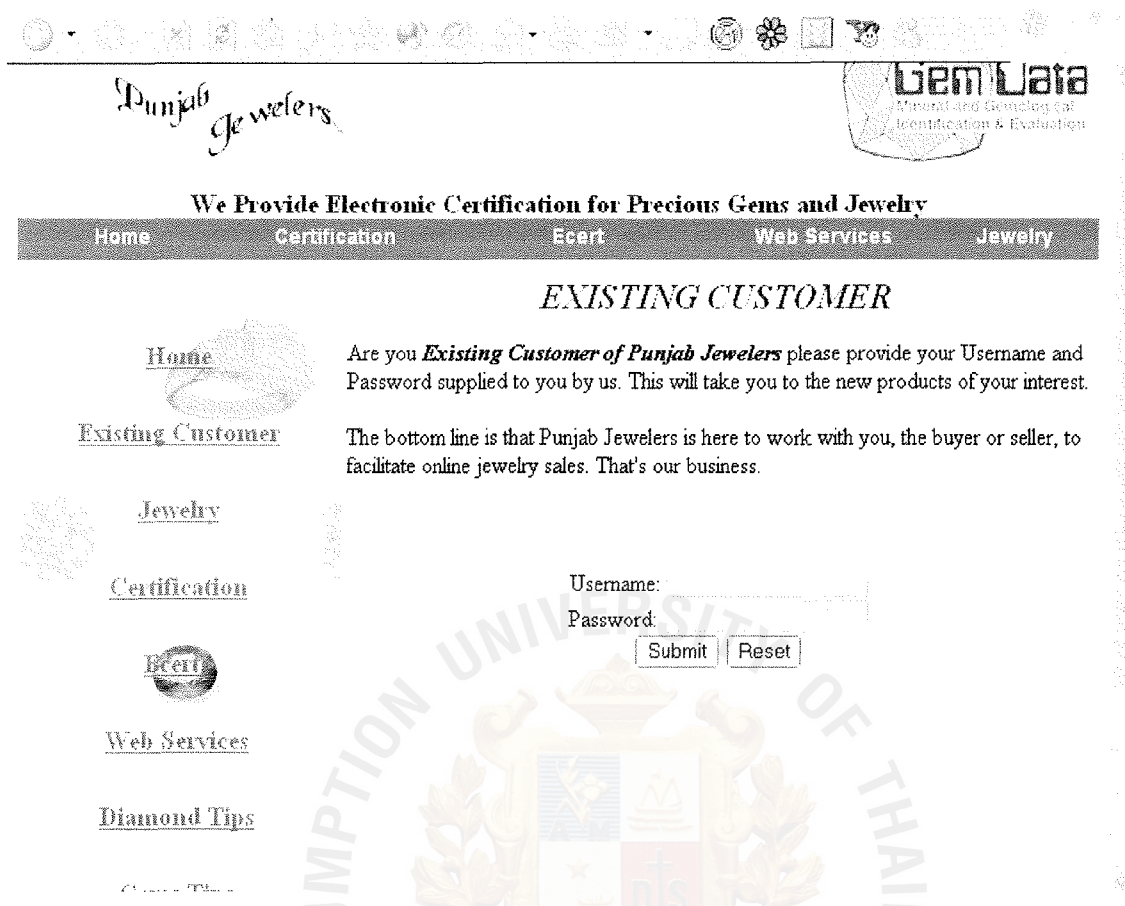


Figure A.2. Links to Website.

Home page also provides the links around the website. It ensures that visitors look around the site and see what the company has to offer to them and also provides them with tips. It also provides the link for the existing customers to see what new company has to offer to them.



The screenshot shows the Punjab Jewelers website. At the top, there is a navigation bar with links: Home, Certification, Ecart, Web Services, and Jewelry. Below this, the text "We Provide Electronic Certification for Precious Gems and Jewelry" is displayed. The main heading is "EXISTING CUSTOMER". On the left, there is a sidebar with links: Home, Existing Customer, Jewelry, Certification, Bcert, Web Services, and Diamond Tips. The main content area contains the text: "Are you *Existing Customer of Punjab Jewelers* please provide your Username and Password supplied to you by us. This will take you to the new products of your interest. The bottom line is that Punjab Jewelers is here to work with you, the buyer or seller, to facilitate online jewelry sales. That's our business." Below this text is a login form with fields for "Username:" and "Password:", and "Submit" and "Reset" buttons. A large watermark of the Assumption University of Thailand is visible in the background.

Figure A.3. Login for Existing Customers.

Existing Customer page provides with the Username and Password. This is makes sure for the customers that when they put in the Username and Password they are taken to the new products according to their past history with the website and products they are interested in.

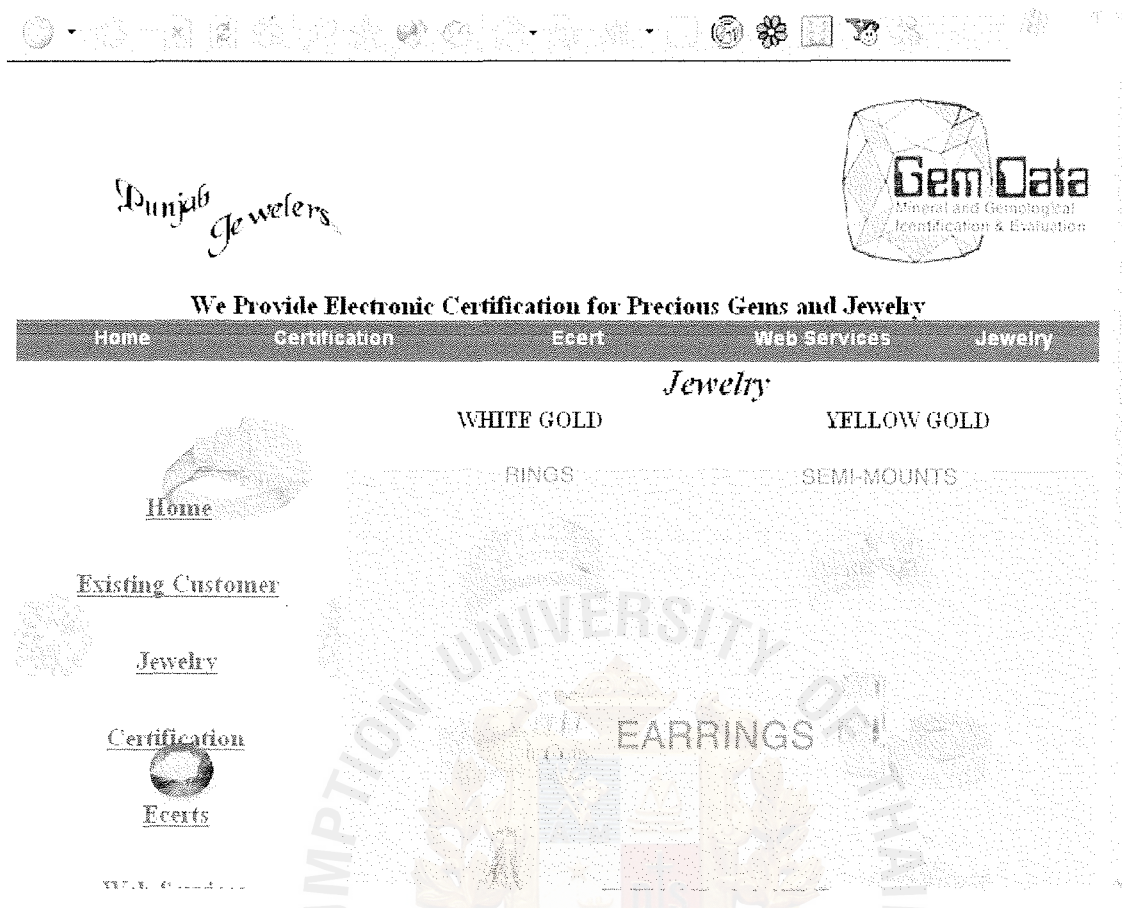


Figure A.4. Jewelry Page (Product Catalog).

Jewelry page is composed of Gold Jewelry goods and Stone products. Most of the company products are made up Gold Jewelry, as company offer its best product through the Internet medium to make the customers interested in the products and with the services it has to offer.

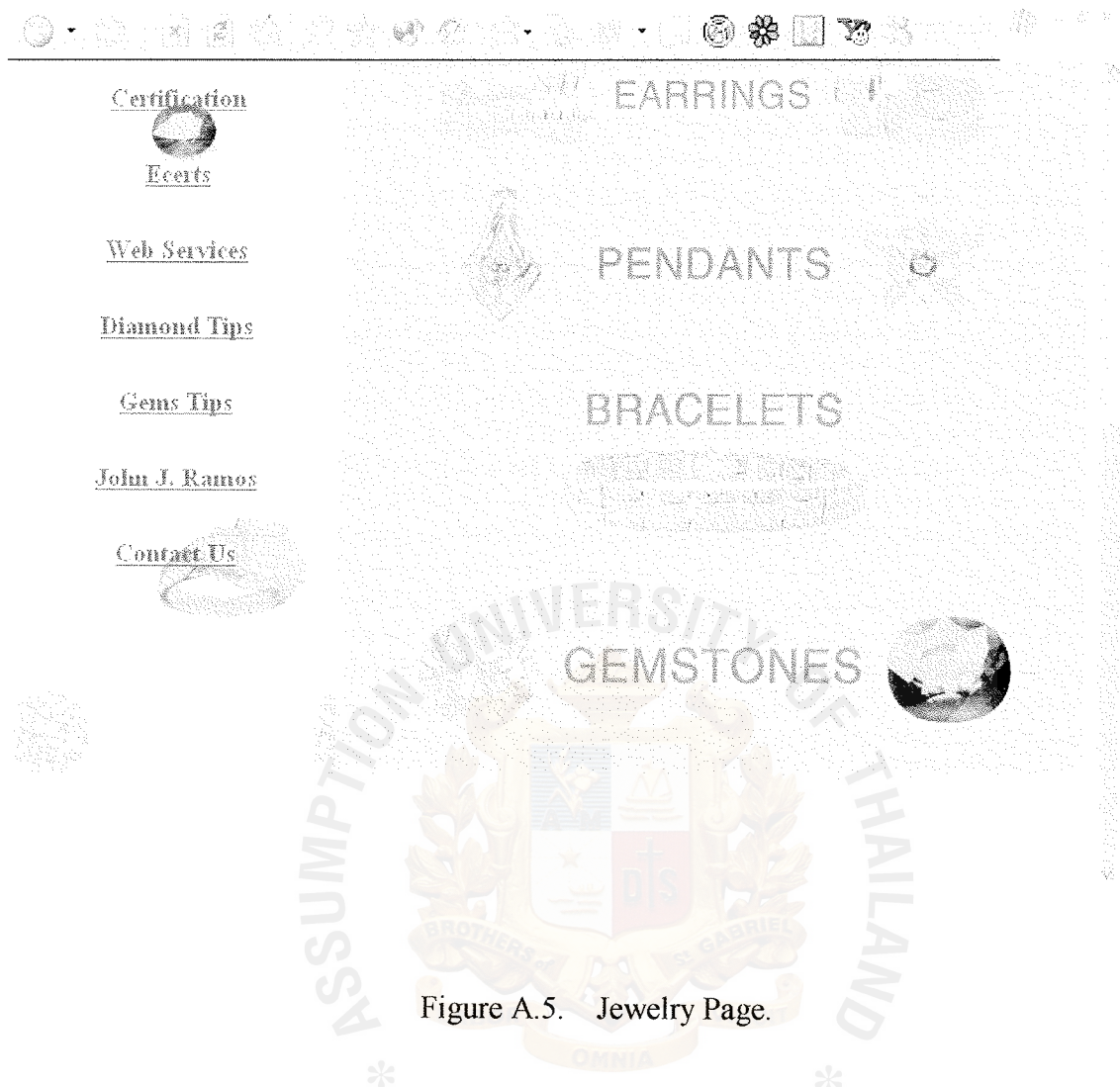


Figure A.5. Jewelry Page.

This is the bottom part of the jewelry page and shows the links to the Pendants, Bracelets and Gemstones.

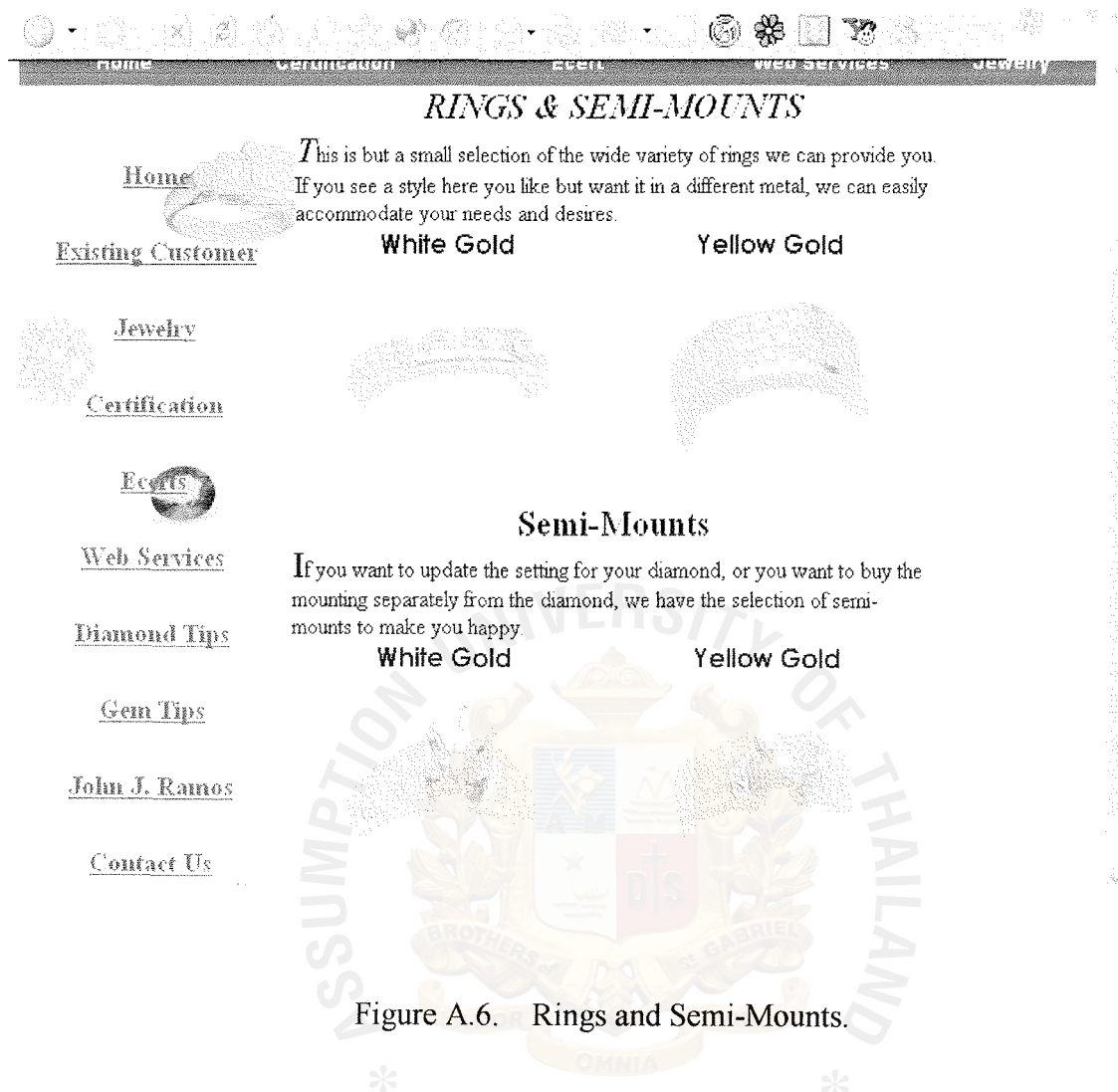


Figure A.6. Rings and Semi-Mounts.

Rings and Semi-Mounts page presents the option to select from whether customers like White Gold or Yellow Gold.



WHITE GOLD RINGS

[Home](#)
[Existing Customer](#)
[Jewelry](#)
[Certification](#)
[Ecerts](#)
[Web Services](#)
[Diamond Tips](#)
[Gem Tips](#)
[John J. Ramos](#)


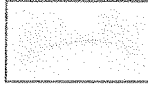
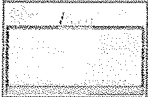
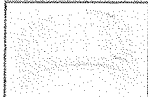


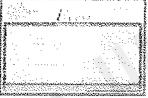


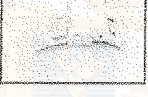


		Diamond Weight: 0.87 CTW Style Number: 2709-1 Retail Value: \$1,640.00 Order Now: \$1,148.00
		Diamond Weight: 2.27 CTW Style Number: 7000-5 Retail Value: \$3,900.00 Order Now: \$2,730.00
		Diamond Weight: 2.81 CTW Style Number: 7044-1 Retail Value: \$4,550.00 Order Now: \$3,185.00
		Diamond Weight: 1.55 CTW Style Number: 7075-7 Retail Value: \$3,030.00 Order Now: \$2,121.00
		Diamond Weight: 0.75 CTW Style Number: 7716-1 Retail Value: \$1,460.00 Order Now: \$1,022.00
		Diamond Weight: 2.27 CTW Style Number: 7714-1 Retail Value: \$4,190.00

Figure A.7. White Gold Rings.

White Gold Rings page offers customers with wide variety of rings from which they can chose from. They can also see what are the specifications and quality of the product with the product certificate to include with any purchase made by the customers.



Dunlop Jewelers



We Provide Electronic Certification for Precious Gems and Jewelry

Home Certification Ecert Web Services Jewelry

YELLOW GOLD RINGS

[Home](#)
[Existing Customer](#)
[Jewelry](#)
[Certification](#)
[Ecert](#)
[Web Services](#)

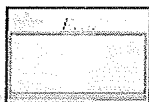
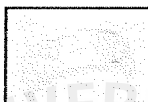
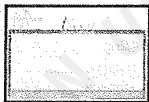



		Diamond Weight: 1.85 CTW Style Number: 7207-3 Retail Value: \$2,750.00 Order Now: \$1,925.00
		Diamond Weight: 0.49 CTW Style Number: 7261-3 Retail Value: \$990.00 Order Now: \$693.00
		Diamond Weight: 0.62 CTW Style Number: 7260-8 Retail Value: \$1,390.00 Order Now: \$973.00

Figure A.8. Yellow Gold Rings.

Yellow Gold Rings page also offers customers with wide variety of rings from which they can chose from. They can also see what are the specifications and quality of the product with the product certificate to include with any purchase made by the customers.



YELLOW GOLD EARRINGS

[Home](#)
[Existing Customer](#)

[Jewelry](#)

[Certification](#)

[Ecerts](#)

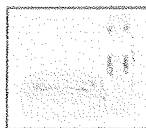
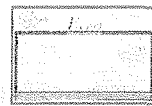
[Web Services](#)

[Diamond Tips](#)

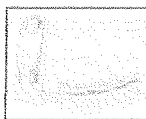
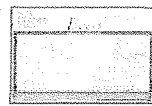
[Gems Tips](#)

[John J. Ramos](#)

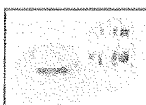
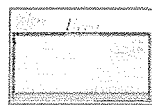
[Contact Us](#)



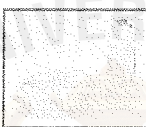
Diamond Weight: 0.78 CTW
Style Number: 2504A-4
Retail Value: \$1,440.00
Order Now: \$1,080.00



Diamond Weight: 0.97 CTW
Style Number: 2516-2
Retail Value: \$1,710.00
Order Now: \$1,283.00



Diamond Weight: 0.92 CTW
Style Number: 2519-2
Retail Value: \$1,800.00
Order Now: \$1,350.00



Diamond Weight: 0.83 CTW
Style Number: 5408-1
Retail Value: \$1,220.00
Order Now: \$915.00



Diamond Weight: 0.82 CTW
Style Number: 7503-49
Retail Value: \$1,390.00
Order Now: \$1,043.00

Figure A.9. Yellow Gold Earrings.

Yellow Gold Earrings also offers customers with wide variety of products and designs from which they can chose from. They can also see what are the specifications and quality of the product with the product certificate to include with any purchase made by the customers.



DIAMONDS

[Home](#)

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[Ecerts](#)

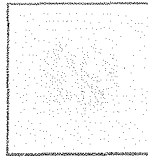
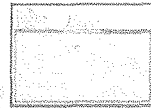
[Web Services](#)

[Diamond Tips](#)

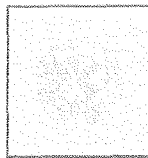
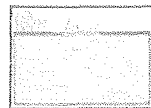
[Gems Tips](#)

[John J. Ramos](#)

[Contact Us](#)



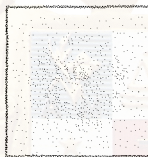
Diamond Weight: 0.75 CTW
Clarity: SI1
Color: E-F
Order Now: \$1,080.00



Diamond Weight: 0.75 CTW
Clarity: SI2
Color: F
Order Now: \$1,080.00



Diamond Weight: 0.77 CTW
Clarity: SI1
Color: G
Order Now: \$1,080.00



Diamond Weight: 0.91 CTW
Clarity: SI1
Color: D-E
Order Now: \$1,080.00

Figure A.10. Diamonds Page.

Diamonds page as well provide with customers to look through the company catalog and the wide variety of diamonds with cuts and clarity given to make the looks better.

All the products listed on the website provide details about the product, such quality, clarity and certificate to have it as guarantee and security which also makes customers satisfied.

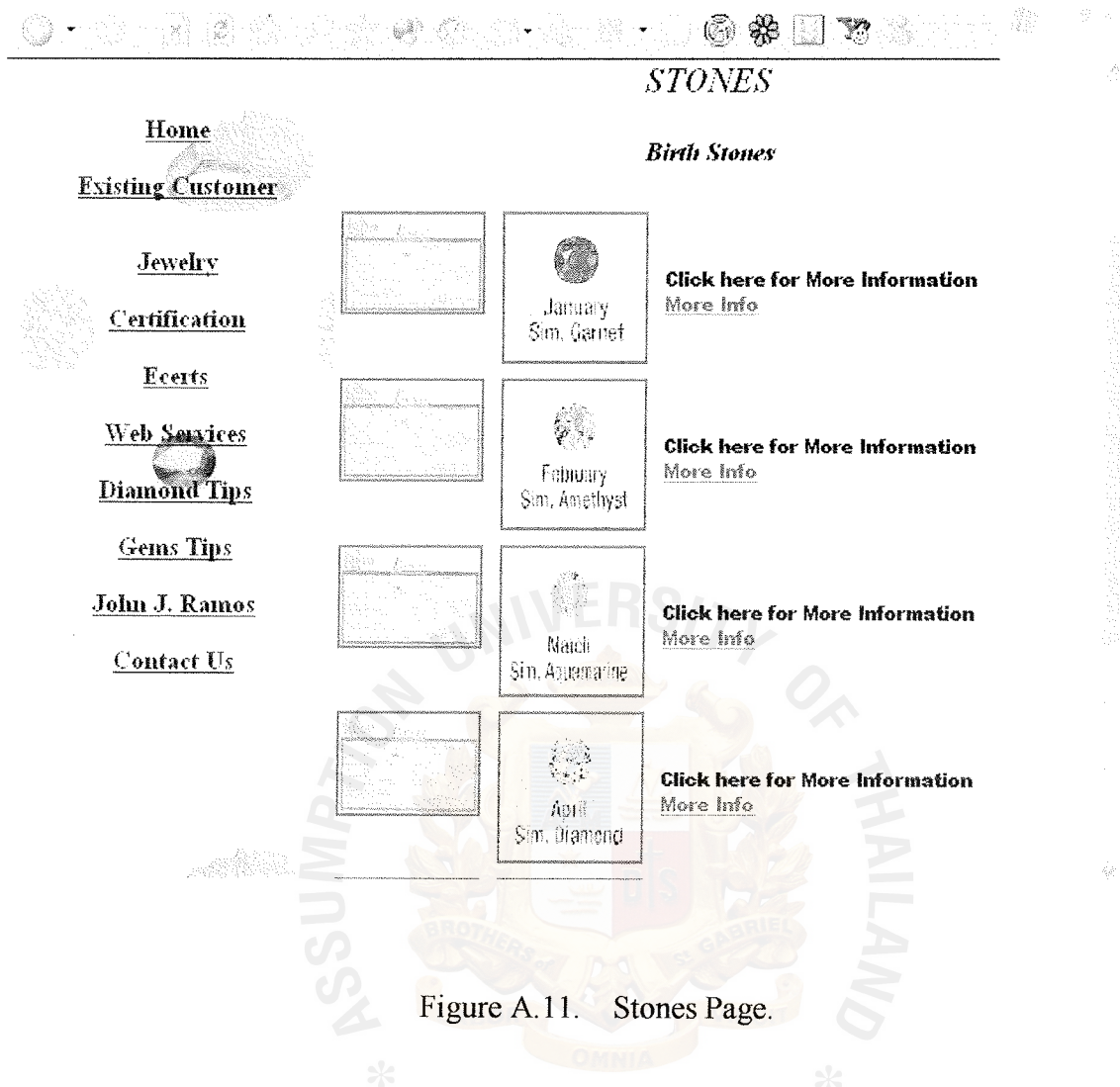


Figure A.11. Stones Page.

Stones page provides the customers with information about different stones according to the birth months. If customers would prefer to read more about it then they can also click on the more info link to read more about the stone facts and myths related to them.

CERTIFICATION

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[Ecert](#)
[Web Services](#)

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[John J. Ramos](#)

We provide certification for all of your appraisal needs. From loose diamonds, colored gems, and pearls to finished jewelry, we will provide you with the certificates you need to either sell, buy, or insure your jewelry. We provide documentation only for items that come through our laboratory. Give us a call to discuss the best method of shipping your goods.

The following examples will show you the quality of our analysis and presentation. Each certificate comes with a hi resolution digital photograph and thorough description for easy identification. The completed document is then laminated in booklet form for ease of use, storage, and archival durability.

Diamond Analysis Certificate:

\$75.00



Document of Establishment:

\$75.00

Figure A.12. Certification.

Certification page provide the customers with option if they want to have appraisal certificates made especially for them. So that if they want to sell their jewelry to somebody else they can know what is real value and quality of the product.



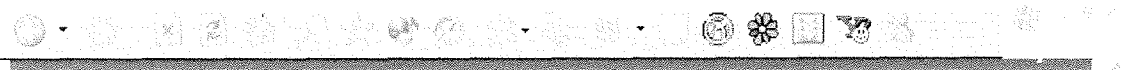
Creation Date: 08/16/00
Certificate Number: 544091600-1472

Ecert

Ecerted.com		Diamond Analysis Certificate	
SHAPE	ROUND BRILLIANT		
CUT	GOOD		
CARAT	1.037		
CLARITY	VS2		
COLOR	H		
MEASUREMENTS	6.39 x 6.40 x 4.00 MM		
PROPORTIONS			
Table %	57.8		
Total Depth %	62.3		
Partition Depth %	45.6		
Crown Height %	14.4		
Crown Angle	34 DEGREES		
Grade	MEDIUM TO SLIGHTLY THICK, FACETED		
Culet	NONE		
FINISH			
Polish	GOOD		
Symmetry	GOOD		
FLUORESCENCE	MEDIUM BLUE		
COMMENTS			
* COLOR GRADED BY GRAM 2000 FULL-SPECTRUM DIAMOND COLORIMETER		<p>SYMBOLS LEGEND:</p> <p>included Current</p> <p>GIA DIAMOND CLARITY GRADING SCALE</p> <p>GIA DIAMOND COLOR GRADING SCALE</p>	
John J. Simon, Graduate Gemologist			

Figure A.13. Sample Certificate.

This is a sample certificate which provides the full analysis of the diamond and depicts that the original diamond and provides information related to the quality, clarity, color, carats and so on.



DIAMOND TIPS

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When choosing a diamond what matters most is that you find the jewel to be very pleasing to you. Many people have very different tastes when it comes to diamonds, and thus there is no single good "recipe" for how to choose one. However, you should be aware of all of the specifications of the stone you are looking at, and should shop around. The first thing to ask yourself is, "Does this gem look good to me?". If you don't like the way it looks, it really doesn't matter what carat or clarity it is! After you have found one that is appealing to you, get the specifications as to carat weight, colour, clarity, cut, proportions as well as information about treatment. Many diamonds are treated now, and this dramatically effects the value of the stone. Overall the most desired qualities in a white diamond are that it is near colorless, has very few inclusions, is well cut, and is untreated. Go with your instincts, but make an educated decision, and shop around.

Diamond Selection - 4C's and an F

When purchasing a diamond, and considering the 4 C's which are cut, colour, clarity, and carat weight (via Obriensjewelers website to get more details about 4 C's at <http://www.obriensjewelers.com/dia.htm>). There is one often overlooked aspect of diamonds that really should be addressed, fluorescence. Fluorescence is the phenomenon that makes some diamonds emit a blue glow when exposed to fluorescent lighting. Many times this fluorescence can be so strong, the diamond appears to have a bluish halo around it. The most common side effect of this is a foggy gem. It may look fantastic under store lighting, but when taken outside it somehow looks "different". Always ask to view your diamond under as many different light sources as you can find, and if you can get the store to agree to it, have a sales person escort you to a window where you may view the diamond in natural light! It is often something not addressed by jewelry stores, as it greatly detracts both from the appearance and the value of a diamond.

Figure A.14. Diamond Tips.

Diamond Tips page provides visitors with a lot of useful tips which they can use in their daily life as well. For example, if person is looking for diamonds and don't know what to look for to see the real thing that being scammed by someone.



Dunlap Jewelers



We Provide Electronic Certification for Precious Gems and Jewelry



JOHN J. RAMOS, GRADUATE GEMOLOGIST

Home

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Web Services

John J. Ramos graduated from Gemological Institute of America In-Residence program in June of 1980. After receiving his Graduate Gemologist degree, he spent one year working as an appraiser and establishing the Southwest Appraisal Labs in Houston, Texas. In 1981 he moved back to San Francisco to become the appraiser for Granet Brothers, a jewelry store with 17 chains in Northern California.

At this same time, John started Gem Data and for the past twenty years Gem Data has been providing its clients with high quality appraisals and superior service. We have the tools and knowledge, gathered through years of experience, to help you with all of your gemological needs. Whether you need an appraisal for a sale, as either seller or buyer, or you need an appraisal for insurance we can help you.

Figure A.15. John J. Ramos.

John J. Ramos page gives the information about him, to let the customers and visitors know that company has in house Gemologist graduated from well known university and has a handful of experience in this field as well.

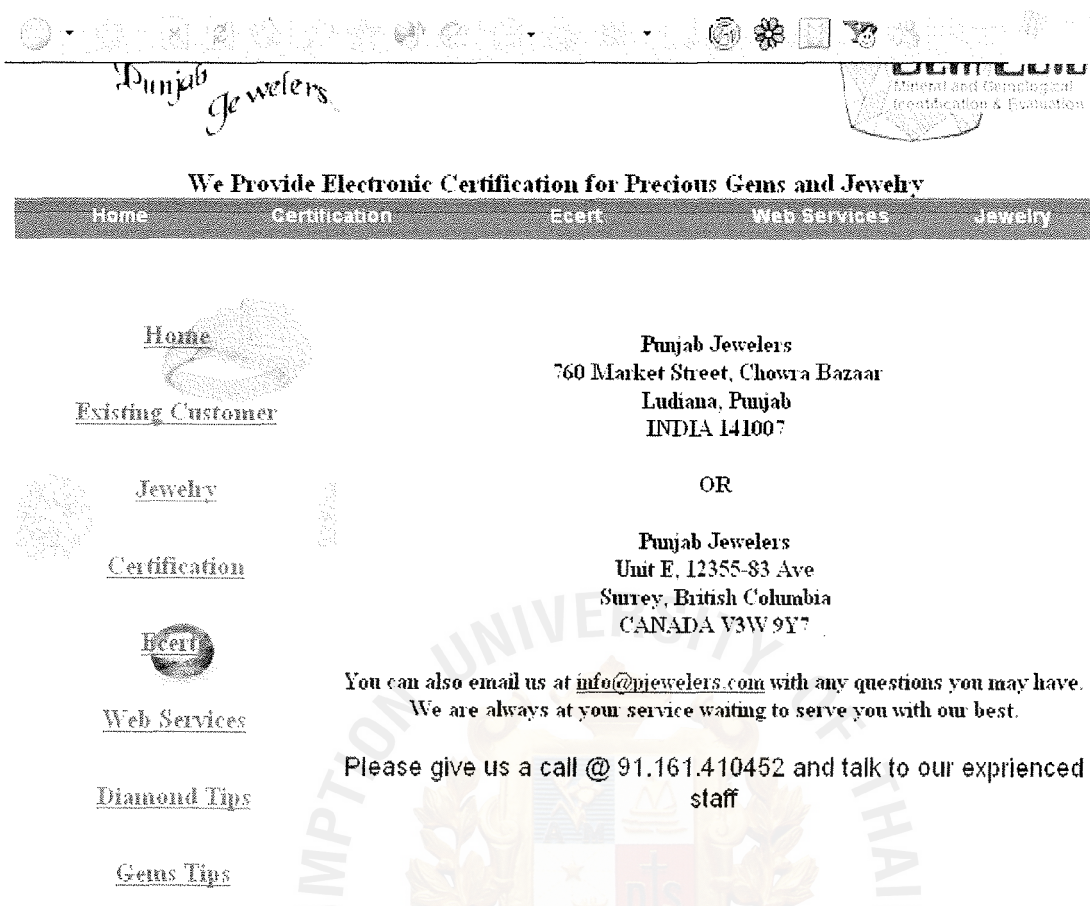


Figure A.16. Contact Us Page.

Contact Us page provides customers and people with different options if they want to get in touch with the company of someone from the company. This also gives peoples option to ask different kinds of questions from the company. This also sometimes let make their minds and know that company really exists and can be contacted at anytime if in case needed.



Electronic Certification for Precious Gems and Jewelry

Home	Certification	Ecert	Web Services	Jewelry
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Order Form

[Home](#)

[Existing Customer](#)

[Jewelry](#)

[Certification](#)



[Web Services](#)

[Diamond Tips](#)

[Gems Tips](#)

1. Please provide the following ordering information:




Style Number	Description

SHIPPING

Street Address	
Address (cont.)	
City	
State/Province	
Zip/Postal Code	
Country	

Figure A.17. Order Form.

Order Form page only comes up if peoples want to order some product and that they have clicked on the order now link which will lead them to here. In this form they can provide with the details of the products and the place they want the things to be shipped.

State/Province

Zip/Postal Code

Country

Name

Method of Payment

Work Phone

Home Phone

FAX

E-mail

URL

Cred Card No.

Submit Form

Reset Form

You can also give us a call @91.161.410452
We are always happy to talk to our customers.

Figure A.18. Order Form.

This is the bottom of the order page and after its filled completely, customers can click on the Submit Form button to order the goods or Reset to clear the form and change information. They can also call the company and order through telephone if they feel that they want to talk to the company's representative.



APPENDIX B

TOP 100 INTERNET RETAILERS

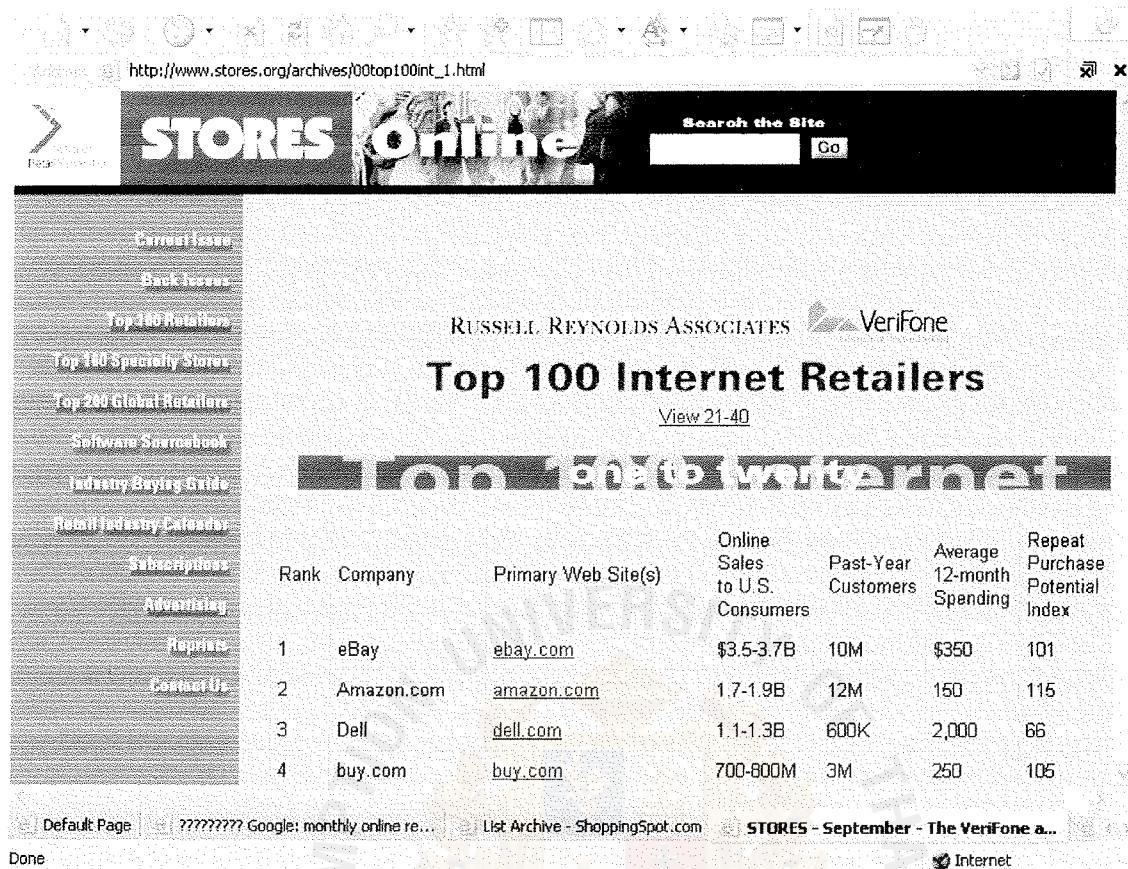


Figure B.1. Top 100 Internet Retailers.

Stores.org provides a lot of research reports for reference. These reports could be very useful if opening up new business or want to know the market in the region or so. This report is prepared by Russel Reynolds Associates and Verifone.

Table B.1. Top 1 to 20.

Rank	Company	Primary Web Site(s)	Online Sales to U.S. Consumers	Past-Year Customers	Average 12-month Spending	Repeat Purchase Potential Index
1	eBay	ebay.com	\$3.5-3.7B	10M	\$350	101
2	Amazon.com	amazon.com	1.7-1.9B	12M	150	115
3	Dell	dell.com	1.1-1.3B	600K	2,000	66
4	buy.com	buy.com	700-800M	3M	250	105
5	Egghead.com	egghead.com , onsale.com (formerly)	500-600M	700K	800	79
6	Gateway	gateway.com	500-600M	350K	1,500	73
7	Quixtar	quixtar.com	400-450M	600K	700	140
8	uBid	ubid.com	275-325M	600K	500	82
9	Barnes & Noble	bn.com	275-325M	3M	100	98
10	Cyberian Outpost	outpost.com	200-250M	425K	550	80
11	Value America*	va.com	200-250M	250K	900	83
12	MicroWarehouse	microwarehouse.com	200-250M	175K	1,200	92
13	Office Depot	officedepot.com , vikingop.com	175-200M	250K	750	114
14	eToys.com	etoys.com , babycenter.com	150-175M	1.7M	100	93
15	Lands' End	landsend.com	150-175M	800K	200	105
16	The Spiegel Group	spiegel.com , eddiebauer.com , newport-news.com	150-175M	450K	350	97
17	Fingerhut	fingerhut.com , andysauctions.com , andysgarage.com	150-175M	400K	375	96
18	CDW	cdw.com	150-175M	200K	800	92
19	JCPenney	jcpenney.com	150-175M	500K	300	103
20	Gap	gap.com , oldnavy.com , bananarepublic.com	125-150M	800K	175	114

Table B.2. Top 21 to 40.

Rank	Company	Primary Web Site(s)	Online Sales to U.S. Consumers	Past-Year Customers	Average 12-month Spending	Repeat Purchase Potential Index
21	QVC	qvc.com , iqvc.com	\$125-150M	550K	\$250	109
22	Ticket Master	ticketmaster.com	125-150M	600K	225	89
23	L.L. Bean	llbean.com	125-150M	650K	200	91
24	CDNow	cdnow.com	125-150M	1.3M	100	104
25	America Online	aol.com	100-125M	600K	200	101
26	Yahoo!	yahoo.com	100-125M	650K	175	112
27	BMG Music Service	bmgmusicservice.com	100-125M	1.1M	100	102
28	1-800-Flowers.com	1800flowers.com	100-125M	1.1M	100	89
29	FirstAuction	firstauction.com	100-125M	350K	300	79
30	U.S. Mint	usmint.gov	80-100M	300K	325	113
31	ColumbiaHouse	columbiahouse.com	80-100M	950K	100	106
32	Apple	apple.com	80-100M	80K	1,100	108
33	Express.com	express.com (formerly, dvdexpress.com , gamecave.com)	70-90M	425K	200	89
34	Peapod	peapod.com	70-90M	125K	650	107
35	Staples	staples.com , quill.com	70-90M	225K	375	102
36	Toys "R" Us	toysrus.com	70-90M	800K	100	96
37	The Limited	victoriassecret.com , lanebryant.com	70-90M	400K	200	110
38	Netmarket Group	netmarket.com	70-90M	200K	400	83
39	J. Crew	jcrew.com	70-90M	350K	225	89
40	FTD	ftd.com	70-90M	800K	100	80

Table B.3. Top 41 to 60.

Rank	Company	Primary Web Site(s)	Online Sales to U.S. Consumers	Past-Year Customers	Average 12-month Spending	Repeat Purchase Potential Index
41	drugstore.com	drugstore.com	\$70-90M	1.1M	\$75	98
42	Sears	sears.com	70-90M	250K	300	115
43	OfficeMax	officemax.com	60-80M	200K	350	100
44	abc distributing	abcdistributing.com	60-80M	350K	200	129
45	HomeGrocer.com	homegrocer.com	60-80M	125K	550	100
46	Wal-Mart	wal-mart.com	60-80M	400K	175	108
47	Price Watch Group	pricewatch.com	50-70M	100K	650	94
48	LTD Commodities	ltdcommodities.com	50-70M	200K	300	121
49	Webvan Group	webvan.com	50-70M	150K	375	114
50	Compaq Computer	compaq.com	50-70M	50K	1,100	83
51	Microsoft	microsoft.com , msn.com	50-70M	375K	150	116
52	Creative Computers/ Idea Mall	ecost.com , pcmall.com , macmall.com	50-70M	225K	250	79
53	Hanover Direct	domestications.com , internationalmale.com , silhouettes.com	40-60M	425K	125	113
54	Disney	disney.com	40-60M	400K	125	93
55	Ashford.com	ashford.com	40-60M	100K	500	105
56	REI	rei.com	40-60M	125K	400	100
57	Beyond.com	beyond.com	40-60M	275K	175	105
58	CyberRebate.com	cyberrebate.com	40-60M	125K	375	103
59	Reel.com*	reel.com	40-50M	175K	250	81
60	Alloy Online	alloy.com	40-50M	450K	100	93

Table B.4. Top 61 to 80.

Rank	Company	Primary Web Site(s)	Online Sales to U.S. Consumers	Past-Year Customers	Average 12-month Spending	Repeat Purchase Potential Index
61	Coldwater Creek	coldwatercreek.com	\$40-50M	175K	\$250	103
62	CNET	cnet.com	35-45M	60K	700	95
63	Circuit City	circuitcity.com	35-45M	75K	550	84
64	The Computer Geeks Discount Outlet	compgeeks.com	30-40M	75K	475	119
65	KBkids.com	kbkids.com	30-40M	475K	75	118
66	Multiple Zones Inter'l	zones.com , pczone.com , maczone.com	30-40M	100K	350	66
67	Quality Click	qualityclick.com	30-40M	30K	1,150	100
68	Harbor Freight Tools	harborfreight.com	30-40M	150K	225	100
69	Bear Creek Corporation	harryanddavid.com , jacksonandperkins.com , northwestexpress.com	30-40M	225K	150	94
70	Hewlett-Packard	hp.com	30-40M	125K	275	96
71	Streamline	streamline.com	25-35M	50K	650	100
72	Army and Air Force Exchange Service	aafes.com	25-35M	100K	300	105
73	Pets.com	pets.com , petstore.com	25-35M	300K	100	123
74	PlanetRx	planetrx.com	25-35M	400K	75	118
75	PETsMART.com Inc.	petsmart.com	25-35M	375K	75	97
76	Camera World	cameraworld.com	25-35M	60K	500	100
77	CompUSA	compusa.com	25-35M	100K	300	100
78	TigerDirect	tigerdirect.com	25-35M	70K	400	85
79	Cabela's	cabelas.com	20-30M	125K	200	83
80	Venator Group	footlocker.com , eastbay.com	20-30M	250K	100	103

Table B.5. Top 81 to 100.

Rank	Company	Primary Web Site(s)	Online Sales to U.S. Consumers	Past-Year Customers	Average 12-month Spending	Repeat Purchase Potential Index
81	Nordstrom	nordstrom.com	\$20-30M	60K	\$400	109
82	ArcaMax	arcamax.com	20-30M	300K	75	113
83	JC Whitney	jcwhitney.com	20-30M	100K	225	100
84	Omaha Steaks	omahasteaks.com	15-25M	100K	225	96
85	dELiA*s	delias.com	15-25M	175K	125	100
86	Big Star Entertainment	bigstar.com	15-25M	275K	75	87
87	Borders Group	borders.com	15-25M	275K	75	83
88	Home Shopping Network	hsn.com	15-25M	100K	200	100
89	Oriental Trading Company	orientaltrading.com , terrystsvillage.com	15-25M	100K	200	93
90	Service Merchandise	servicemerchandise.com	15-25M	150K	125	83
91	The Vitamin Shoppe	vitaminshoppe.com	15-25M	80K	250	111
92	PC Connection	pcconnection.com , macconnection.com	15-25M	70K	275	97
93	Overstock.com	overstock.com	15-25M	150K	125	120
94	Electronics Boutique	ebworld.com	15-25M	125K	150	84
95	Puritan's Pride	puritanspride.com	15-25M	125K	150	100
96	Furniture.com	furniture.com	10-20M	20K	850	66
97	Fogdog.com	fogdog.com	10-20M	225K	75	83
98	Lillian Vernon	lillianvernon.com	10-20M	200K	75	97
99	More.com	more.com	10-20M	200K	75	117
100	Petopia (Petco)	petopia.com	10-20M	150K	100	139



APPENDIX C

DATABASE DESIGN

Table C.1. Customer Record.

No	Field Name	Data Type	Length	Decimals	Remarks
1	CustomerNo	Integer	7		Primary Key
2	CustomerFirst	Character	15		
3	CustomerLast	Character	15		
4	CustomerAdd	Character	200		
5	CustomerTel	Character	15		

Table C.2. Product Record.

No	Field Name	Data Type	Length	Decimals	Remarks
1	ProdCode	Character	5		Primary Key
2	ProdName	Character	30		
3	ProdDesc	Character	200		
4	ProdPrice	Currency	10	2	
5	ProdSalesP	Currency	10	2	
6	ProdDate	Time/Date	8		
7	CustomerNo	Integer	7		
8	SaleNo	Integer	2		
9	InvoiceNo	Integer	4		

Table C.3. Invoice.

No	Field Name	Data Type	Length	Decimals	Remarks
1	InvoiceNo	Integer	4		Primary Key
2	CashRecvTotal	Currency	8	2	

Table C.4. Product Category.

No	Field Name	Data Type	Length	Decimals	Remarks
1	CatCode	Integer	2		Primary Key
2	CatName	Integer	15		

Table C.5. Salesperson Record.

No	Field Name	Data Type	Length	Decimals	Remarks
1	SaleNo	Integer	2		Primary Key
2	SaleName	Character	25		
3	SaleAdd	Character	200		
4	SaleTel	Character	15		

Table C.6. Data Dictionary of Database Records.

Field Name	Description
CashRecvTotal	Total cash amount received
CatCode	Product category code number
CatName	Name of product category
CustomerAdd	Customers address
CustomerFirst	Customers first name
CustomerLast	Customers last name
CustomerNo	Customers assigned number
CustomerTel	Customers telephone number
InvoiceNo	Invoice number
ProdCode	Product code
ProdDate	Date product was purchased
ProdDesc	Product Description
ProdName	Product name
ProdPrice	Product bought price
ProdSalesP	Product selling price
SaleAdd	Salespersons address
SaleName	Salespersons name
SaleNo	Salespersons assigned number
SaleTel	Salespersons telephone number



Data Structure for Database records

Customer Record = Customer Number
First Name
Last Name
Address
Telephone

Address = Number
Street
Road
District
State
Zip Code
Country

Telephone = Country Code
Area Code
Telephone Number

Invoice Record = Invoice Number
Total Cash Received

Product Record	=	Product Code
		Product Name
		Product Description
		Product Bought Price
		Product Sale Price
		Product Bought Date
		Customer Number
		Salesperson Number
		Invoice Number

Product Category

=	Category Code
	Category Name

Salesperson Record

=	Salesperson Number
	Name
	Address
	Telephone

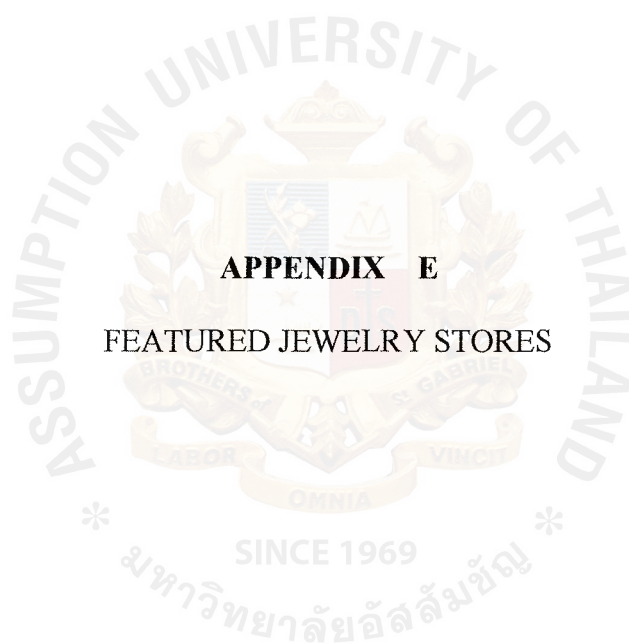
Product Owner Record

=	Product Code
	Product Name
	Customer Number
	Customer First Name
	Customer Last Name

Total Cash Received = Invoice Number
Date
Payment Method
Amount Charged

Exchange Good Record = Exchange Number
Product Code
Date
Customer First Name
Customer Last Name
Exchange or Refund





APPENDIX E


FEATURED JEWELRY STORES

[Welcome](#)
[Electronics](#)
[Computer Hardware](#)
[Computer Software](#)
[Home & Garden](#)
[Travel & Leisure](#)
[Music](#)
[DVD/Video](#)

[Special Offers](#)
[Featured Stores](#)

[Home](#) > [Jewelry & Watches](#) > [Jewelry](#) > [Featured Stores](#)

Search

Jewelry 

Price Range
to

Go!

Browse

Top Searches

[All Departments](#)
[Jewelry & Watches](#)
[Jewelry](#)
[Bracelets](#)
[Earrings](#)
[Men's Jewelry](#)
[Necklaces/Pendants](#)
[Other](#)
[Rings](#)

Loose Diamonds

[\\$500 to \\$1000](#)
[\\$1000 to \\$2000](#)
[\\$2000 to \\$3000](#)
[\\$3000 to \\$4000](#)
[\\$4000 to \\$5000](#)
[\\$5000 to \\$6000](#)
[\\$6000 to \\$7000](#)
[\\$7000 to \\$8000](#)
[\\$8000 to \\$9000](#)
[\\$9000 to \\$10000](#)
[\\$10000 and above](#)

Featured Stores in Jewelry

Sort by:

[Store Name](#)

Sort by:

[Store Rating](#)

[Forzieri.com](#)



[Diamonds On Web](#)



[QVC, Inc.](#)



[Lands' End, Inc.](#)



Not Customer Certified

[blue Nile](#)



[Elisabeth by Liz Claiborne](#)



[Nordstrom](#)



Not Customer Certified

[Avon Products](#)



Not Customer Certified

[Disney Store](#)



Not Customer Certified

[RedEnvelope](#)



Not Customer Certified

[Things Remembered](#)



[SmartBargains.com](#)



[JewelryWeb.com, Inc.](#)



[Coldwater Creek](#)



[Mondera](#)













[PacSun.com](#)



[GoldenMine.com](#)



Target at Amazon.com	 Not Customer Certified
Spiegel	 Not Customer Certified
J.Jill	 Not Customer Certified
Blair.com	 
eLUXURY.com	 Not Customer Certified
JCPenney	 Not Customer Certified
Marshall Field's	 Not Customer Certified
Diamond.com	 

1 | 2 | 3 | 

Additional Resources

Silver Marcasite

Shop Our Extensive Online Catalog Designer Jewelry at Gre

<http://www.billbarnes.com>

Buy Jewelry Wholesale

Thailand Direct Factory Outlet Satisfaction Guaranteed!

<http://www.925i.com>

CZ Store CZjewelry.com

Fine Cubic Zirconia Jewelry Discover the difference.

<http://www.czjewelry.com>

Welcome

Electronics

Computer
Hardware

Computer
Software

Home
& Garden

Travel
& Leisure

Music

DVD/
Video

Special Offers

Compare Prices

Home > Jewelry & Watches > Jewelry > Featured Stores

Search

Jewelry

Go!

Price Range
to

Browse

Top Searches

All Departments
Jewelry & Watches
Jewelry
Bracelets
Earrings
Men's Jewelry
Necklaces/Pendants
Other
Rings

Loose Diamonds

\$500 to \$1000
\$1000 to \$2000
\$2000 to \$3000
\$3000 to \$4000
\$4000 to \$5000
\$5000 to \$6000
\$6000 to \$7000
\$7000 to \$8000
\$8000 to \$9000
\$9000 to \$10000
\$10000 and above

Featured Stores in Jewelry

Sort by:
Store Name

Sort by:
Store Rating

OVERSTOCK
.COM



Limoges Jewelry



Kohl's

Not Customer Certified

Bluelight.com



Walmart.com

Not Customer Certified

ice.com



HSN.com

Not Customer Certified

Rampage.com



Newport News

Not Customer Certified

Szul.com



Brooks Brothers

Not Customer Certified

Ross-Simons



Playboy Enterprises



Ashford.com



International Male



Gump's



Kenneth Cole



[Bluefly, Inc.](#)



[PalmBeachJewelry.com](#)



[ShopNBC](#)



[TTA Direct](#)



[Brandsmall.com](#)



[Superb S. Cert](#)

[Rating in Progress](#)

[best gem](#)

[Rating in Progress](#)

[Marshall Field's at
Amazon.com](#)

[Rating in Progress](#)

1 | 2 | 3 |

Additional Resources

[Silver Marcasite](#)

Top Quality Jewelry & Gems at Great Prices - Family Jewele
1880

<http://www.billbarnes.com>

[Sterling Silver Jewelry](#)

Great prices on our sterling silver jewelry. Free gift with purch

<http://www.shimmerandstone.com>

[Bodyjewels.Com CZ Jewelry](#)

over 5 million carats sold 14k,18k Use coupon (goog) for 10%

<http://www.bodyjewels.com>



Home > Jewelry & Watches > Jewelry > Featured Stores

Search

Jewelry

Price Range
to

Go!

Browse

Top Searches

All Departments
Jewelry & Watches
Jewelry
Bracelets
Earrings
Men's Jewelry
Necklaces/Pendants
Other
Rings

Loose Diamonds

\$500 to \$1000
\$1000 to \$2000
\$2000 to \$3000
\$3000 to \$4000
\$4000 to \$5000
\$5000 to \$6000
\$6000 to \$7000
\$7000 to \$8000
\$8000 to \$9000
\$9000 to \$10000
\$10000 and above

Featured Stores in Jewelry

Sort by:

Store Name

Sort by:

Store Rating

Paul Fredrick MenStyle

Rating in Progress

Heavenly Treasures

Not Yet Rated

DecorLine Boutique

Rating in Progress

alight.com

Rating in Progress

1 | 2 | 3

Additional Resources

Silver Marcasite

Shop Our Extensive Online Catalog Designer Jewelry at Gre

<http://www.billbarnes.com>

Classic Marcasite Jewelry

Add chic style to your collection. Exclusive Designers - Only

<http://www.HSN.com>

Italian Silver Jewelry

Contemporary Necklaces, Bracelets, Chockers, Earrings, an Shop

<http://www.forzieri.com>



APPENDIX F

INTERNET REPORTS

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There's More To E-Commerce Than Online Profits

By [Michael Pastore](#)

August 20, 2001

More than two-thirds (69 percent) of retailers are wrongly judging the success of their Internet investments, according to [Jupiter Media Metrix](#), because they're relying on top-line metrics such as online sales and profits.

By taking their attention away from sales and profit numbers and examining the non-transactional benefits of their sites -- including online-influenced sales and improved payroll productivity -- Jupiter's research found that brick-and-mortar companies will find that the return on investment (ROI) of their Web sites are 65 percent higher than if they only considered sales that occur online.

"Brick-and-mortar retailers should not blindly follow the lead of their pure-play competitors by adopting a laser-like focus on the profitability of their Web sites," said Ken Cassar, senior analyst at Jupiter Media Metrix. "A typical brick-and-mortar retailer's Web site can yield financial benefits well beyond the transactions it generates. Jupiter estimates that nearly two-thirds of the total online benefit for retailers will be in offline transactions influenced by online experience."

But Jupiter found that brick-and-mortar retailers only pay lip service to the value that their sites have to their stores, tracking metrics that treat their sites as selling channels. According to a Jupiter Executive Survey, 46 percent of retailers cite sales as the primary metric that they base the success of their Web sites on, followed by 23 percent that are focused on profit. But once again it appears to be a case of retailers missing the mark when it comes to meeting consumers' needs. A Jupiter Consumer Survey found that 45 percent of consumers have used a retailer's Web sites to research a product before buying it in that same company's store.

Online retailers shouldn't take this as a sign that profits are back out again, as they were when the Internet bubble was inflating. Jupiter analysts did say that only Internet pure-play retailers should focus solely on driving profits from their Web sites. Multichannel retailers must remember that not every visitor comes to their site to make a purchase. According to the Jupiter ROI model, a brick-and-mortar retailer with a fairly successful transactional Web site is likely to extract nearly two-thirds of its total Web benefit from the non-transactional capabilities of its site. In this model, the site's ROI is 65 percent higher when the non-transactional benefits are included than when they are ignored.

Offline retailers who wish to make their online operations a successful part of their business will find it important to integrate online and offline systems. According to a Jupiter Executive Survey, only 31 percent of retailers already provide visibility of store inventory on their Web sites, and another 23 percent expect to offer this capability within the next 24 months. But Jupiter analysts advise that while systems integration is inevitable, the costs can be high enough that many brick-and-mortar retailers should delay aggressive integration efforts until after their in-store systems have been brought up-to-date with software that was built to Web-based standards -- something that will happen in due course for nearly all large retailers.

"Brick-and-mortar retailers cannot ignore the impact that their Web sites have on store purchasing because it is difficult to quantify," Cassar said. "The retailer that spends its limited Web resources shoring up the transactional elements of its site at the expense of the elements that would send a customer with purchase-intent into its stores may ultimately lose offline market share to smart competitors."

All of this talk about integration and appealing to consumers who make offline purchases is really about taking steps toward removing the "e" from e-commerce and recognizing the online channel as part of commerce as it exists in the 21st century. According to research from The NPD Group, Inc., 92 percent of consumers with Internet access use the Internet to shop and/or purchase online.

Eighty-four percent of occasional buyers (those who say they have made an online purchase only one time or less in the past six months) surveyed by NPD describe their usual use of the Internet for shopping as "I usually shop online and go offline to purchase." NPD's research also found that consumers who currently shop at mass merchandisers said they will likely remain more loyal to traditional store locations for future purchases, while others who have traditionally shopped through catalogs say they are turning to the Web to make more purchases.

Sorting out which consumers buy online and buy offline after shopping online is complicated business. Different consumers have different trust levels with the Internet and will only buy certain products or spend a limited amount of money over the Internet. Further complicating the process are teenagers, who while very comfortable using the Internet, often do not have a credit card to close online transactions. According to Jupiter Media Metrix, 89 percent of teens (ages 13 to 17) have never made an online purchase, but 29 percent research products on the Internet before buying them at stores.

How traditional offline retailers judge the ROI of their online initiatives was also the subject of the CyberAtlas Newsletter on August 21, 2001. If you don't subscribe, [sign up](#). If you want to read that newsletter, [click here](#).

[Contact internetnews.com staff](#)

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boston.internet.com/news/article.php/939511

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For Online Retailers, It's Showtime

By [Beth Cox](#)

December 13, 2001

If you're an online retailer selling anything that might remotely be considered a holiday gift, it's time to roll out your last-minute delivery plans, and that's just what companies from America Online to Yahoo! are doing.

AOL's [Shop@AOL](#) e-commerce operation launched an online catalog featuring quick-click gifts "sure to arrive by Christmas Day."

And [Yahoo! Shopping](#), that portal's e-commerce effort, said it will launch its Last Minute Shopping area Dec. 14, listing all retailers who can ship to procrastinating gift-buyers.

Amazon.com, meanwhile, has a [wholesale list of deadlines](#) posted on the site. Noon PST Dec. 22 is the latest you can get a physical gift sent with a promise of on-time delivery. But even on Dec. 24, Amazon will be happy to sell you a magazine subscription or a gift certificate with an e-card.

Rival bookseller [BarnesandNoble.com](#) is offering free shipping on two or more items if ordered by Dec. 18, the cut-off date for Christmas delivery. [Lands End](#), the apparel cataloger that also has a Web operation, has a shopping calendar posted right on the main page. Dec. 20 is the last day to order online.

MSN.com has an "Easy Last-Minute Gifts" area called [Procrastination Central](#) with links to a variety of merchant partners who can deliver for shoppers who play beat-the-clock. One partner, 1800flowers.com, allows shoppers to order some things as late as 10 a.m. on Dec. 24.

AOL has an interesting wrinkle this year, having set up an instant holiday gift feature for users of its Instant Messenger service. From the AIM Today welcome screen, visitors can send gifts ranging from stuffed teddies and holiday baskets to stress reducer bath sets and space age bottle stoppers.

Consumers choose a gift from the AIM Instant Gifts catalog; choose a recipient from their Buddy List or provide an e-mail address; enter their own AIM Screen Name in the "From" field; fill out billing information, and add a personal greeting. An instant message "Gift Alert" is automatically sent and the recipient needs only to click on the highlighted link to choose to accept the gift, and then provide their shipping information for delivery.

The Instant Gifts feature is powered by [Zipsend](#), a San Francisco-based company specializing in sending anything anywhere, using an e-mail address or other online identity as the recipient's real-world delivery address.

All this effort is important this year not just because a company's reputation rides on getting fulfillment right, but also because the online retailers may be selling into a market that's expanding more slowly than expected.

In fact, the latest figures from Nielsen//NetRatings and Harris Interactive show that e-commerce spending in November 2001 jumped only 10 percent from November 2000.

The eCommercePulse data, collected from an online survey of 34,000 Web users, shows that national concerns over the events of Sept. 11 and the war on terrorism, plus a softer U.S. economy, are affecting holiday spending.

The latest month's data reveal that e-commerce sales rebounded to \$5.3 billion, on par with pre-September spending levels. However, spending rose 14 percent from October to November, half of the 29 percent increase seen in 2000.

Contact [internetnews.com](http://www.internetnews.com) staff

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<http://www.internet.com>



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