



COMPUTER SERVICE'S ORGANIZATIONAL  
ANALYSIS AND DESIGN

by

Mr. Visit Kanlayanawat

A Final Report of the Three-Credit Course  
CE 6998 Project

Report

Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Master of Science  
in Computer and Engineering Management  
Assumption University

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Project Title                      Computer Service's Organizational Analysis and Design

Name                                Mr. Visit Kanlayanawat

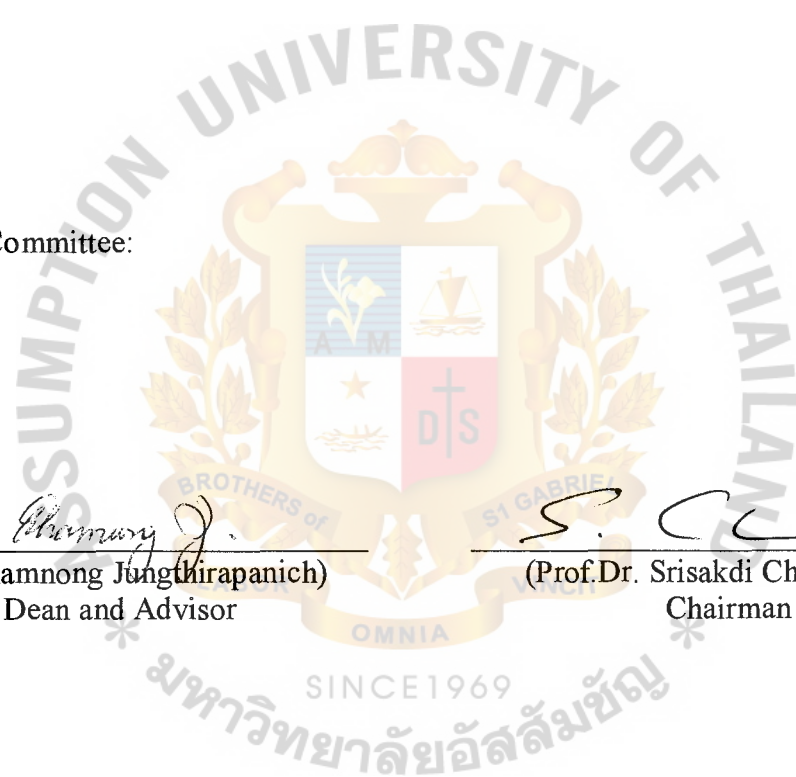
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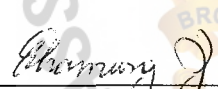
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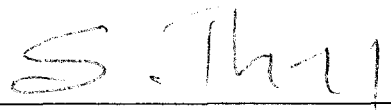
The Graduate School of Assumption University has approved this final report of the three-credit course. CE 6998 PROJECT, submitted in partial fulfillment of the requirements for the degree of Master of Science in Computer and Engineering Management.

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## **ABSTRACT**

This project designs a computer service's organization whether it should be implemented for performance improving and problem solving in the organization. The current organizational system is to analyze in order to recognize and determine the problems. Then the proposed operational system will be established to solve the problems, this new system is completed for a computer service's organization in Thailand.

The operation with adding the teamwork process and the clear flow of data which will develop the data flow diagram of the computer service's organization to represent the difference between the existing system and the proposed system for the small and medium business. This project is to determine advantages and disadvantages in the operation in the computer service of the existing operational system and to research whether the new system will increase in efficiency, effectiveness, smoothness, and faster run in the business. Besides these the rating scale technique performs all factors analysis of the organization to get the better choice of organization system.

The final conclusion is to implement the computer service system in order to improve efficiency and effectiveness in the company. The recommendation that proposed operational system should replace the current operational system in order to improve efficiency and effectiveness from the analysis.

## ACKNOWLEDGEMENTS

I am indebted to the following people and organization. Without them, this project would not have been accomplished.

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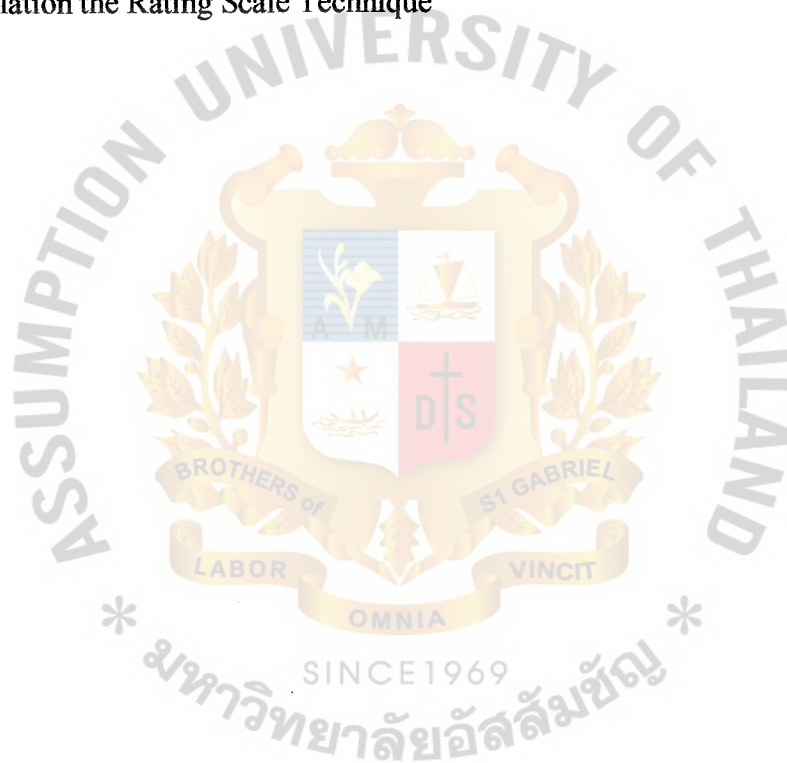
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# **I. INTRODUCTION**

## **1.1 Background**

Computer Service Organization provides Internet related services for specific customer needs such as Internet, Intranet and computer network installment, training, web hosting, programming, etc. It aims to increase capability of small and medium size enterprises (SMEs) and increase profitability for short-term and long-term.

Internet is acting as an important tool in the business and the individual uses, The Internet is a world-wide linkage of computers joined by telephone lines and fiber optic cables. The "Inter" refers to the fact that it is an international connection, and the "net" is short for network (a connection of two or more computers that share their resources).

Having millions of computers connected together can allow people on the Internet to do many things. For starters:

Anybody can access anyone else's computer who wishes to make theirs public (they would then become a server). Some examples of places with servers you could access are The Globe and Mail, Statistics Canada and the Ministry of Education.

Anyone can send almost instantaneous messages to anyone else in the Internet, and include pictures, sounds and even computer programs.

People can "visit" computers designated for specific topics - everything from backrubs to quantum physics - and meet and correspond with other Internet users.

Anyone, including huge corporations and small children, can create their own site on the Internet where they can provide information about anything to an audience of over 20 million people around the world.

The World Wide Web, or WWW, is a massive network of sites, like this one, joined together by links stated on the previous page. It is by far the fastest growing part

of the internet, with some estimates claiming a new site is added to the Web every seven seconds. "Surfing the Net," or wandering around The Web from site to site via these links, is now very easy once you have a basic grasp of how to work your Web browser.

Although only a few years ago the web consisted solely of text, today's inclusion of graphics, sounds, movies and interactive multimedia means the kinds of activities one can engage in through the Web are rich and varied. Here's a short list:

See great artwork from the Louvre, Go shopping, Listen to music while you surf, Research anything, Use a cyber-dating service, Find lesson plans for your classroom, Find info on movies or concerts, Visit homepages of other schools, Visit huge archives of jokes, Learn to draw, Find travel information, Get a Fosterchild, Take a course, Order flowers, Read an online newspaper or magazine, Book a hotel room, Check the weather anywhere, Make your own homepage, find recipes, Visit the homepage of someone famous, Attend an online conference, Learn anything.

So we will see that high demand in the Internet and computer network including the Intranet setup and any service. Running business with the integration of computer network and the Internet to be a good communication, which can connect the globalization and it will be fast transferring information, more accurately, reliable, and etc. The results are to be the more efficient and effective than the business, which does not include or ignore those technology. However, in the present, the average percentage of Thai people who have knowledge about the Internet and computer network set up and using of it are low compared with the developed countries. The emerging of the business, which works is related in the Internet and computer network service including the installment and the training program.

The problems effecting to this business are divided into 2 sources. They are internal effect or from inside the organization and external effect or from outside the

organization. The internal effect is the problem, which happened from the inside organization such as lack of experience in the IT management field, not matching between the new recruit employee and the position, no mention about teamwork, lack of time schedule in any work process, overlap work assignment, cost and time of training, and high wage cost of expert, etc. The external effect is the problem, which happened from the outside organization such as the coming of the foreign company, which have a good system in their organization, long experience in these business field, and good working of the expert make more reliable to the customer.

We will see that the system in the organization is the most important thing, so this project will represent the Internet and computer network company system. To show the capability of Thai people and Thailand company for the perfect system and system development used in Thailand and to bring the limited resources for efficient used. The result shows that Thai people have gone through the advanced steps of technology by which Thailand Company can help each other. The most important thing is to reduce risks of using old developed system which deducted the problems that occurred to be manual of the existing company or new company.



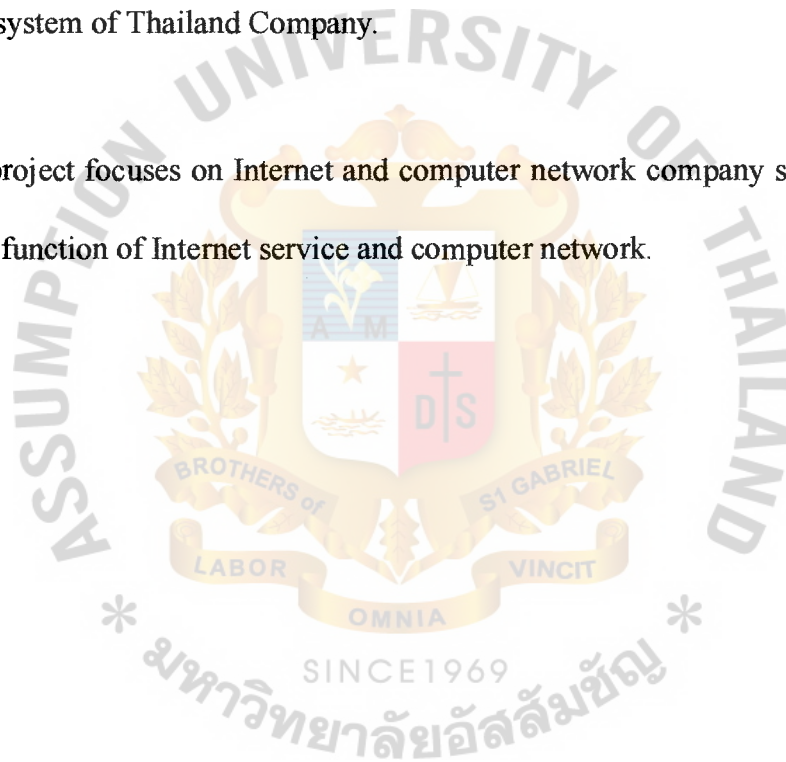
## 1.2 Objectives

To implement the new computer organization from the analysis and system design to be a complete proposed system that can reach the objective of the organization. The objective will make it clear for the path to the goal of the business. The objectives of this project are:

- (1) To develop a system for Internet and computer network company.
- (2) To reduce steps and risks, including the problems that will occur in the system of Thailand Company.

## 1.3 Scope

This project focuses on Internet and computer network company system that can provide full function of Internet service and computer network.



## **II. EXISTING ORGANIZATION**

### **2.1 Overview**

At present, the existing organization related the computer service, the operation by the general structure, by the same as the other business. The result is not efficient and not effective in operation as shown by the following:

There are no teamwork running the project, the work will flow in each department to finish their task by not mention about in team process. Neglected teamwork will miss the opportunity to compete with the competitors because within the large organization, networked teams has become pretty much a necessity

The internal communication is also important for the existing and the proposed organization, some use Intranet or may communication via the program such as ICQ, to transfer text and file within and outside the organization. The business which related about the computer service must use computer communications as a base of running business, data communications, sending reports and information from one computer to another, is the primary function of computer communications. But technological innovation has taken us beyond simply sending the monthly sales figures or a memo written using word processing. LAN, Local Area Network, an intelligent cabling system that connects computers made by different manufacturers, is growing more popular. The LAN allows many computers to exchange data, send E-mail, gather information from the corporate mainframe, and share resources such as printers and mass storage.

The existing organization provides the product and service by the following:

## **2.2 Product and Service**

We have provided turn key computer solutions. We do have Internet, Intranet, and network integration. We do also sell various kinds of computer products and peripheral.

### **2.2.1 Internet Providing**

Computer Service Organization will provide any service to the customer, the following is the service providing related in the Internet part of the business:

- (a) Domain name registration for domestic domain (.th) and International domain (.com/.net/.org)
- (b) Web Hosting
- (c) Web design and development
- (d) Web programming
- (e) E-mail Hosting

### **2.2.2 Software Development**

The programmer responsible for developing the programming and software design, the following are the software development from the company:

- (a) Specific software design and programming for organizations.
- (b) Selling for leading licenses software from Microsoft, Symantec, Novell, etc.

### **2.2.3 Hardware and Any Peripherals**

The company contacts the computer dealer for bargaining price to sell to their customer, The following are some example of the hardware that the company provide:

- (a) Selling various kinds of leading brand names computers and peripherals, for example, Compaq, HP, IBM, SPYGY, etc.
- (b) Network integration for Intranet, Extranet, and Internet.



## 2.3 Hosting your Website

When planning a company website you need to think of many things: the text, graphics, design, colors, cost, who will design the website, and so on. But one aspect that is often overlooked until the last moment is where you will 'host', or store, your website.

All websites need to be stored on a computer with access to the Internet. This computer is called a server. There are two types of server: a 'virtual server', or a 'dedicated server'. What is the difference between the two?

### 2.3.1 Dedicated Servers

A dedicated server is a computer with a large hard disk that is used to store your website and nobody else's. In other words, your company has exclusive use of the server. You can do this one of two ways: Buy your own computer, or rent a server from a company that specializes in this type of service.

Obviously, if you buy your own computer there are several disadvantages. You have to connect it to the Internet, rent a high speed telephone or other type of connection, set up a back up system, set up a back up power supply, and pay large sums of money. And if it goes down for any reason, your website could be unavailable on the Internet for much too long.

If you use a server company you will save huge amounts of money, and never have to worry about maintenance, downtime, or setting up back ups.

### 2.3.2 Virtual Servers

A 'virtual server' looks the same as a dedicated server. It is a powerful computer with a large hard disk and a high-speed connection to the Internet. The only difference is that the hard disk is partitioned off into directories and shared by a lot of websites at the same time.

This is not as dangerous as it sounds, and it works out much cheaper for you. Because each directory is password protected, only the person who owns a directory can enter it. I have put this to the test myself by accessing the root directory of the virtual server where my website is stored. I could see the root directory, but could not get into any other directory except my own. I tried using Telnet and FTP to do this and the results were the same.

## **2.4 Other services**

The company provides more service to the customer, the following are the service that provide to the customer:

### **2.4.1 Electronic Commerce**

Conducting business on-line. This includes, for example, buying and selling products with digital cash and via Electronic Data Interchange (EDI).

Turned on and connected. For example, printers are on-line when they are ready to receive data from the computer. You can also turn a printer off-line. While the printer is off-line, you can perform certain tasks such as advancing the paper, but you cannot send data to it. Most printers have an on-line button you can press to turn the machine on- or off-line.

Users are considered on-line when they are connected to a computer service through a modem. That is, they are actually on the line.

### **2.4.2 Digital Cash**

A system that allows a person to pay for goods or services by transmitting a number from one computer to another. Like the serial numbers on real dollar bills, the digital cash numbers are unique. Each one is issued by a bank and represents a specified sum of real money. One of the key features of digital cash is that, like real cash, it is anonymous and reusable. That is, when a digital cash amount is sent from a buyer to a

vendor, there is no way to obtain information about the buyer. This is one of the key differences between digital cash and credit card systems. Another key difference is that a digital cash certificate can be reused.

Digital cash transactions are expected to become commonplace by the year 2000. However, there are a number of competing protocols, and it is unclear which ones will become dominant. Most digital cash systems start with a participating bank that issues cash numbers or other unique identifiers that carry a given value, such as five dollars. To obtain such a certificate, you must have an account at the bank; when you purchase digital cash certificates, the money is withdrawn from your account. You transfer the certificate to the vendor to pay for a product or service, and the vendor deposits the cash number in any participating bank or retransmits it to another vendor. For large purchases, the vendor can check the validity of a cash number by contacting the issuing bank.

#### 2.4.3 EDI

Short for Electronic Data Interchange, the transfer of data between different companies using networks, such as the Internet. As more and more companies get connected to the Internet, EDI is becoming increasingly important as an easy mechanism for companies to buy, sell, and trade information. ANSI has approved a set of EDI standards known as the X12 standards

However, the existing organization concerning about the computer service business has no concern about the mistake in operation such as the system of the organization, vision of the engineer manager, the expert in any department, the foreign competitors, etc. The most important which concerns in the report, about the system in organization by comparing about the before and after changing the system to make it



clear the difference and show us the benefit of it before the real implementation in the business.

Administrative organization is the structure that facilitated the creation, the implementation, and the evaluation of plans. It is formal or informal mechanism for allocating the human resources of the firm to achieve the firm's goals. Attempting to establish human relationships in an optimal way is probably the firm's most difficult task.

## **2.5 Organization Chart**

The organization chart shows us about the department, which each department has, responsible for their task before approval from their supervisor. We will see that the problems will occur from the any reasons, such as the system which emphasize the centralization format that the authority is up to the top level only so may occur the delay situation in decision making process. Each department does the task before merging all tasks from any department for the project to finish where problems will occur because of poor communication between department and no teamwork process to get the job do the job together.

Many firms would rely on informal arrangements such as persuasion and staff coordinators to balance the interests among the activity areas because organizational design change seems to be more of an evolutionary process than a revolutionary one. No attempts at logistics organization absorb in the existing organization structure.

Let us see about the organization structure of the existing organization the organization chart is shown in Figure 2.1.

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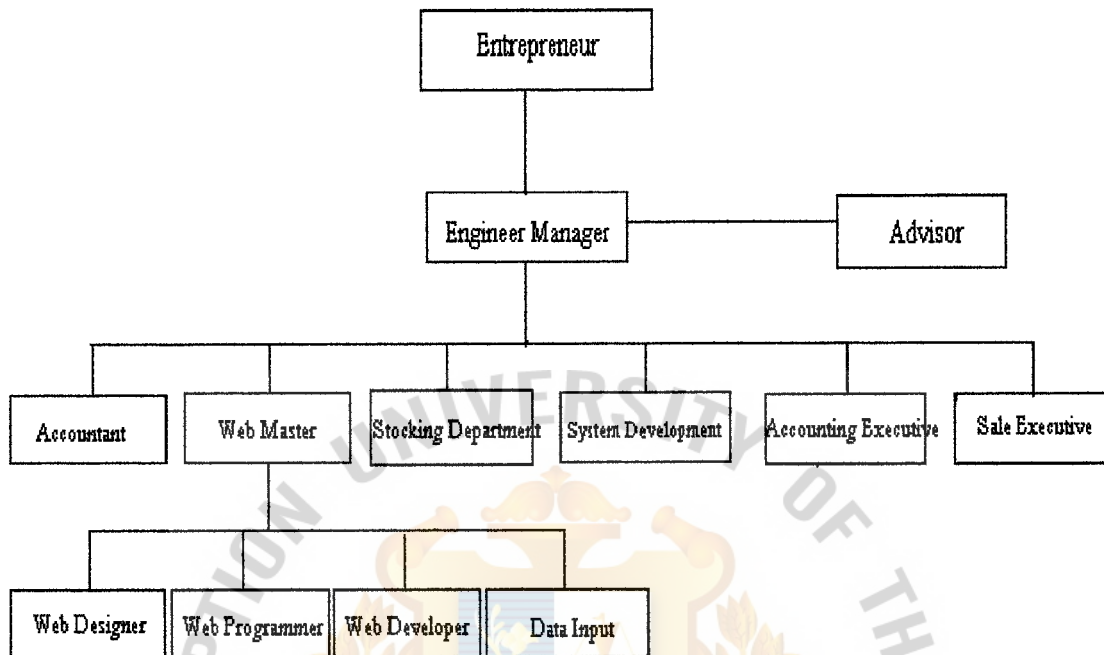


Figure 2.1. An Organization Chart.

## 2.6 Centralization

The format of the organization structure of the existing or the old organization emphasizes in a centralized organization group at the corporate level for the purpose of serving all product groups. To represent the format of a centralized organization, let us see the chart of the centralization from the existing system, computer service organization shown in Figure 2.2.

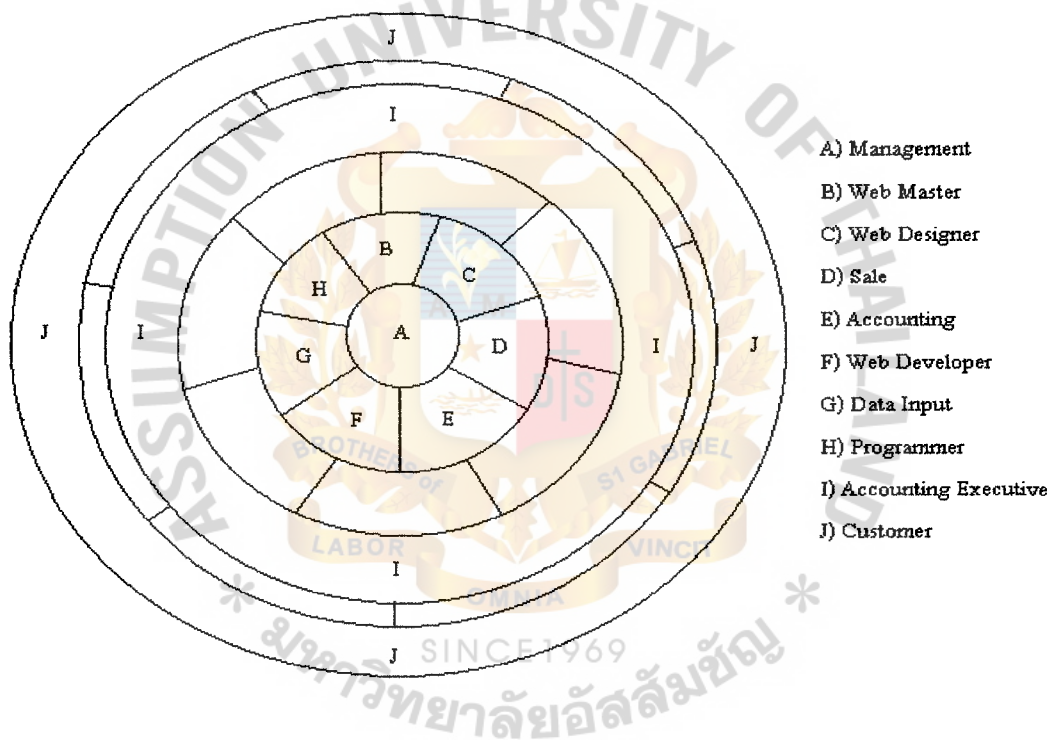


Figure 2.2. Centralization Chart.

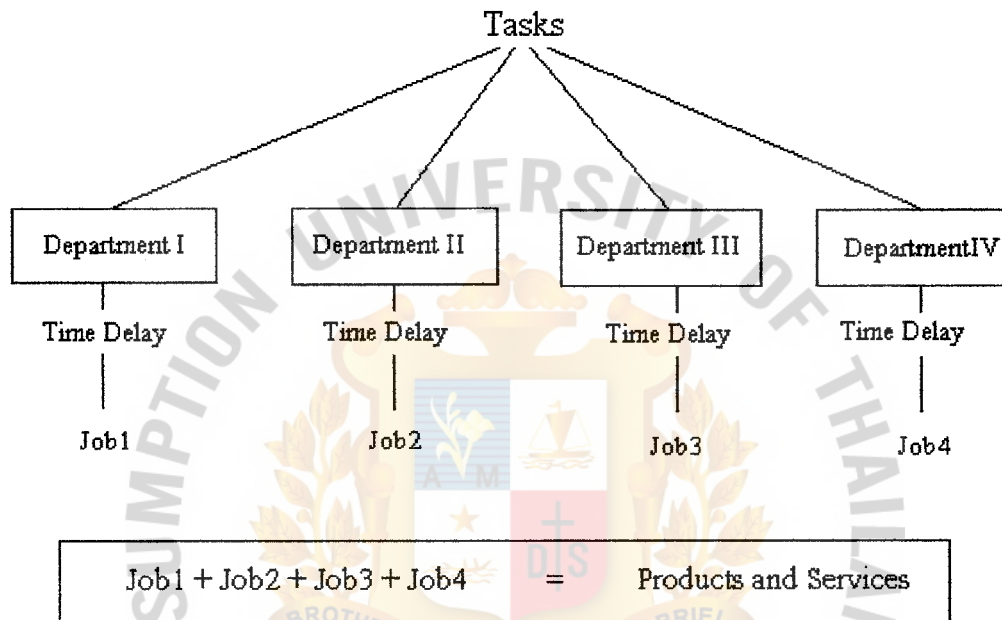
Centralization, all decision making and any authorization come from the middle point of management in the organization. Any job was assigned to any department and makes them responsible for their task. The A.E will confront the customers directly to get any customer information and will contact to the organization.



## 2.7 Non-Teamwork Process

For the existing organization, teamwork process is not integrated into the system.

The format of non-teamwork process is shown in Figure 2.3.



\* Figure 2.3. Non-Teamwork Process. \*

The tasks flow into each department which is responsible to finish their task. Wait for all department complete their project and merge the task into finish product and service. The problems occur cause time delay while waiting for other job from other department to complete their project, no communication between department may occur many mistakes of the final project while merging any task into product and service. It cannot get more tasks at the same time and have to wait for product and service approval from the customer before getting the other job.

### **III. THE PROPOSED ORGANIZATION**

#### **3.1 Overview**

The proposed organization of the Internet and Computer Network company system will show the capability of Thai people and Thailand company for the effective system and system development used in Thailand and bring the limited resources for efficient use.

Adequate information based in the proposed organization are needed for at least two reasons. First, in order for each firm to adjust its controllable variables so that optimum channel profits are achieved, knowledge is required of the economic factor inputs to the decision problems facing the other members, as well as accounting information on the level of profits accruing to each member.

Second, an adequate information system also reduces the uncertainties among the autonomous members and contributes to their continued voluntary cooperation.

Teamwork operations involve the execution of specific tasks to accomplish group objectives and functions. The information systems add value to process, to product, and through facilitating change. Teamwork process refers to activities within the group.

Workgroup effectiveness can be measured by output, by personal satisfaction of group members, and by group capacity for future cooperation. Effectiveness is determined by group effort, by group knowledge and skill, and by approaches and strategies used to perform work.

Let them know, how to achieve coordination or cooperation among activities, functions, and firms so that logistic plans can be implemented effectively. Organization should facilitate optimum logistics performance and is, in general, guided by the total cost concept, except when customer service or information strategies dominate.

Grouping relevant activities together and managing them collectively as a logistics function has received the greatest attention. Organizations structure of the proposed organization. The organization chart shown in Figure 3.1.

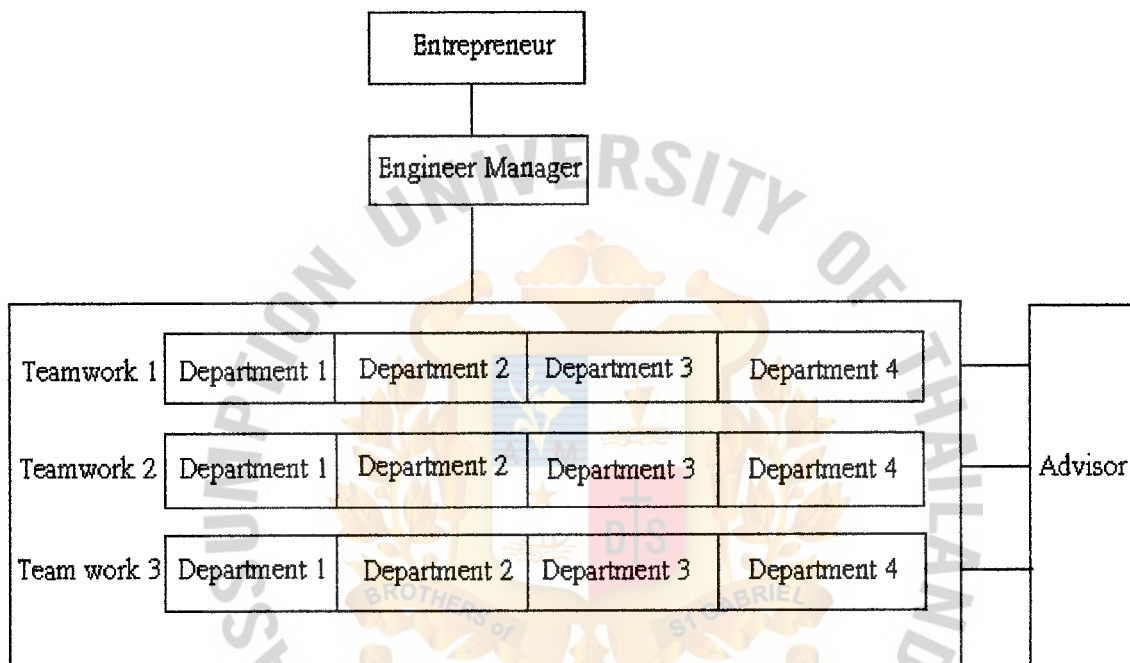


Figure 3.1. An Organization Chart.

### 3.2 Teamwork Process

Teamwork process is integrated into a proposed organization, they work together to achieve a common goal. Usually, members of a workgroup know one another and most often work side by side in the same location.

Teamwork process diagram shows us about the teamwork integrated in the organization shown in the Figure 3.2.

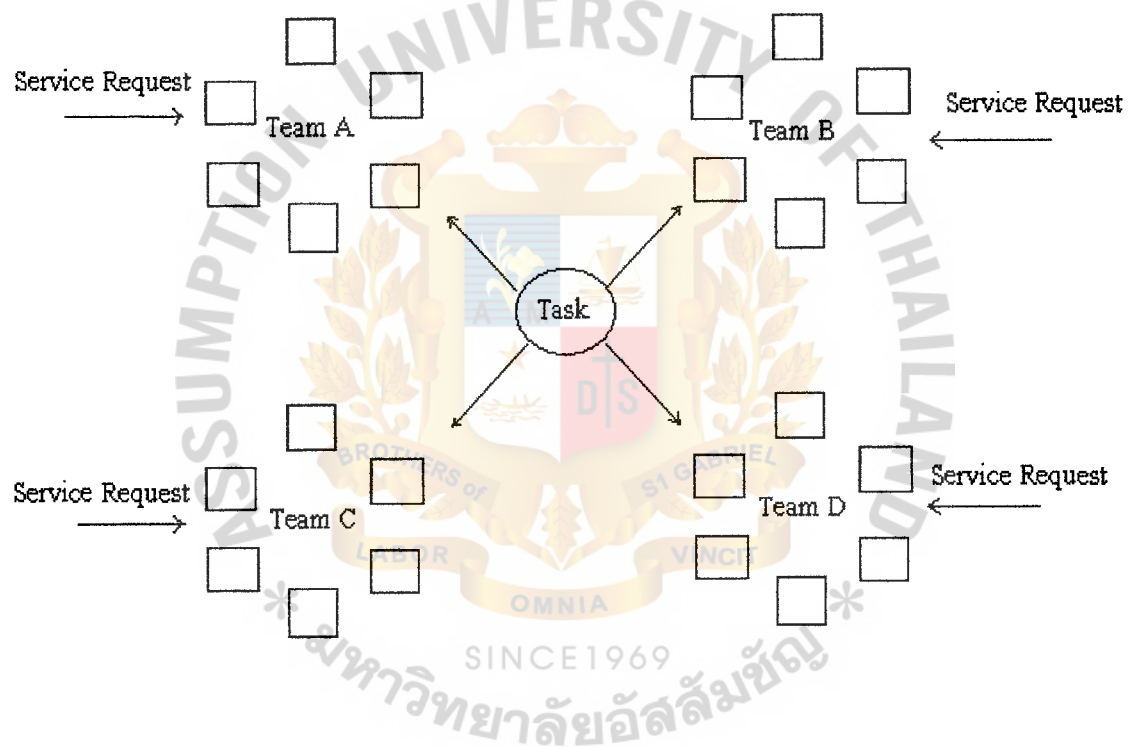


Figure 3.2. Teamwork Process.

Within small and medium organization, to run an efficient manufacturing organization by breaking up the process into specialized tasks, setting standards for the tasks, assigning them to people, then supervising those people and rewarding or penalizing them depend on their individual performance.



Firstly, many organizational tasks these days have to be performed by large networks of people, often because new information technology enables the task to be done much more rapidly and flexibly by a network of people than by a traditional series of autonomous departments. This is true both of service industries such as banking, insurance and travel services and of the development and service functions in manufacturing industries.

Secondly, consistent evidence makes clear that team-based organizations produce better results than traditional, hierarchical organizations, even where the later approach still works.

It is possible, for example, to run an efficient manufacturing organization by breaking up the process into specialized tasks, setting standards for the tasks, assigning them to people, then supervising those people and rewarding or penalizing them depending on their individual performance. Many organizations continue to manage in these comparing plants in the same industry or within the same company, that the performance of traditional plants cannot compete with that of team-based organizations.

### **3.3 Decentralization**

In the proposed organization, emphasis in the decentralization management, the chart will show us about the format of the decentralization process integrated into the proposed system of the organization shown in the Figure 3.3.

Top level management gives the authority to any teamwork for their decision-making. The advantages are the speed to decision making which make the faster job complete and more quickly to customer response that can make more customers' satisfaction.

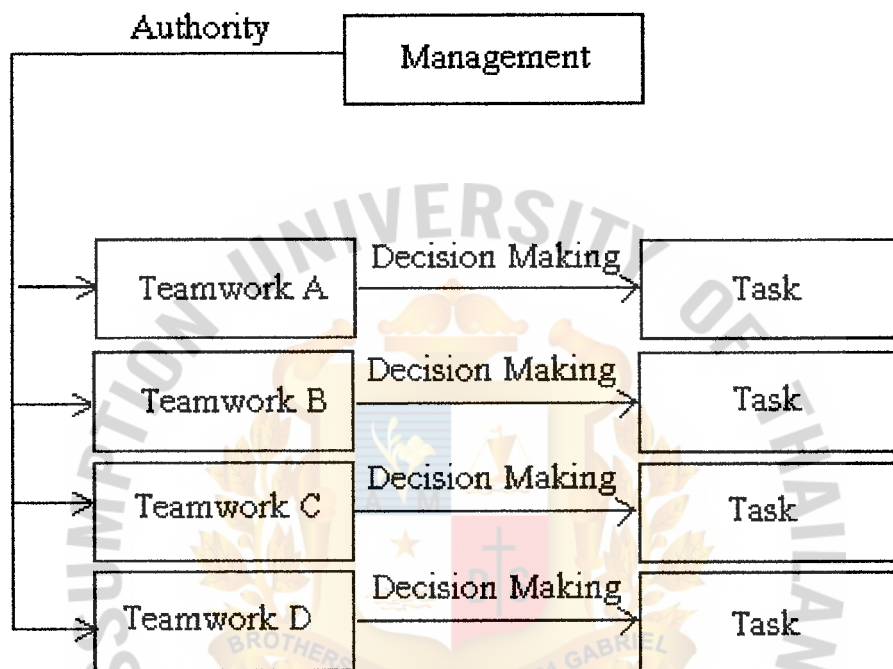


Figure 3.3. Decentralization Chart.

### **3.4 Decentralization versus Centralization**

One of the continuing controversies in organization is whether activities should be grouped close to top management or dispersed throughout the divisions of the larger firms. For example, a major electric company had a number of product divisions, such as industrial electrical equipment, nuclear power, small appliances, major appliances, and lamps. Centralized organization groups logistics activities at the corporate level for the purpose of service all product groups. On the other hand, the decentralized logistics organization puts the responsibility for logistics at the product group or division level. A separate decentralized logistics organization is established to serve each division.

There are some obvious advantages to each type, and a number of firms create organizational forms that blend both types to seed their combined advantages. The principal reason for the centralized form is to maintain close control over logistics activities and to benefit from the efficiencies associated with the scale of activities that can occur by concentrating all logistics activities for the entire corporation under a single director. Consider the traffic activity as an example. Many firms' own private truck fleets. Utilization of the equipment is the key to efficiency. By having centralized control of all traffic activities, a firm might find that the forward haul of one division's products might be the back haul for another. These movements can then be balanced, whereas under a decentralized organization they might be overlooked. Similar efficiencies can be gained through shared warehousing, shared purchasing and shared data processing

Decentralization of organization often allows quicker and more customized logistics response to customer needs than the more removed centralized organization. Decentralization makes a great deal of sense when product lines are distinctly different

in their marketing, logistics, and manufacturing characteristics, and when few economies of scale can be found.

Rarely can we expect to find either a purely centralized or purely decentralized design. For example, although there is managerial interest in divisional and even regional autonomy among the operating units of a firm, technical advances such as computerized data processing have made it more efficient to have centralized order processing and inventory control. Such conflicting trends help to explain the diversity of organizational forms in practice.

### **3.5 Data Flow Diagrams**

The concept of the DFDs is process modeling involves graphically representing the function, or process, which capture, manipulate, store, and distribute data between a system and its environment and between components within a system. A common form of a process model is a data flow diagram.

During requirements structuring, you and the other team members must organize the information into a meaningful representation of the information system that exists and of the requirements desired in a replacement system. In addition to modeling the processing elements of an information system and how data are transformed in the system, you must also model the processing logic and the timing of events in the system and the structure of data within the system.

Thus, a process model is only one of three major complementary views of an information system. Together, process, logic and timing, and data models provide a thorough specification of an information system and, with the proper supporting tools, also provide the basis for the automatic generation of many working information system components.



Data flow diagrams, or DFDs, are very useful for representing the overall data on only four symbols to represent the four conceptual components of a process model: data flows, data stores, processes, and sources/sink. Data flow diagrams are hierarchical in nature and each level of a DFD can be decomposed into smaller, simpler units on a lower-level diagram. You begin with a context diagram, which shows the entire system as a single process. The next step is to generate a level-0 diagram, which shows the most important high-level processes in the system. When decomposing DFDs from one level to the next, it is important that the diagrams are balanced; that is, inputs on one level must be conserved on the next level.

Data flow diagrams should be mechanically correct, but they should also accurately reflect the information system being modeled. To the end, we need to check DFDs for completeness and consistency and draw them as if the system being modeled were timeless. Complete sets of DFDs should extend to the primitive level where every component reflects certain irreducible properties; for example, a process represents a single database operation and every data store represents data about a single entity.

Following the guidelines, it can produce DFDs to aid the analysis process by analyzing the gaps between existing procedures and desired procedure and between current and new systems.

### 3.5.1 Context Diagram

Context diagram, an overview of an organizational system that shows the system boundaries, external entities that interact with the system and the major information flows between the entities and the system. The context diagram is shown in Figure 3.4.

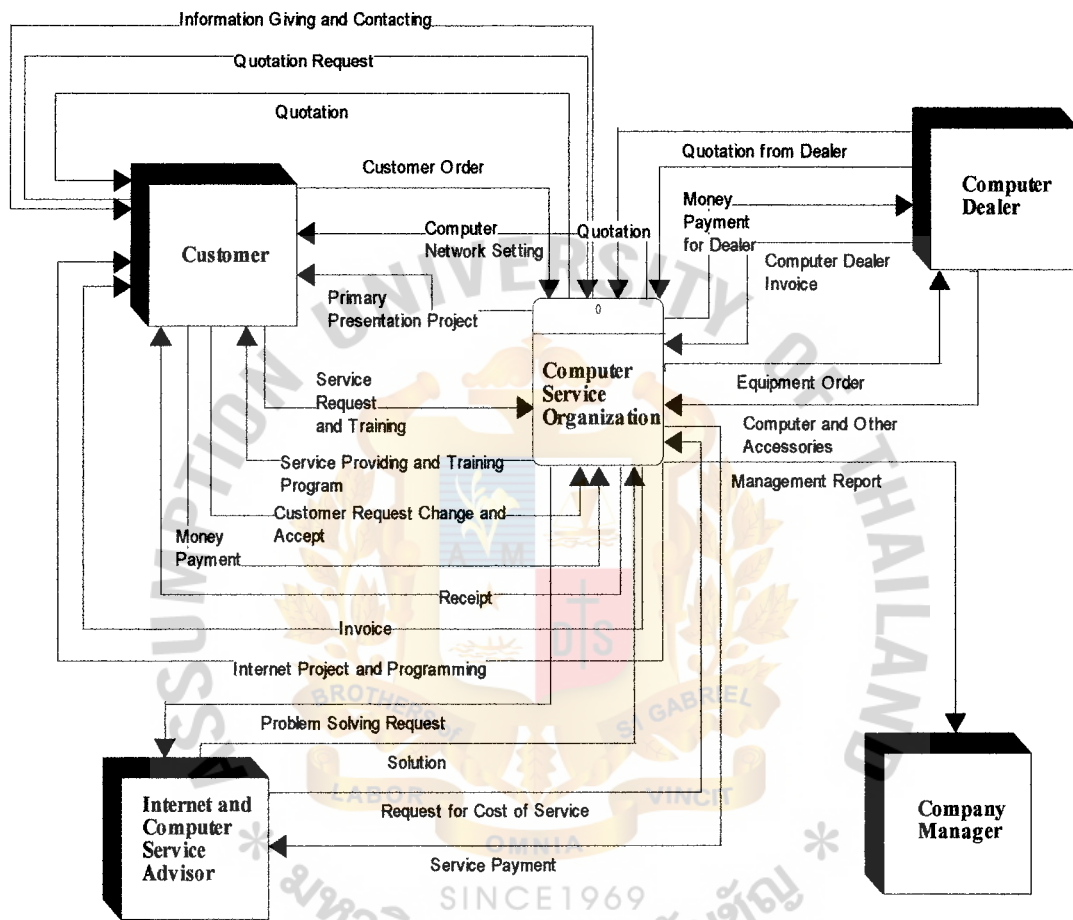


Figure 3.4. Context Diagram.

## St. Gabriel Library, Au

Customer acts as a source and sink of the diagram by sending any information to the process of computer service organization as the following:

- (a) Quotation request
- (b) Customer order
- (c) Customer request changes and accepts
- (d) Service and training program request
- (e) Money payment

Customer requests for the quotation in the ordering by including the project of Internet or computer network setup which adds the cost of equipment such as a computer and other equipment and service after sale from the organization. Price does not cover the whole project because it may not include any service charge such as resolving technique for the error happened from the customer's mistake and the shipment cost of transportation.

Customer order is included by the homepage order, programming, database set up, hosting service, domain registration, computer and equipment order, computer network set up and installing, other service, and training program after sale.

Customer requests change for unsatisfied project but it is up to the dealing contract before the project was implemented. For example, once or twice for homepage design can be changed, if more than that the organization will be charged for any design change until customer accepts those projects.

Service and training program is requested by the customer who doesn't have any knowledge, so they want the service and training program after sales from the organization.

Money payment by 50% is collected before the project starts to confirm for project order from the customer.

Customer also acts as the sink of the diagram by getting the following:

- (a) Information giving and any contacting
- (b) Quotation
- (c) Primary presentation project
- (d) Computer network setting
- (e) Service providing and training program
- (f) Receipt
- (g) Invoice
- (h) Internet project and programming

A.E gives the information to the customer, information such as the pricing, hosting spec, service information, etc. And any contact and any advice to the customer.

The quotation of all projects' prices which do not include the other service price and training program's charge to the customer.

The primary presentation project will be presented to the customer, which will be changing of some part of project.

Computer network setting will be set up from the System development department of the organization.

Customer requests for the Service providing and training program because many customers do not have any knowledge about those projects.

Receipt and invoice will be collected by the customer after payment to the organization for this project.

Internet project and Programming is the project for the Internet developer part to present to the customer. And the programming from any customer's request, which will be developed by the programmer.



Computer dealer as a source and sink of the organization, by sending the quotation form the equipment order to the organization. The equipment order and invoice will be sent to the organization, money will be collected. Computer dealer will be sent the receipt to the organization.

Internet and computer service advisor gets the problem-solving request from the organization, giving the solved answer to the organization before collecting money for the service.

The last one of the process is, management report will be sent to the company manager.

As stated earlier, sources/sinks are always outside the information system and define the boundaries of the system. Data must originate outside a system from one or more sources and the system must produce information to one or more sinks (these are principles of open systems, and almost every information system is an example of an open system).

A source/sink might consist of the following:

- (a) Another organization or organization unit which sends data to or receives information from the system you are analyzing.
- (b) A person inside or outside the business unit supported by the system you are analyzing and who interacts with the system.

If any data processing takes place inside the source/sink, we are not interested in it as this processing takes place outside of the system.

### 3.5.2 Level-0 Data Flow Diagram

Level-0 Data Flow Diagram of the computer service's organizational analysis and design is shown in Figure 3.5.

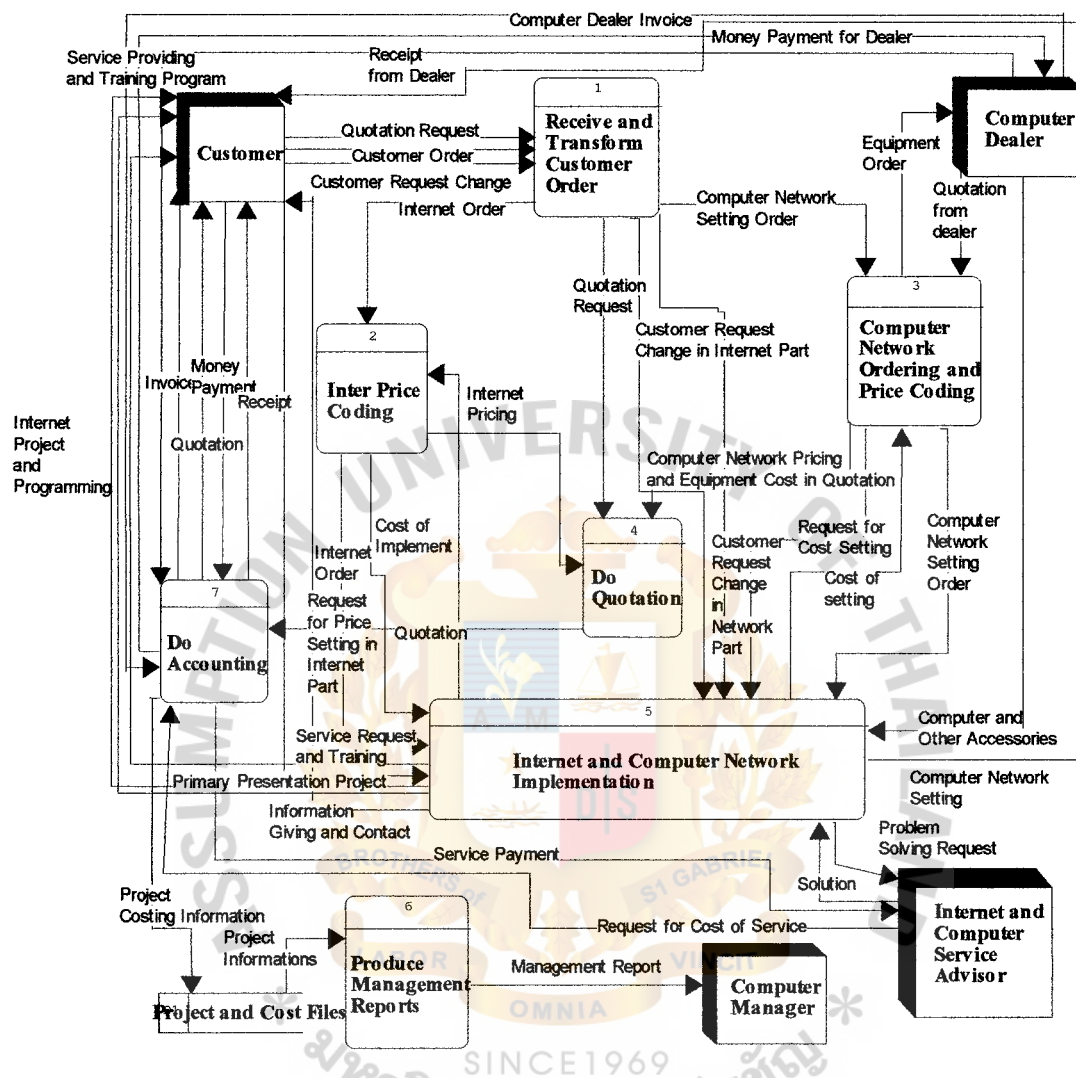


Figure 3.5. Level-0 Data Flow Diagram.

In the data flow diagram at level-0, 7 process will show you and it represents the workflow by the following:

The process 1.0, begin at the receive and transform customer order by getting the customer order and classify into 2 jobs, first is Internet order and second is computer network setting order. In this process, it also gets the customer request for quotation which will be send to the process 4.0 for doing quotation. Getting the customer request

changed and sending direct to the process 5.0 of Internet and computer network implementation. After we classify the customer order, sending the Internet order to the process 2.0 of Internet price coding and computer network setting order to process 3.0 of computer network ordering and price coding.

Process 2.0, Internet prices coding. Beginning at request for the price setting in the Internet Part by sending the internet order to the process 5.0 of Internet and computer network implementation to get the cost of implement project after the price was coded, send the inter pricing to do the quotation in process 4.0.

Process 3.0, computer network ordering and price coding. Beginning at after getting the computer network setting orders from the process 1.0 of receives and transforms customer order. We will know the amount of computer and any equipment order, so we order it to the computer dealer, we will get the dealer quotation on computer and equipment at the dealer price. We will get the cost of computer network setting after we request for the cost to the process 5.0 of Internet and computer network implementation. Now both of dealer quotation about the computer and other equipment and cost of setting, we will send to process 4.0 as the word computer network pricing and equipment quotation by doing the quotation in process 4.0. After the customer confirms for order, we will send the computer network setting order to process 5.0 for implementation.

Process 4.0, do quotation. Collecting the quotation request from the customer and then do quotation by summarizing and calculating both computer network pricing and equipment cost in quotation from the dealer, and Internet pricing. Then, send the complete quotation to do accounting in process 7.0.

Process 5.0, Internet and Computer Network Implementation is the most important process of the organization because it is a main process of the project

implementation. It separate into 2 main parts by it will be shown in the level 1 of data flow diagram. The Internet order and computer network setting order was collected and work will be delegated into this process. It also provides the information giving and contact direct to the customer, so the customer may request change in the Internet part. The total cost of implementation and the cost of network set up was sent to do quotation via the process 2.0, Internet price coding, and process 3.0, computer network ordering and price coding. When the project finished, it will have primary presentation project to the customer directed for the first approval. If the project was approved, then Internet project and programming was sent to the customer, otherwise correct it again by once or twice up to any contact between A.E and customer. The service providing and training program provided to the customer after project was finished.

In process 6.0, produce management report by collecting all project information from the data files which is collected into the project and cost files and then do the report before sending the management report to the computer manager for periodical review and control all process in the organization.

In process 7.0, do accounting by doing income statement and balance sheet to be an information in each period before keeping in the project and cost files which concern about the money payment form the customer

### 3.5.3 Level-1 Diagram Showing the Decomposition of Process 1.0 from the Level-0 Diagram

From the process 1.0, receive and transform order will be decomposition into 3 processes shown in Figure 3.6.



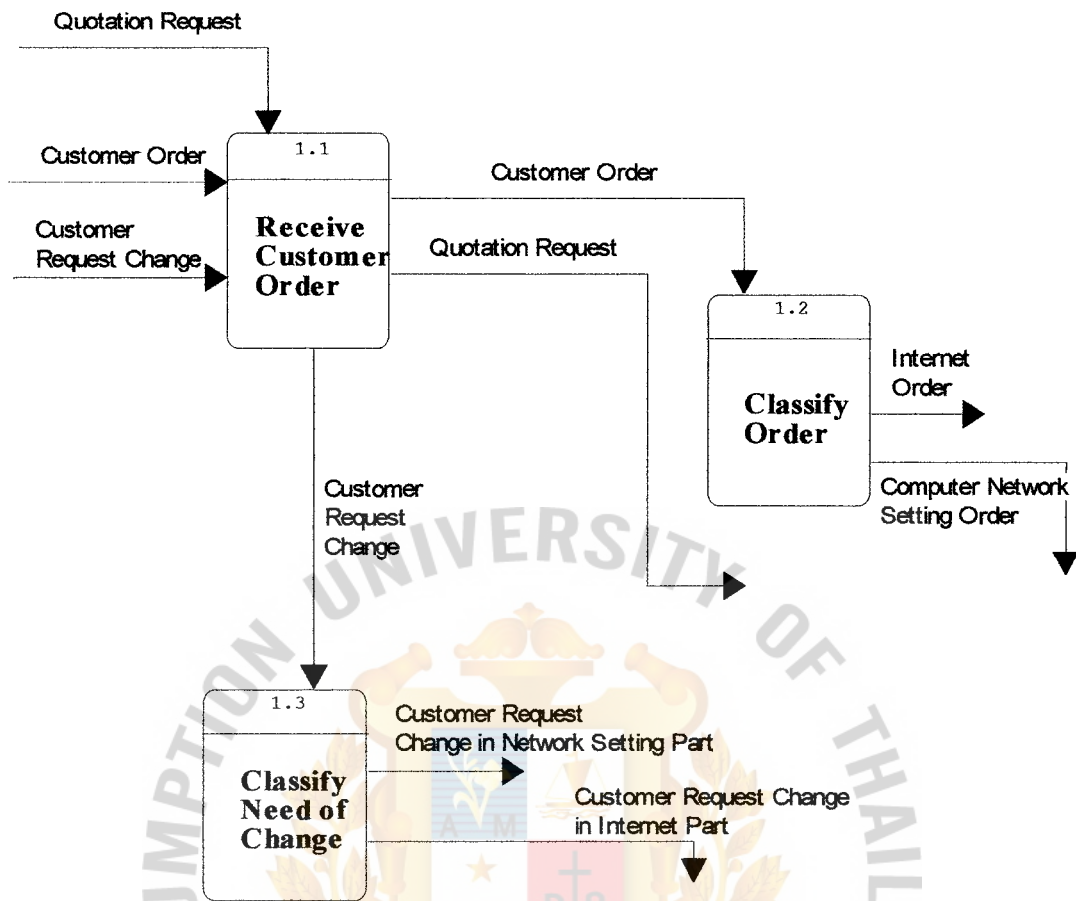


Figure 3.6. Level-1 Diagram Decomposition of Process 1.0 from the Level-0 Diagram.

3 processes of the level-1 diagram showing the decomposition of process 1.0 from the Level-0 diagram are receive customer order, classify order, and classify need of change.

Receiving the customer order: quotation request, customer order, and customer request change. The customer order will be sent to the process of classify order, customer request change will be sent to the process of classify need of change, and the quotation request will be sent out to the process.

Processes of classify order, after getting the customer order, the process will be classifying the order in to two groups: Internet order and computer network setting order.

Processes of classify need of change, after getting the customer request changes, the process will classify these requests into two groups: customer request change in networking setting part and customer request change in Internet part.

All of 3 processes are decomposition of process 1.0 of receive and transform order which emphasizes in the classifying the order into two groups of Internet group and network setting group.

#### 3.5.4 Level-1 Diagram Showing the Decomposition of Process 2.0 from the Level-0 Diagram

There are 3 processes of the level-1 diagram showing the decomposition of process 2.0 from the –0 diagram are receive the Internet order, calculate pricing, and order preparing data shown in Figure 3.7.

After getting the Internet order, it will be sent to the process of calculate pricing by getting the cost of implementation after sending the request for price setting in Internet part to compare the price in the calculate process to get the Internet pricing.

All of 3 processes are decomposition of process 2.0 of Internet price coding which emphasizes in calculating the Internet pricing before sending to do the quotation and sending to the customer.

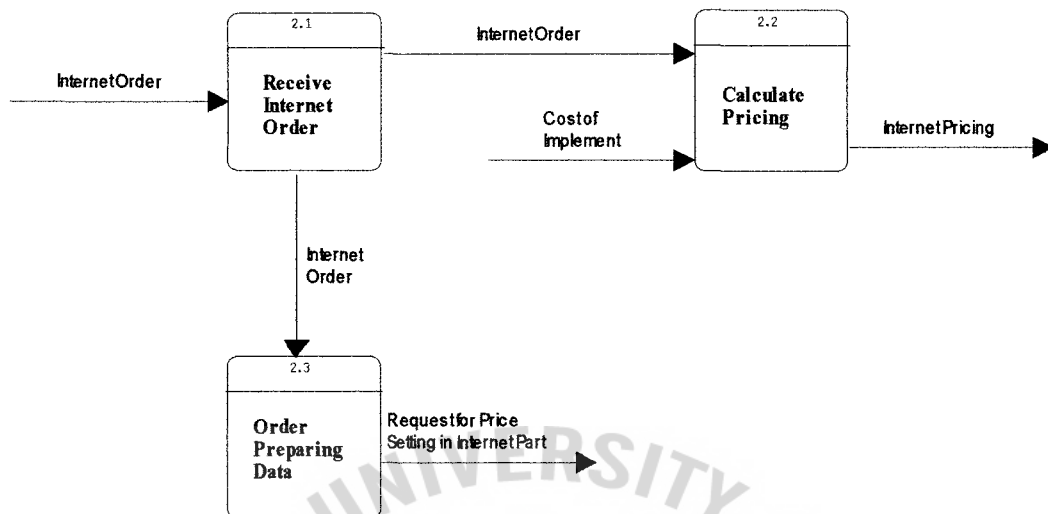


Figure 3.7. Level-1 Diagram Decomposition of Process 2.0 from the Level-0 Diagram.

### 3.5.5 Level-1 Diagram Showing the Decomposition of Process 3.0 from the Level-0 Diagram

There are 5 processes of the level-1 diagram showing the decomposition of process 3.0 from the Level-0 diagram are receive customer order, clarify the order, ordering material, get cost of implementing, and do quotation shown in Figure 3.8.

We get the computer network setting order and transfer to the process 3.2 of clarify the order to be the equipment requirement and send it to the process 3.3 of ordering material which sends the equipment order to the computer dealer.

The computer network setting order also sent to get cost of implementing in process 3.4. To be the cost of setting, it must get cost of setting from the process 5.0 of Internet and computer network implementation, to be the cost of setting before sending to the process 3.5 of do quotation.

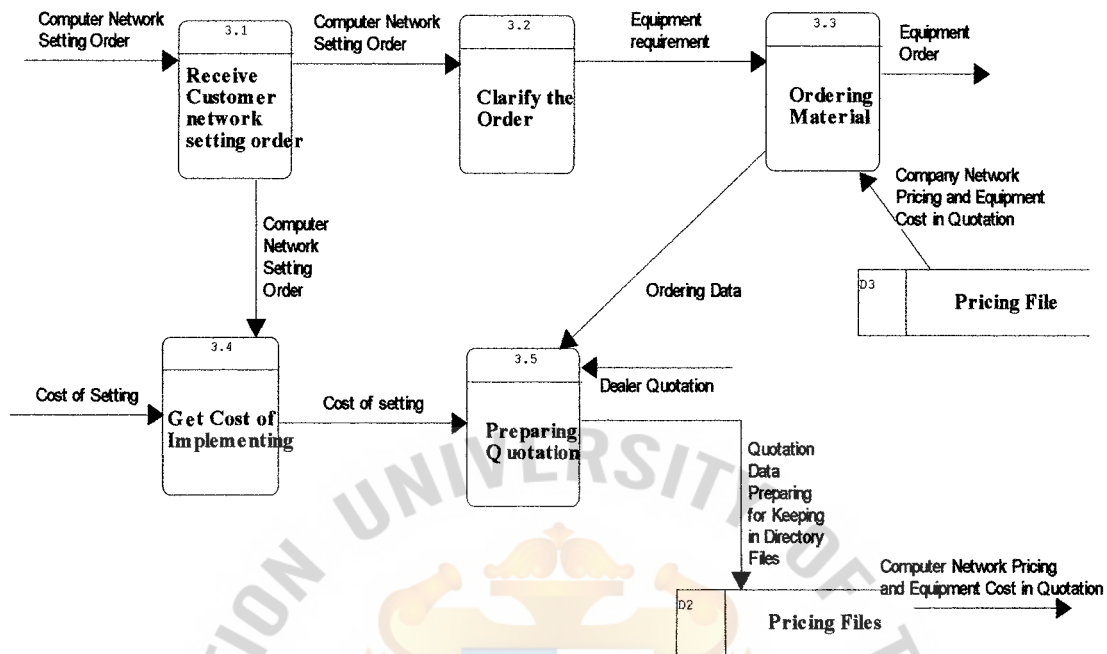


Figure 3.8. Level-1 Diagram Decomposition of Process 3.0 from the Level-0 Diagram.

Process 3.5, do quotation by collecting the cost of setting in the network setting and ordering data from the ordering material from the process 3.3 of ordering material and the dealer quotation, then we will get the quotation data prepared for keeping in directory files.

The pricing file was collected to be the computer network pricing and equipment cost in quotation which will be sent like a loop to the process 3.3 of ordering material again to get the information about the cost in quotation. To make it non-mistake price order as a secondary data files.

All of 5 processes are decomposition of process 3.0 of computer network ordering price coding which emphasizes in the part of setting price in the computer network setting order from the customer.

### 3.5.6 Level-1 Diagram Showing the Decomposition of Process 4.0 from the Level-0 Diagram

There are 2 processes of the level-1 diagram showing the decomposition of process 4.0 from the –0 diagram are getting any information and edit and coding shown in Figure 3.9.

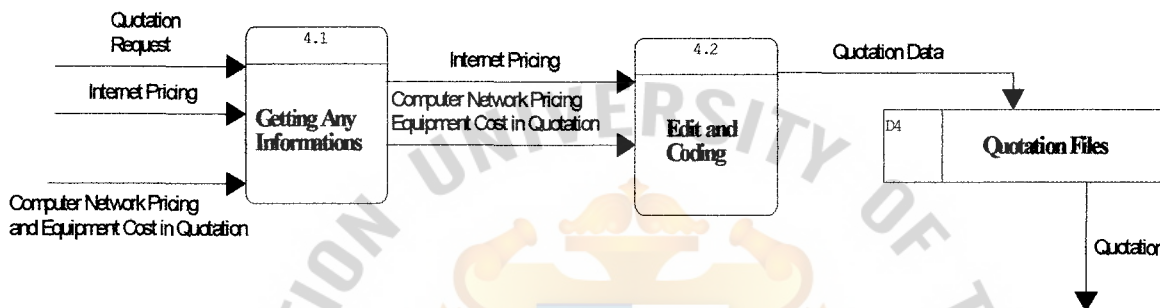


Figure 3.9. Level-1 Diagram Decomposition of Process 4.0 from the Level-0 Diagram.

Any information which we get such as the quotation request, Internet pricing, and computer network pricing and equipment cost in quotation. The Internet pricing and computer network pricing and equipment cost in quotation will be edited and coded to be the quotation data before keeping into the quotation files.

All of 2 processes are decomposition of process 4.0 of do quotation which emphasizes in the part of doing quotation before sending it to the accounting part of the process 7.0 in the level 0 of data flow diagram.

### 3.5.7 Level-1 Diagram Showing the Decomposition of Process 5.0 from the Level-0 Diagram

There are 7 processes of the level-1 diagram showing the decomposition of process 5.0 from the –0 diagram are receiving any request and order and clarify its



order, assigning job of Internet part, assigning job of network setting, team working delegation, team working of network setting, calculate cost of implementation, and request for service shown in Figure 3.10.

The most important part of the computer service organization is in these process, Internet and computer network implementation. Starting at receiving any requests and orders and clarifies the order from the following:

- (a) Service request and training
- (b) Request for price setting in Internet part
- (c) Internet order
- (d) Customer request change in Internet part
- (e) Customer request change in Network part
- (f) Computer network setting order
- (g) Request for cost setting of network

All of these will be clarified to be two groups of Internet part and network setting part, process 5.3 is assigning job of network setting will get the request for cost setting of network, customer request change in network part, computer network setting order, and service request training.

Process 5.2 is assigning job of Internet part will get the request for price setting, Internet order, service request training, and customer request change in Internet part.

Assigning this job to get the task and send it to the team, so the teamwork delegation will be most important for this business which is different for the old organization system.

Process 5.4 is team-working delegation of the Internet part, the project such as providing the domain name registration for domestic domain (.th) and International domain

(.com/.net/.org), web hosting, web design and development, web programming, E-mail Hosting.

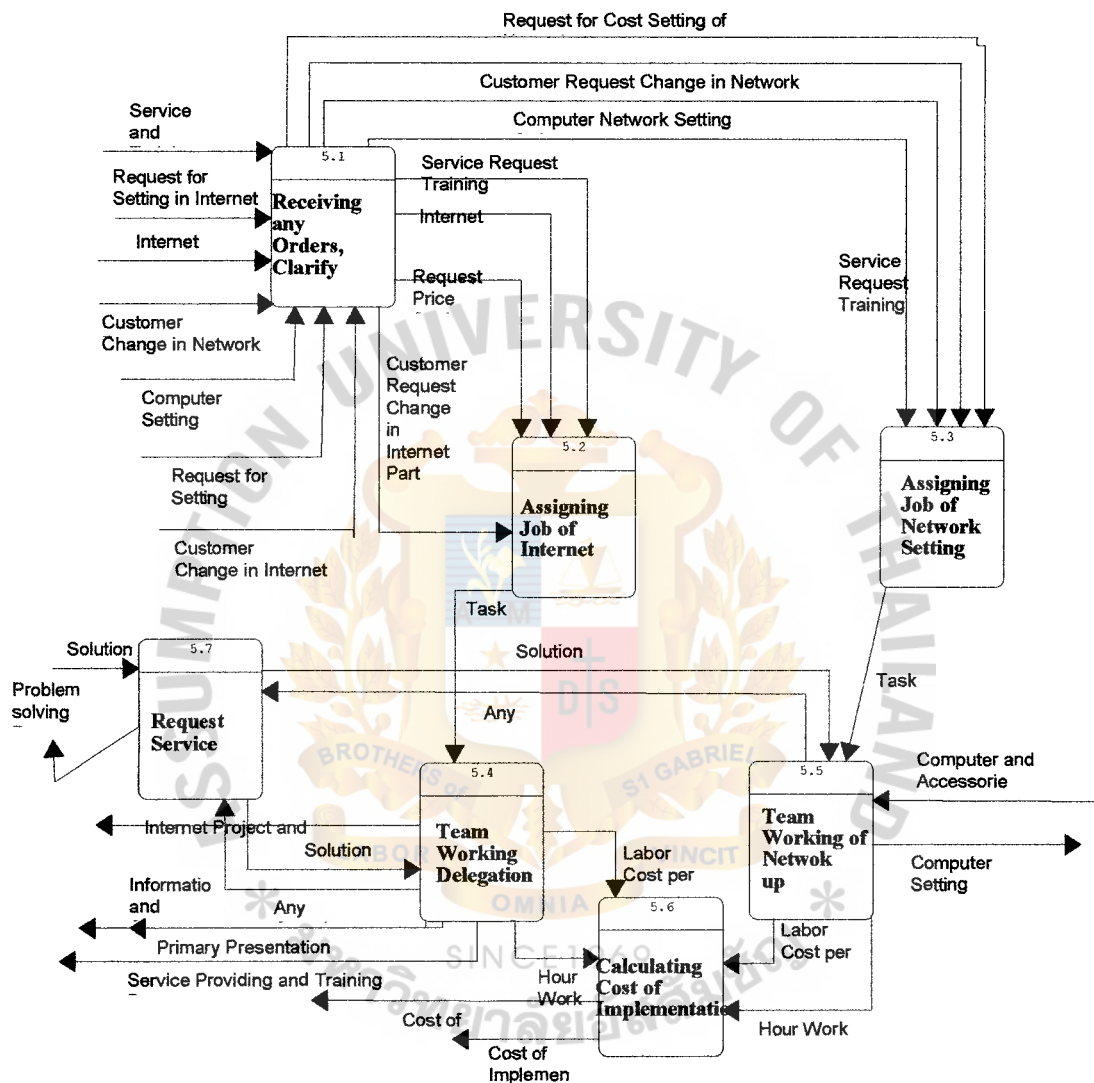


Figure 3.10. Level-1 Diagram Decomposition of Process 5.0 from Level-0 Diagram.

Other services such as electronic commerce by conducting business on-line. This includes, for example, buying and selling products with digital cash and via Electronic Data Interchange (EDI). After the project completes, the primary project will be presentation to the customer for first approval, which may need some change in some part of the project until it reaches the customer's satisfaction. Providing Service providing training program to the customer for the customer who doesn't have more knowledge about this project.

Final Internet projects and programming will be presented to the customer, aim to make the customer's satisfaction. And still give the information and contact to the customer periodically.

Task and computer and other accessories will be sent to the process 5.5 of team working of network setting that will be working in team like an Internet teamwork process. We will see that all of working process emphasizes in teamwork process to get more efficiency and more effective rate in implementing the project that I will show the different point between no teamwork implementing and teamwork implementing in the next part of the report. Labor cost per hour and hour work of the network setting part sent to the process 5.6 of calculated cost of implementation.

To calculate the cost of implementation in process 5.6, it will be to collect the labor cost per hour of the engineer and hour work form the team work from the Internet part and the network setting part. To get the cost of Implement and cost of setting of those project by the following formula:

Cost of Implement (Internet project)

$$= \text{Hour work (Internet teamwork)} * \text{Labor cost/hours}$$

Cost of Setting (Network setting project)

$$= \text{Hour work (Network set up teamwork)} * \text{Labor cost/hours}$$

Cost of implement and cost of setting will be sent back to process 2.0 and process 3.0 in level-0 data flow diagram for price coding to do the quotation for the next step.

The last process for the decomposition of process 5.0 is process 5.7 of request for service. Sometime the problems cannot be solved, may request some advice from the advisor service company, we need help for the advisor so request for the problem solving to them, to get the answer or solution of it.

All of 7 processes are decomposition of process 5.0 of Internet and computer network implementation, which emphasizes in the teamwork process for both team of network setting up and Internet implementation. And how to calculate cost of implementation before sending it to do quotation and accounting for those projects.

### 3.5.8 Level-1 Diagram Showing the Decomposition of Process 6.0 from the Level-0 Diagram

There are 2 processes of the level-1 diagram showing the decomposition of process 6.0 from the level-0 diagram are access project information and prepare management report shown in Figure 3.11.

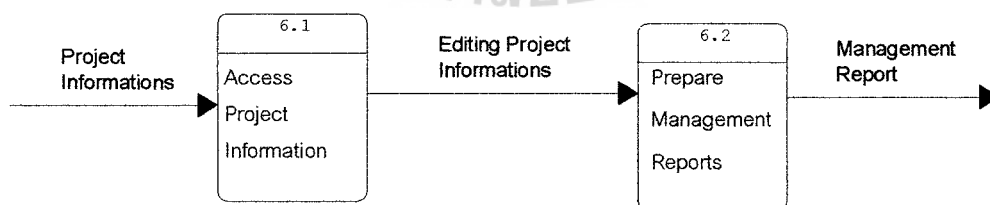


Figure 3.11. Level-1 Diagram Decomposition of Process 6.0 from Level-0 Diagram.

Getting the project information from the project and cost files, which we already keep in the database, then access the information to be the edit project information.

Sending the project, which is already edited to do the management report before sending it to the computer manager for review and control all of the process periodically.

All of 2 processes are decomposition of process 6.0, produce management report which emphasizes in preparing the management reports for the computer manager.

### 3.5.9 Level-1 Diagram Showing the Decomposition of Process 7.0 from the Level-0 Diagram

There are 9 processes of the level-1 diagram showing the decomposition of process 7.0 from the –0 diagram are edit and quotation record, preparing company quotation, receive invoice from dealer, edit by calculating and comparing, payment and get invoice, do income statement and balance sheet, get request for cost of service advisor, get money payment, and do invoice shown in Figure 3.12.

Starting at getting quotation to process 7.1 of edit and quotation record, we send the list of quotation to keep in database, and send approved quotation to process 7.2 of preparing company quotation and invoice.

We get invoice form the dealer to process 7.3 of receive invoice form the dealer and then send it to process 7.4 of edit by calculating and comparing. In process 7.4, we also get the quotation report from the database and also get the request for cost of service from the process 7.7 of get request for cost of service advisor, then calculate it to be the approving document.

Process 7.5, payment and get invoice by collecting the approved document and computer dealer invoice, then pay for project and other service. After that the cost information will be sent to the process 7.6 of do income statement and balance sheet by accountant.

After getting the money payment from the customer, the company will do invoice by getting the document information form the process 7.2, then we keep invoice data in



the database to be the invoice history data, which is also sent back to the process 7.2 of preparing company quotation.

All of 9 processes are decomposition of process 7.0 of do accounting which emphasizes in doing income statement and balance sheet record.

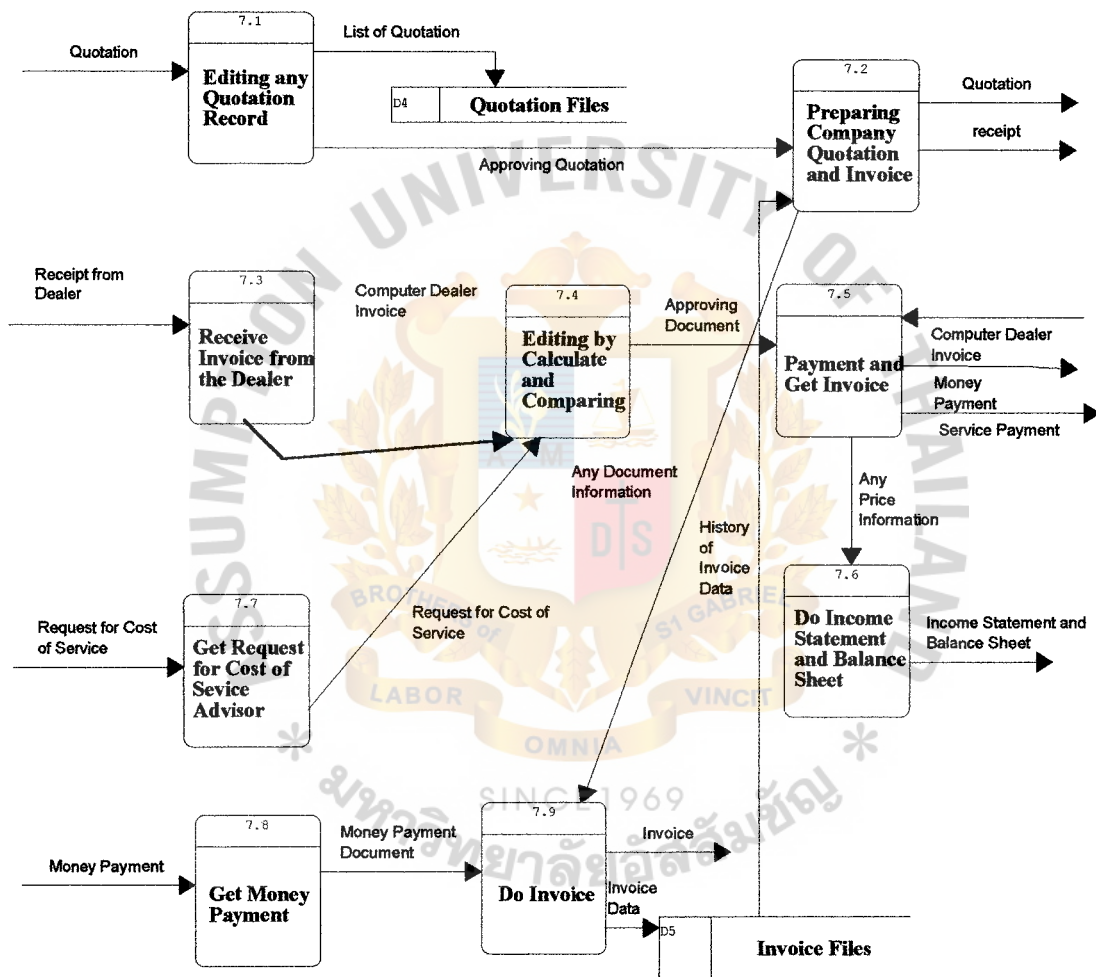


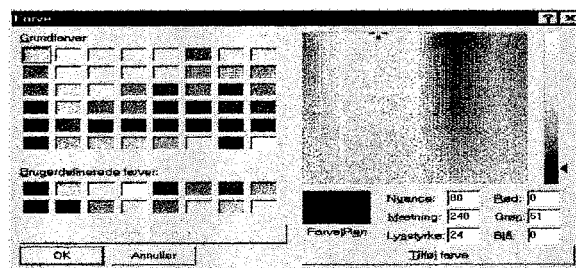
Figure 3.11. Level-1 Diagram Decomposition of Process 7.0 from Level-0 Diagram.

### **3.6 Responsibility**

#### **(a) Web Designer**

Web designers are responsible for designing any template of the homepage to preview in the web browser. Using graphic program such as Photoshop version 5.5 or version 6.0, Image Ready, Color Draw, Flash Animation version 4.0 or version 5.0, Swish, and etc. Characteristic of Web designer must be creativity and capability to grasp any idea and concept of the customer's project, aim to make the customer satisfied with the project work piece and reach them the right target group. Web designer has to know what is the web designer's problem?

When designing WebPages, the problem is, that this palette is often not identical with the palette you are presented to for selecting colors. For example, when selecting colors in Netscape Gold 3 for Windows 95, you were presented to the system colors (see below), -- most likely because there is a convenient standard palette GUI in Windows 95+, which the programmer can use instead of designing his/her own one. So, you are "seduced" to use non web safe colors. The Windows system color palette is shown in Figure 3.12. In non-Windows systems, you may have problems seeing the correct colors in 256 color.



**Figure 3.12. The Windows System Color Palette.**

(b) Web Developer

Web developers are responsible for implementing the web design to be online in the web browser by using the implementation program such as front page version 2000, Fire work, Dreamweaver, etc. Good characteristics of web developer are more knowledge of using variety program for implementation, and create the idea and technique to make the fast loading or reload of the web site and can avoid or reduce any problems happened of the step in developing web site.

(c) Web Programmer

Web programmers are responsible to develop the program used in web site. Including database system. The program used such as Java, Java Script, Java Applet, Access version 2000, ASP, Http, etc. Security is the most that programmer must be careful from the hacker or a person who enjoys learning programming languages and computer systems and can often be considered an expert on the subject(s). Among professional programmers, depending on how it is used, the term can be either complimentary or derogatory, although it is developing an increasingly derogatory connotation. The pejorative sense of *hacker* is becoming more prominent largely because the popular press has cooped the term to refer to individuals who gain unauthorized access to computer systems for the purpose of stealing and corrupting data. Hackers, themselves, maintain that the proper term for such individuals is cracker.

(d) Web master

Web masters are persons who manage a web; mediator between web authors and system administrator - ensures that applicable standards such as HTML validity and link liveness are met, optimizes the web architecture for navigability,

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takes editorial responsibility for the content, quality and style of the site; finds, creates and installs tools to create web content and check consistency; develops and enforces the house style; liaises with graphic artists; provides first level user support.

A good webmaster will possess:

- (1) Exceptional intelligence.
- (2) Enthusiasm for web technology.
- (3) Excellent communications skills.
- (4) Familiarity with the W3C's work.
- (5) Thoroughness and an eye for detail.
- (6) Integrity, courtesy and professionalism.
- (7) Ability to spell and knowledge of English grammar.
- (8) At least 1 year's full-time web development experience.
- (9) Knowledge of at least Perl, UNIX, HTML, CGI, JavaScript.

Typical tasks would involve some of the following:

- (1) Perl programming.
- (2) Maintain the site maps.
- (3) Maintenance procedures.
- (4) Maintain any mirror sites.
- (5) Assisting in site promotion.
- (6) Write entries for the Glossary.
- (7) Provide first-level user support.
- (8) Maintain the search engine index.
- (9) Look for problems, suggest improvements, etc.
- (10) Monitor the error logs and report potential problems.

- (11) Verify that links from the site are live and go to what they claim.
- (12) Check presentation and readability in various browsers on various platforms.
- (13) Editorial responsibility for the content, quality and style of the site, in collaboration with the area authors on the team. This will include finding, creating and installing tools to create web content and check consistency; development and enforcement of the house style, including liaison with graphic artists; and the development of interactive web applications.
- (14) The ability to work both independently and effectively with others is a necessary qualification, as are good communication and writing skills. You will need to be more familiar with the server in order to set up a configuration that works for your data, and you will probably want to learn about various tools that can be useful.
- (15) Responsible in control and monitoring all activities in the Web site part of the organization. Receiving the customer's request, answering the FAQ or Frequency Ask Question, got mail, send mail to the customer, finding the new technology and create technique to develop web site. Delegating any task to the web designer, web developer, web programmer, and contact to the supervisor at the higher level.

All of these are any web master process for their task in the computer service's organizational.

(e) Data input

Information update and uploading data to the Webster via the program from web programmer, searching the data and edit to be the right data for using in the organization's web site. It may have some web refer to be a



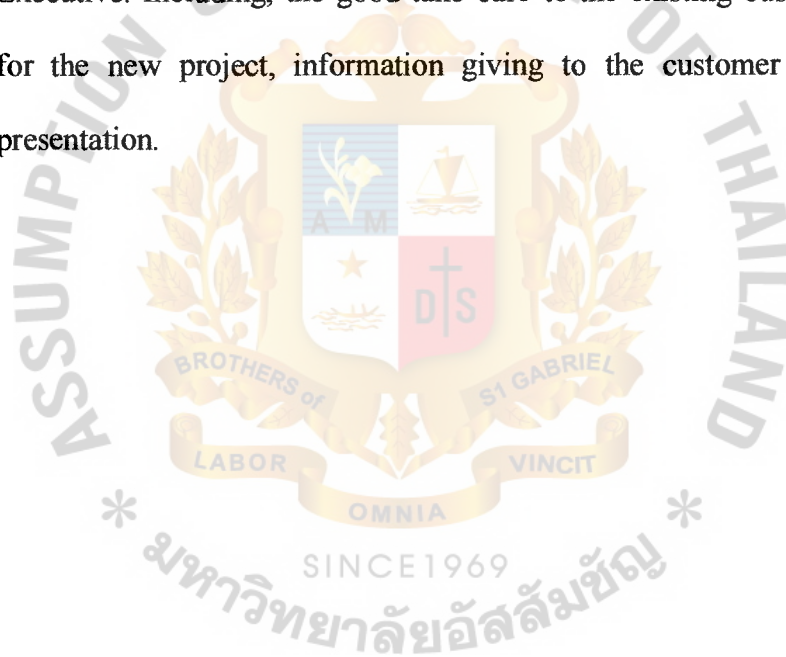
search engine, so data input duties for analyze the data and record into the right categories and update the latest news.

(f) Accountant

Do balance sheet, income statement, calculate the benefit and not benefit. Do quotation, record and keeping in database files.

(g) Accounting Executive

Contacting to the customer and sending the project to the customer and finding a new customer are the main responsibility of Accounting Executive. Including, the good take care to the existing customer, bidding for the new project, information giving to the customer and company presentation.



## **IV. IMPLEMENTATION**

Step to change from existing organization to be a proposed organization divided into 2 types by the following:

- (a) Reorganization
- (b) Step by step changing

### **4.1 Reorganization**

Reorganization by all changing to a new system by one time, neglect the old system which is hard to modify or solve the routine problems. The result that can be suitable for the new organization but we have to consider about pros and cons of those reorganization by the following:

#### **4.1.1 Advantage of Reorganization**

Reorganization of the new system has advantages as the following:

- (1) Create an image to the organization, the customer feels changed for the reorganization.
- (2) Fast changing makes the competitive advantage because the competitors aren't aware of the new changing before.
- (3) Reorganization makes the high capability for expanding the jobs in the future.

#### **4.1.2 Disadvantage of Reorganization**

Reorganization of the new system has disadvantages as the following:

- (1) Employee aren't aware of the changing to the new organization structure so conflict may happen.
- (2) Job expansion will create lack of expert to fill in any position.
- (3) Feeling about the uncertainty of the position for the existing employee.

## 4.2 Step by Step Changing

Step by step changing by not all changing by one time but in step changing because sometime it is hard to change the old structure which implement their work as the old system for a long time and the employees absorb the long experience in the organization. Risk turning over for the new one, so we have to consider about pros and cons of that reorganization by the following:

### 4.2.1 Advantage of Step by Step Changing

Step by step changing of the new system have advantages as the following:

- (1) Create a clear step to change the structure and give them more time to study.
- (2) Reducing any conflict or problems to confront the new organization structure immediately.
- (3) Risk and stress was removed.

### 4.2.2 Disadvantage of Step by Step Changing

Step by step changing of the new system has disadvantages as the following:

- (1) Delaying in changing will be emerging the new competitors.
- (2) Non create the employee perception and non-encouraging them for the newest things, so the employee may not be interested in the new organization structure, the result fail to change it.

To select which once is the better choice, by comparing the advantages and disadvantages, we will see that all methods have both pros and cons. It's up to the existing framework and the manager's decision making that can apply the method used in the organization.

## V. FACTORS ANALYSES

### 5.1 Comparing the Existing and the Proposed System

There are many factors of analysis of the organization process. To get it clear Table 5.1 present the difference between existing system and the new system of the computer service's organization in the various factors.

Table 5.1. Comparing the Existing System and the Proposed System in Any Factors.

Factor	Existing system	Proposed system
1. Error Finding	Hard to find the error	Easy to find the error
2. Organization Expansion	Because high cost of expert payment in each position consists of the centralization, so it hard to expand the job or organization expansion.	Organization expansion for the future is possible. Decentralization will be giving them more power of decision making at the efficiency way.
3. Obstacle Removable	Long time to find the problems before the solution will emerge.	Problems will be removable immediately because it can be found at the right problems.
4. Delegation	No right person at the right job. May be high responsible emphasis to the centralization of the organization.	Assign the job the right person will make it more effectiveness in the operation process.
5. Teamwork	No working in team.	Working in team.
6. Speed of Work	Time gap will happen between the department, so working implement would not continue.	Fasting and smooth in operation working.
7. Authority	High authority from centralize so not authorized for the other expert directly, the result of lack of decision power.	Giving them more authority to make the decision in some situation by not necessary waiting for the centralize decision.

Factors	Existing system	Proposed system
8. Customer Contact	Customer must deal with the A.E every time which sometime the customer want some more advice from the expert directly.	Customer may contact direct to the expert, which makes them more reliable and feel good to be a customer of the organization.
9.Flexibility	Hard to be flexible because it will be directly attached to the organization.	More flexibility in operation which may change something by not attach direct to the organization.
10.Service	More emphasis in product than service.	Emphasize both product and service simultaneously.
11. Standard and Custom	Low to medium standardization in operation.	High standardization in operation.
12.Work Measurement	Difficult to measure the work progressive and control because the non-complete system in operation will make the poor format of measurement.	Work measurement will be complete and controllable for the management.
13.Controllable	Because of the non-flexibility, it is easy to control all work with routine job.	More flexibility and the authority to the subordinate in decision making process, may uncontrollable may emerge in the organization.
14.Cost of Implementation	Low cost of implement because of un- expanding the organization structure so no more invest cost to implement the new struture.	Because the new organization structures make a high cost of investment.
15. Complexity	Existing organization was operated for a long time so the complexity was	The new system with the new format of workflow and the organization



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Factors	Existing system	Proposed system
16. Winning a competitors	understand all the workflow already.  The foreign competitors provide the better product and service than the domestic company which still uses the old organization operation.	more complexity.  The effective and efficient in operation with the new technology improving will provide the best product and service to the customer, so the company image was built to compete with the competitors.
17. Work Loading	In each department couldn't hold a lot of jobs simultaneously because of waiting for the customer's approval before getting the new job.	Jobs will be shared to each teamwork simultaneously.
18. Profitable	Moderate income because of the high cost of operation and a few of orders from the customer.	High income because of the low cost of operation and a high amount of order.
19. Organization Reputation	If the organization operates for a long time, it still has a moderate image and reputation for the old customers.	Making the good image and the reputation for the existence and new customer. Because of the reliability from the customer is the most important.
20. Customer's satisfy	Customers are satisfied in the moderate level. The organization lacks the after sale service.	High customers satisfy because of the good service and the good job in the new operation structure.
21. Technology Innovation	The company emphasize in the field of computer so the new technology is the most important to consider by the computer manager.	New technology is the most important for the operation for the proposed organization.

Any factors come from the various sources like the following:

- (a) The error finding factor come from the Engineer who is working in the related field.
- (b) Organization expansion factor from the computer manager who organizes the organization structure.
- (c) Obstacle removable factor from the any workers who confront the problem in their department.
- (d) Delegation factor from the Computer manager and the head of any teamwork that assign the project to the engineer and other worker.
- (e) The head of teamwork or the computer manager considered teamwork factors.
- (f) The computer manager set speed of work and authority factor.
- (g) Accounting Executive set the contact factor to give the consumer convenience and more satisfaction.
- (h) Flexibility of the organization was concerned about the all employee in the organization, so the flexibility factors was set by the all workers.
- (i) Standard and custom factor was setting by the team worker in each department between the Internet and Computer Network.
- (j) Work Measurement factor was set by every department.
- (k) Controlable will be conduct by the computer manager. They preview the operation system, resolve the problems, and improve the operation.
- (l) The accountant prepared income statement and balance sheet, so the accountant will concern the profit income and the cost of implementation of the company.

- (m) Accounting Executive who contacts direct to the customer and the event outside the company. The Accounting Executive concerned how to compete the competitors and the organization reputation by know how to promote the organization to the outsiders.
- (n) The entrepreneur and the computer manager who plan for how to operate the organization concerned the complexity.
- (o) Team worker was concerned the work loading factor.
- (p) All workers set the customer's satisfy factor because the level of customer's satisfied is the most important.
- (q) Technology improvement for the new innovation is the factor by the computer manager.

## **5.2 Analyze the System**

Considering all factors, which concern in the analysis of the organization operation. Both organizations have the pros and cons in each factor so the rating scale is the techniques to get the answer, which once is the better organization after comparing the result of it. The first step is the rating point in each factor to each organization shown in Table 5.2.

We can separate the grading into three grading point, good, fair, and poor. The good grade means that factor shows about the advantage or benefit to the organization, the fair grade means moderate or this factor has both benefit and disbenefit to the organization, and poor grade means that factor shows about the disadvantage to the organization.

Table 5.2. Rating the Existing System and the Proposed System.

Factors	Existing System			Proposed System		
	Good	Fair	Poor	Good	Fair	Poor
1. Error Finding			✓	✓		
2. Organization Expansion			✓	✓		
3. Obstacle Removable			✓	✓		
4. Delegation			✓	✓		
5. Teamwork			✓	✓		
6. Speed of Work			✓	✓		
7. Authority		✓			✓	
8. Customer Contact			✓	✓		
9. Flexibility			✓	✓		
10. Service			✓	✓		
11. Standard and Custom			✓	✓		
12. Work Measurement			✓	✓		
13. Controllable	✓					✓
14. Cost of Implementation	✓					✓
15. Complexity	✓					✓
16. Winning a competitors			✓	✓		
17. Work Loading			✓	✓		
18. Profitable		✓		✓		
19. Organization Reputation		✓		✓		
20. Customer's satisfy		✓		✓		
21. Technology Innovation	✓			✓		

From the Table 5.2. Rating the existing system and the proposed system, we rate the factors of considering into 3 scale rate, good, fair, and poor. Because both of organization structures, existing and proposed system will have both pros and cons in consideration for each factors that it was considered by each related persons. So the rating scale is the technique to get the answer which process is better than the other process by concern with the every factor of consideration too. We consider the Table 5.3. show us the number of factors in each system and grade.

**Table 5.3. Number of Factors in Each System and Each Grade.**

System	Number of Factors		
	Good	Fair	Poor
Exist	4	4	13
Proposed	17	1	3

The total factors in each system equal 21 factors, rating the point of each grade by good grade equal 2 point, fair grade equal 1 point, and poor grade equal 0 point shown in Table 5.4.

**Table 5.4. Rating to Each Grade.**

Grade	Rating
Good	2
Fair	1
Poor	0



After we set the rating point, now we can calculate the point of rating scale technique by Table 5.5.

Table 5.5. Calculation the Rating Scale Technique.

System	Grade	Number of Factor * Rating of each grade
Exist	Good	$4 * 2 = 8$
	Fair	$4 * 1 = 4$
	Poor	$13 * 0 = 0$
	Total = 12 points	
Proposed	Good	$17 * 2 = 34$
	Fair	$1 * 1 = 1$
	Poor	$3 * 0 = 0$
	Total = 35 points	

We will see that the proposed system gets 35 points and the existing system gets 12 points, so the proposed get the higher points than the existing system. Higher points mean good of organization operation than the lower points.

This analysis technique shows that the proposed is the better choice to select for the computer service's organization after considering from all the factors which setting and rating by the people who are related in each factor.

From the analysis, the proposed operational system can be improved efficiency and effectiveness by the various factors. The proposed organization runs the business operation smoother and faster than the existing organization, the result of increasing in profit and organization expansion in the future. Best service to the customer build the company image and reputation that can compete with the domestic and the foreign company.

After the proposed operational system replace the current operational system in order to improve efficiency and effectiveness, must concern the team management in the Internet Implementation and Computer network set up process and right assigned the delegation to reach the customer's satisfaction in the proposed operation system.



## **VI. CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Conclusions**

The existing operational system of computer service's organizational system is not appropriate to the really effective computer business when the company is going to expand in the future. The volume of customer demand in Internet and Computer Network is increased so the company needs to find a solution to increase more efficiently including improving the operational process and teamwork management. The existing operational system also seemed to be poor system that is unable to support more order demand and will cause customer's dissatisfaction in the future.

According to the existing system; no teamwork process in the implementation cause of delay in waiting for other job from other department complete their project, no communication between department may occur many mistakes of the final project while merging any task into product and service. The existing organization emphasizes in the centralization, all decision making and any authorization comes from the middle point of management in the organization. Any job was assigned to any department and gives them responsibility for their task

The proposed operational system is to improve performance of current operational system by using the teamwork process that have more advantage, many organizational tasks these days have to be performed by large networks of people, often because new information technology enables the tasks to be done much more rapidly and flexibly by a network of people. Consistent evidence makes clear that team-based organizations produce better results than traditional, hierarchical organizations, even where the latter approach still works.

To run an efficient manufacturing organization by breaking up the process into specialized tasks, setting standards for the tasks, assigning them to people, then supervising those people and rewarding or penalizing them depending on their individual performance of team-based.

From the analysis, there are other two main functions in the organization that consisted of management and operation. It will be a way to increase customers' satisfaction because customers are able to get faster service, more reliable and compatible support in the proposed operational system.

Another thing that the proposed organization is concerned about is the management in decentralization of organization. Decentralization often allows quicker and more customized logistics response to customer needs than the more removed centralized organization. Decentralization makes a great deal of sense when product lines are distinctly different in their marketing, logistics, and manufacturing characteristics, and when few economies of scale can be found.

In operational function, the good data flow diagram will improve working process and communication channel in the company. The data will flow into the right direction, which all employees will not be confused about their task, the result of increasing the capability in operation in the organization. Team members must organize the information into a meaningful representation of the information system that exists and of the requirements desired in a replacement system. Thus, a process model is only one of three major complementary views of an information system. Together, process, logic and timing, and data models provide a thorough specification of an information system and, with the proper supporting tools, also provide the basis for the automatic generation of many working information system components.

## 6.2 Recommendations

The proposed operational system should replace the current operational system in order to improve efficiency and effectiveness as explained in chapter 5, system analysis. We will see that all factors of consideration affect to the decision making process of the top-level management to ignore or decide to select the proposed system. The proposed system is better than the existing system from the analysis.

Top management teams are looking for a solution to manage resource and people to gain the highest advantage. The team management in the Internet Implementation and Computer network set up process was assigned the delegation to reach the customer's satisfaction in the proposed operation system. If the firm ignored the right data flow diagram, the problems will emerge to any process in the organization like the existing company.

If the company decides to implement the proposed computer service's organizational system, manager team has to think about the advantage and disadvantage of the implementation technique between the reorganization which is re-changeable to the organization immediately and the step by step changing. Comparing the pros and cons of all the factors in the decision making process, the responsibility of each task should be divided and assigned to each employee.

The first thing after the company decided to implement the proposed system is to set clearly objectives and requirements of the project. Then, task delegation to the right worker in the group member, the progressive of the job is in the schedule for the computer manager to control periodically. The concept of task from the consumer is important, so the Accounting Executive will grasp all concepts and contact to the right responsible persons to do their job well and make the customers satisfied. The training program should be included for the inside employee to increase the capability for their



work. To review the project before sending to the customer should be done to reduce the turnover project, which lose more time.

To evaluate the existing operation system and to recognize the problem in their organization, the computer manager needs to study the inside organization and the other competitors to find the suitable process which can solve the problems by using the data flow to be the guide of their organization. Then, they need to establish requirements of the proposed system to improve the current operational system. If the final decision is to replace the existing system with the proposed system, the implemented system should be analyzed whether the requirements are satisfactory or acceptable.



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