

# **CHAPTER 3**

## **DATA GATHERING FOR THE NEW PROCESS MODEL**

Data gathering is one part of the reengineering methodology. This chapter, provides the survey results of industrial customers' requirement, oil and LPG service station customers' requirement, competitors and non-competitors' customer order process, the study of appropriate technology, vision, value, and objectives for the new model of customer order process.

### **3.1 Survey Customer Requirements and Government's Regulation**

Maximizing customer satisfaction has two attributes. First, every major customer in the company's core market must be satisfied to the maximum extent necessary to gain and maintain him as a confirmed partner. Second, as many core customer as possible in major markets must be satisfied to the maximum extent. (Hanan, and Karp, 1989)

Therefore, this study will focus on major customer in the company's core market which are industrial customer, and OIL and LPG service station, and will focus the core customer in each market according to the 80/20 rule of Pareto technique as follows. The questionnaire used for both industrial customers and oil and LPG service station customer is mainly designed to know what way they currently use when they want to order, and their requirements since they has ordered until they receive the products. Besides, it is also designed to ask for the industrial customer's opinion only about the case company's performance in each requirement they rank in order of importance against the competitors. This is because the oil and LPG service station customer of the case company must order the product via the company only due to the sales agreement contract. The importance to customer requirements score is calculated by using geometric mean.

In this study, the main competitors' name is Company A, Company B, Company C, and Company D. Table 3.1 shows the content of issues that the case company want to know from its customers and the question numbers represent in the questionnaire stated above. The questionnaire used in this study is shown in Appendix A.

Table 3.1 The content of questionnaires

Issues	Question numbers listed in the questionnaire
Current way of order and their satisfaction	1.7-1.9
Industrial customer requirements	2 (Area 1, Area 2, and Area 3) 3 (Area 1, Area 2, and Area 3) 4 (Area 1, Area 2, and Area 3)
Oil and LPG service station customers requirement	2 (Area 1, Area 2) 3 (Area 1, Area 2) 4 (Area 1, Area 2)

### 3.1.1 Number of Surveyed Industrial Customers

In 1999, industrial customers of the case company were geographically segmented into 12 areas through out Thailand, with the total number of 1,118 industrial customers (Grade 99, Industrial Sales Division of the Case Company, 1999). By applying 80/20 rule to the data of sales volume and total number of customers of each area, each area has the most significant customers or contributors or 'A', 'B', and 'C' category customers as shown in Table 3.2.

In Table 3.2, the total number of industrial customers from every areas of industrial sales is 1,118; the number of the most significant customers or customers class 'A', customers class 'B', and customer class 'C' is 239, 395, 484 respectively. The detail of Pareto analysis of industrial customers is shown in Appendix B.

Table 3.2 Customer category 'A', 'B', 'C' of industrial customers

Area	Total Number of Customers	Number of Customers class 'A' (top 80%)	Number of Customers class 'B' (between 80% and 97%)	Number of Customers class 'C' (97%-100%)
1	78	16	28	34
2	116	26	41	49
3	73	15	27	31
4	102	26	41	35
5	73	22	28	23
6	92	11	34	47
7	102	8	33	61
8	125	31	45	49
9	94	25	31	38
10	77	9	23	45
11	77	18	24	35
12	109	32	40	37
<b>TOTAL</b>	<b>1,118</b>	<b>239</b>	<b>395</b>	<b>484</b>

As a result, the survey has been made to the customer type 'A.' that account for 239 customers. The questionnaires were passed to the customers via industrial sales engineers of the case company. The total number of questionnaire received back is 82. The survey results collecting from 82 out of 239 customers are shown as follows:

### 3.1.1.1 The Way Industrial Customers Order Their Products, and Their Satisfaction

The survey results in Figure 3.1 below shows that currently industrial customers order their products via telephones and facsimiles. Regarding of total number of customers (82) collected form the survey, 61 customers (74.39%) use the telephone while 21 customers (25.61%) use the facsimile.

About 61 customers that order via the telephone, 38 customers (62.30%) satisfied, while 23 customers (37.70%). It can be noted that although some of 38 customers said they are not satisfied, they want to order via sales-engineer or via jobber. This is also accounted for telephone group.

About 21 customers that order via facsimile, 18 customers (85.71%) are satisfied, while 3 customers (14.29%) are unsatisfied. No customers in both groups stated that they want to use other alternatives.

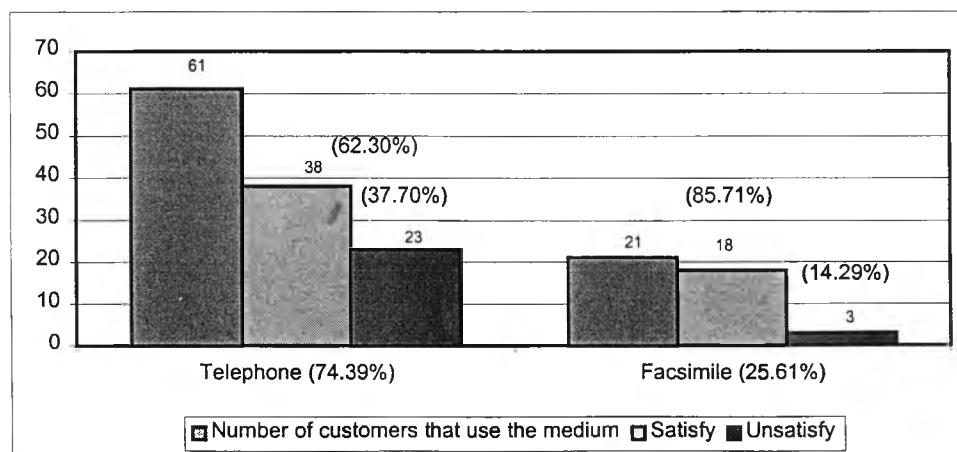


Figure 3.1 The way industrial customers order their products, and their satisfaction

As stated before that the industrial requirement survey will focus on what the customers want since they has ordered until they receive the products, and what the performance of the case company against the competitors is, in each requirement that the customer rank in order.

Therefore, the survey results as follow will show what the customers require when they have decided to order the product from the case company, then what the customers require while they wait for their ordered product, and what the customers require when they receive the products.

### 3.1.1.2 Industrial Customer Requirements; when They Order

According to Figure 3.2, with the full scale of the importance of customer requirements (5), when the customers order, the most importance to customer requirements is 'Convenience when the customer want to order' that account for 4.74 score, then 'Accuracy of the orders' (4.22 score), next 'Quick response to the customers order' (2.32 score), then 'Politeness of order-receive officers' (1.66 score), and the least importance to their requirement is the 'Confirmation of the order' (1.56 score).

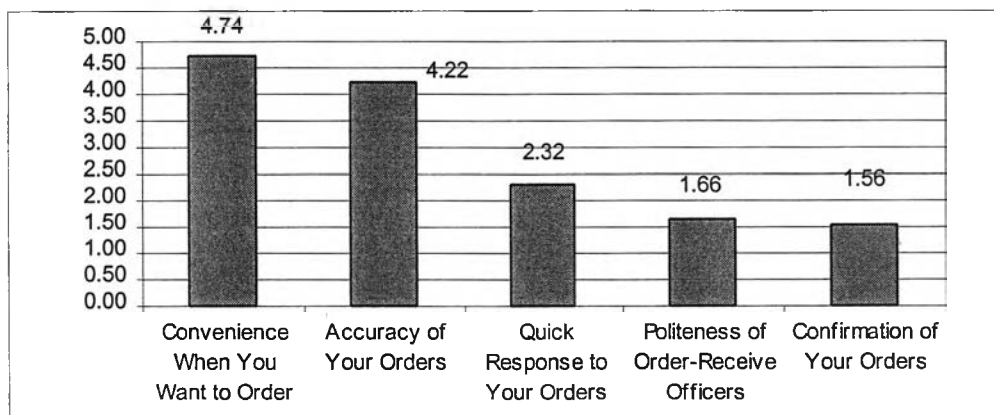


Figure 3.2 Ranking of the industrial customers' requirements, when they order

### 3.1.1.3 Industrial Customer Requirements; while They Wait for the Product

With the full scale of 5, Figure 3.3 shows that while industrial customers wait for their product, the most importance to customer requirements is 'Knowledge of truck status' with the score of 4.41, next requirement is 'Promptness in informing the customer when orders not complete' (4.10 score), followed by 'Degree of responsiveness to change customers' order' (3.09 score), then 'Acceptance of responsibility when customer orders not complete' (1.54 score), and the least importance to their requirement is 'Information support for the next decision of purchase' (1.39 score).

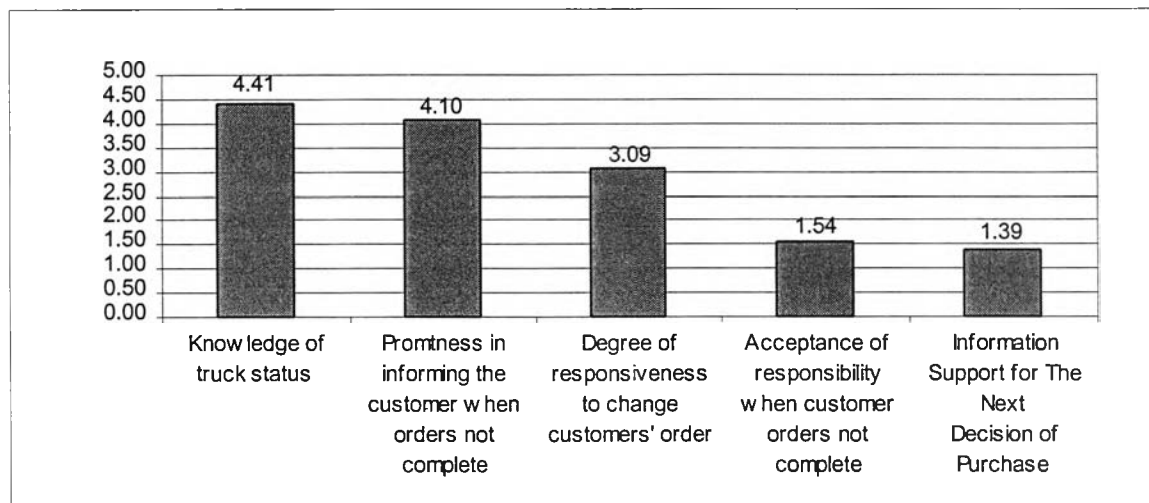


Figure 3.3 Ranking of the industrial customer requirements, while they wait for the products.

### 3.1.1.4 Industrial Customer Requirements; when They Receive the Product

In Figure 3.4, with the full scale of 5, when the customers receive the product the most importance to customers requirement is 'Right type of product delivered' which account for 5.00 score, then 'On-time delivery with the right quantity of products' (3.70 score), next 'Quality of product up to specification' (3.24 score), then 'Honesty of delivery man' (2.00 score), and the least important requirement is the 'Politeness of delivery man' (1.00 score).

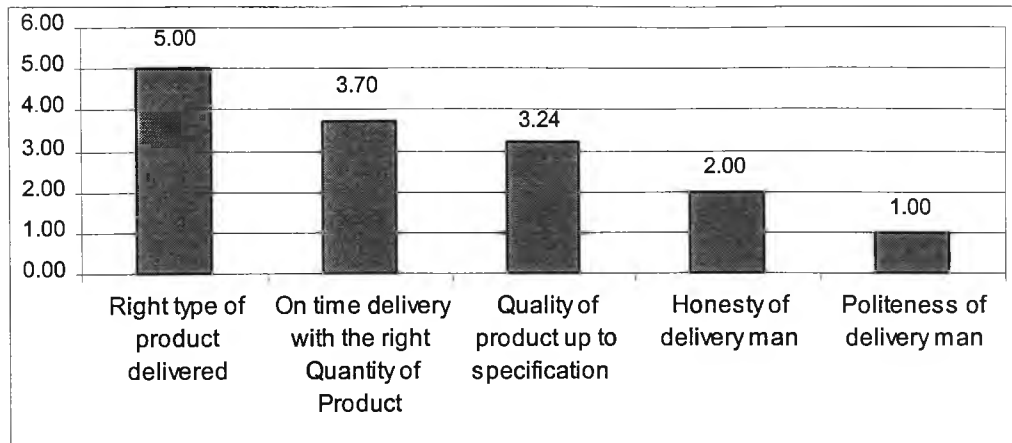


Figure 3.4 Ranking of the industrial customers requirement, when they receive the products

### 3.1.1.5 The Case Company's Performance; when Customer Order

Table 3.3 shows the case company's performance against its competitors: competitor A or company A, competitor B, competitor C, and competitor D when the customers order the product.

Table 3.3 The case company's performance against its competitors when the customers order the product.

Customer Requirement	The Case Company	Competitor A	Competitor B	Competitor C	Competitor D
Convenience	1.54	4.55	4.06	4.30	2.83
Accuracy	1.87	4.47	4.07	4.28	3.02
Politeness	1.59	4.42	4.09	4.26	3.02
Quick Response	1.54	4.55	4.06	4.30	2.83
Confirmation	1.57	4.46	4.41	4.44	3.04

This can be concluded that in every aspect of customer requirements, the case company performance is lower than its competitors.

Table 3.3 can also be viewed as figure 3.5 below.

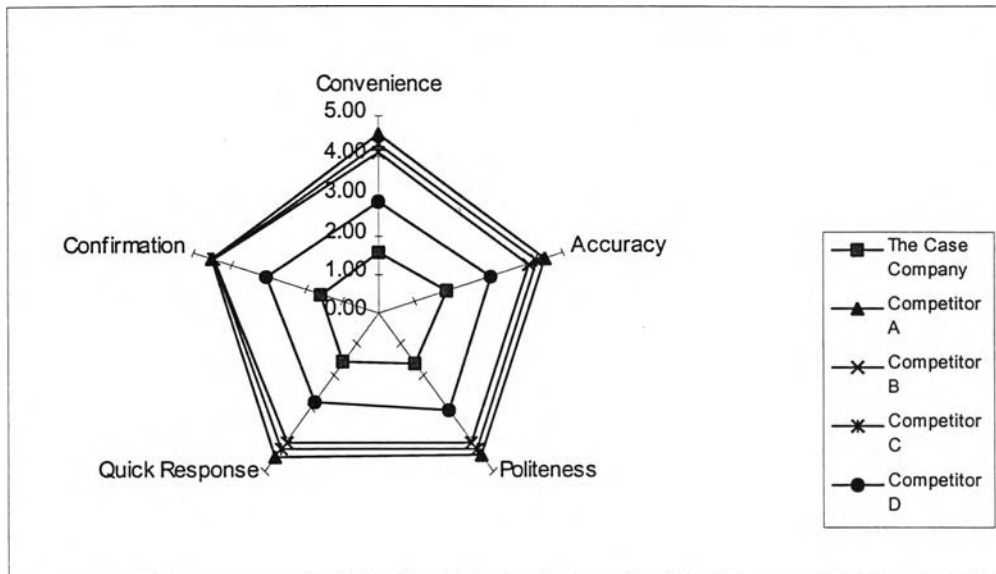


Figure 3.5 Performance of the case company against its competitors, when customer orders.

### 3.1.1.6 The Case Company's Performance; while Customers Wait for The Product

Table 3.4 shows the case company's performance against its competitors: company A or competitor A, competitor B, competitor C, and competitor D while they wait for the product.

Table 3.4 The case company's performance against its competitors while customers wait for the product.

Customer Requirement	The Case Company	Competitor A	Competitor B	Competitor C	Competitor D
Degree of responsiveness to the change	2.21	4.53	3.92	4.19	2.69
Promptness in the informing	2.06	4.41	3.74	4.28	2.95
Knowledge of truck status	2.04	4.40	3.91	4.26	2.80
Information Support	2.08	4.55	3.99	4.30	2.38
Acceptance of the responsibility	2.12	4.46	4.41	4.44	2.96

This can be summarized that in every aspect of customer requirements, the case company's performance is lower than its competitors.

Table 3.4 can also be viewed as figure 3.6 below.

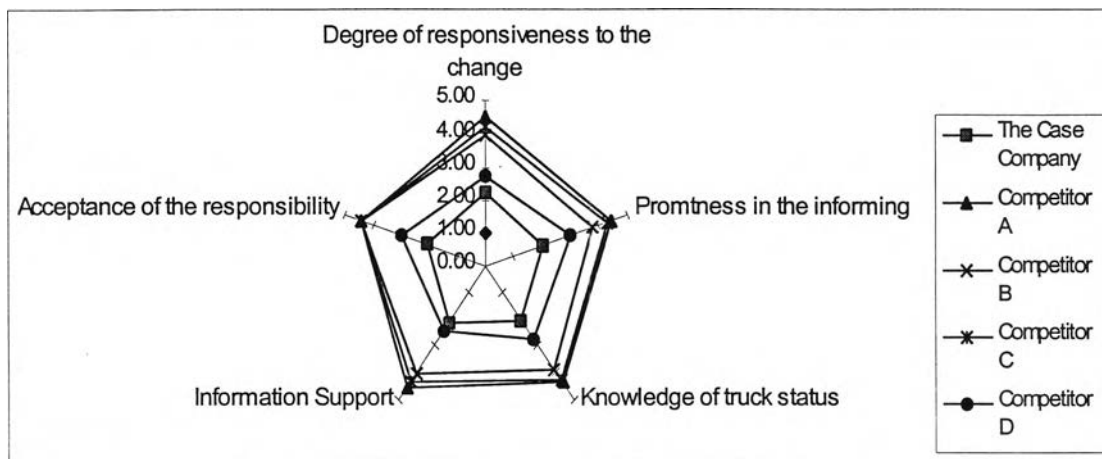


Figure 3.6 Ability of the case company, compared with the competitors, while customers wait for the product

**3.1.1.7 The Case Company's Performance; when Customers Receive the Product**

Table 3.5 shows the case company's performance against its competitors: company A or competitor A, competitor B, competitor C, and competitor D while they wait for the product.

Table 3.5 The case company's performance against its competitors, when customers receive the product.

Customer Requirement	The Case Company	Competitor A	Competitor B	Competitor C	Competitor D
Right Type of Product	2.45	2.83	2.88	2.83	2.45
On Time Delivery & Right Quantity	2.45	3.46	2.88	3.46	2.28
Product on Specification	2.63	2.83	2.52	2.83	2.63
Honesty of Delivery Man	2.45	2.83	2.52	2.83	2.45
Politeness of Delivery Man	2.21	3.46	2.88	2.83	2.38



It can be concluded that the case company's performance is lower than its competitors in the issue of 'Politeness of Delivery Man'. For 'Right Type of Product', 'Product on Specification', and 'Honesty of Delivery Man' requirements, the company's performance is lower than competitor A, B, and C, but equals to the company D. For 'On Time Delivery & Right Quantity of Product', the company's performance is lower than competitor A, B, and C, but higher than company D. Table 3.4 can also be viewed as figure 3.7 below.

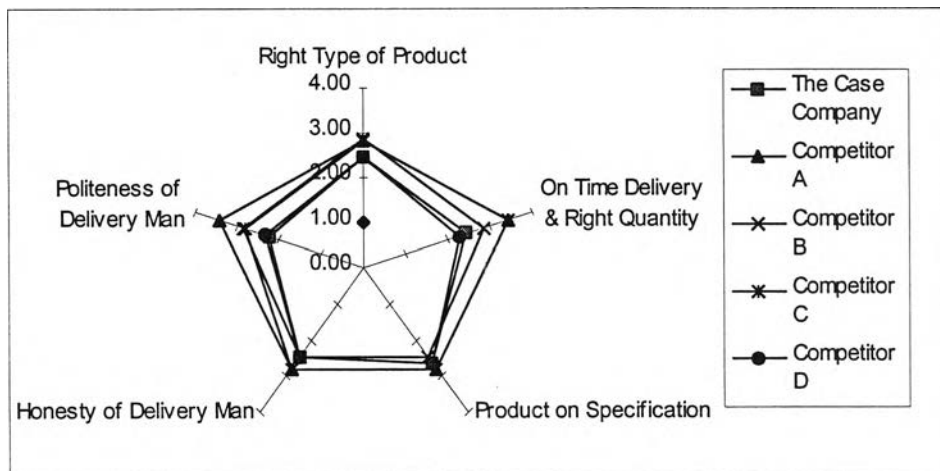


Figure 3.7: Ability of the case company, compare with the competitors, when the product received

### 3.1.2 Number of Surveyed Oil and LPG Service Station Customers

The data of Oil and LPG service station customer of the case company, in 1998, shows that there are 3661 Oil and LPG service station customers located inside the country. (Information Center of the Case Company, 1998). Due to the contract they have made with the case company, they can not buy any product from anyone else, except from the case company.

Regarding of 80/20 rule, the data of total sales purchase amount and the number of customers are calculated. The result is that the total number of customer type 'A', 'B', and 'C' is 851, 791 and 2019 respectively. Therefore, a survey has been made to service station type 'A' (851) via sale representatives, telephone calls, and interview. However, the total number of questionnaires received back for the study is 69.

### 3.1.2.1 The Way the Service Station Customers Order the product, and Their Satisfaction

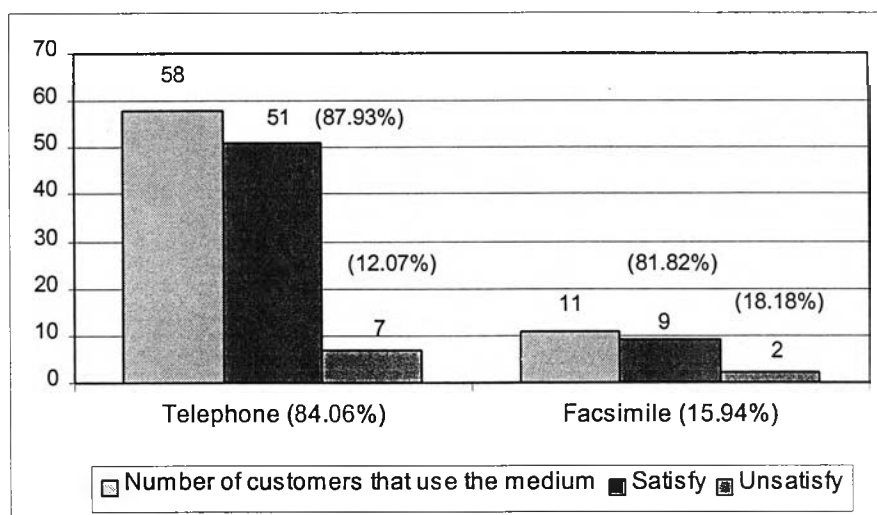


Figure 3.8 The way service station customer order, and their satisfaction

Figure 3.8 shows that from the total number of customers (69) collected from the survey, 58 customers (84.1%) use the telephone while 11 customers (15.9%) use the facsimile.

From 58 customers that order via telephone regardless of whether they order via sales engineer or jobber, 51 customers (87.9%) are satisfied, while 7 customers (12.7%) are unsatisfied. For 11 customers that order via facsimile, 9 customers (81.8%) are satisfied, while 2 customers (18.2%) are unsatisfied. No customers stated that they want to use other alternatives.

In addition, the case company has invested in the computer system for these service stations, but it does not work as 'customer did not use them'. (The case company's Information System Center Director, Interview, 9 January 1999)

### 3.1.2.2 Oil and LPG Service Station Customer Requirements; when They Order

According to Figure 3.9, with the full scale of 5, when the service station customers order the most requirement that they want is 'Convenience when the customer want to order' (4.87 score), then 'Confirmation of the order' (4.23 score), then 'Accuracy of the orders' (3.42 score), next 'Politeness of order-receive officers' (2.88 score), and the least is 'Quick response to the customers order' (2.06 score).

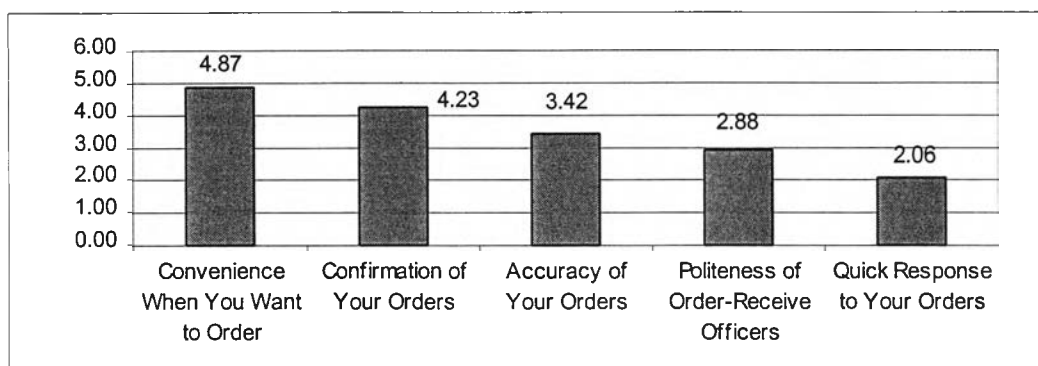


Figure 3.9 Ranking of service station customers' requirement, when they order

### 3.1.2.3 Oil and LPG Service Station Customer Requirements; while They Wait for The Product

With the same full scale of 5, Figure 3.10 shows that while service station customers wait for their product, the first requirement that customer want is 'Knowledge of truck status' (3.60 score), the second requirement is 'Promptness in informing the customer when orders not complete' (3.42), the third requirement is 'Degree of responsiveness to change customers' order' (3.37 score), the fourth requirement is 'Acceptance of responsibility when customer orders not complete' (2.20 score), and the last one is 'Information support for the next decision of purchase' (1.90 score).

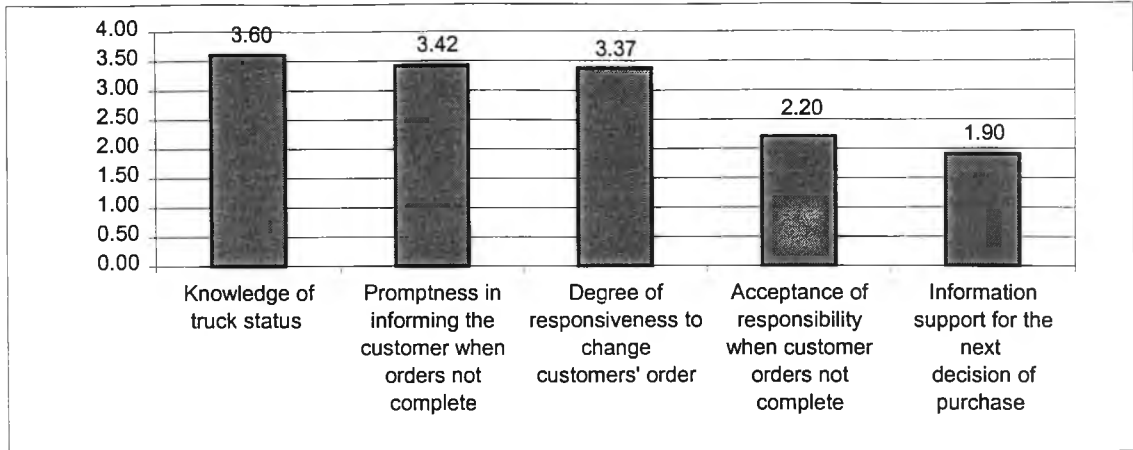


Figure 3.10 Ranking of service station customers' requirement, while they wait for the product

### 3.1.2.4 Oil and LPG Service Station Customer Requirements; when They Receive The Product

According to Figure 3.11, with the full scale of 5, when the customers receive the product they want to 'Right type of product delivered' (4.60 score), 'On-time delivery with the right quantity of products' (4.49 score), 'Quality of product up to specification' (3.89 score), 'Honesty of delivery man' (3.02 score), and 'Politeness of delivery man' (1.30 score) respectively.

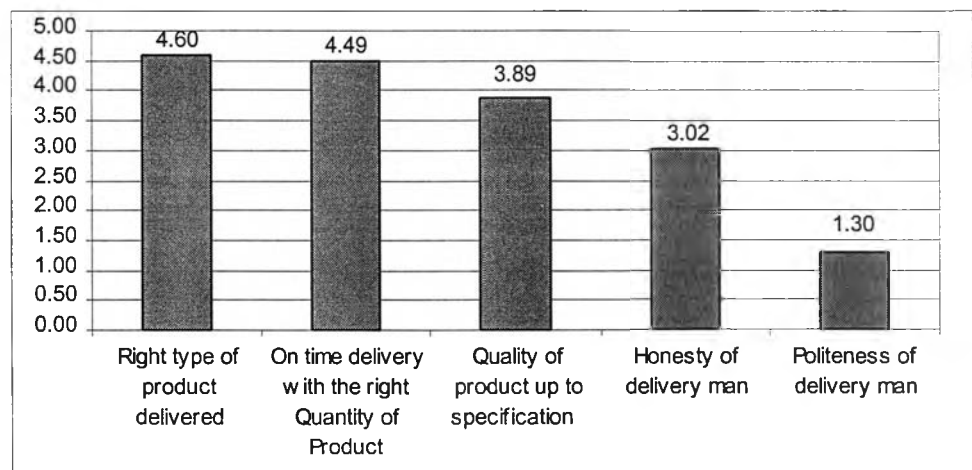


Figure 3.11 Ranking of service station customers' requirement, when they receive the product

### 3.1.3 Government Regulation

Government Regulation involved with the customer order process is as follows:

1. Gasoline and diesel forbidden delivery Time (09.00am-15.00pm), and (15.00pm-22.00pm) of every working day. This is the delivery limitation of the case company, as well as its competitors. For example, if the customer order the product after 9.00 a.m., and want their product arrive at their factory before 15.00 p.m., they will not have a chance to receive it as it against the law.
2. Pick Slip as a license for fuel driver. One pick slip consists of 2 copies: the pink one and the blue one. The pink one is used to show that the truck has been loaded with the product the customers require. The blue one is used as an oil tank truck license. The oil-truck driver can not drive or delivery product to customer without the blue pick slip.

### 3.2 Employee Interview

The interview was made to some employees who are in charge of customer order process. The conclusion of what they want this process to look like is as follows:

1. One stop service
2. Reduce work procedure and complexity of the process to reduce cost
3. Tell customers when will their order arrive, customer name, and etc.
4. Re-organize and make it as autonomous unit

### 3.3 Competitors' Customer Order Process

Competitors B, C, and D have streamlined customer order processes. The process will start when they receive order, then they will verify the financial status. If the customer's financial status is available they will print the pick slip. If the customer's financial status is not available they will try to solve until it pass, then they will print the pick slip.

After pick slip is printed out, Company C will classify the group of customer according to the contract, and send to the delivery contractors. The delivery contractor will arrange the truck order, and then go to load the product. After loading product has been completed, the contractor will receive invoice, and send the product and invoice to the customers.

After printing pick slip, the company B, and D will centralized arrange the truck, and pass to the delivery contractor. Then, the contractor will go to load the product. After finishing loading product, the contractor will receive invoice, and send it to the customers.

### 3.4 Non-competitors' Customer Order Process

Three of the non-competitor companies' customer order processes will be described. Non-competitor A is one of delivery contractor of the case company. This company has its own Depot, trucks, and provides operating and distribution service to many oil companies. In addition, it can achieve an ISO 9002, and ISO 14000 certificate.

These services include proactive inventory management (monitoring the statistical pattern of order of customer, and ask for order before the customer call), order management, loading product, and distribute to customers in Central, North, and South of Thailand.

The customer order process of this company starts when the company receives an order, followed by delivery planning, preparing the loading ticket, and loading the products (20 minutes). After that, the product is checked out through the gate (5 minutes), and delivered to customer. The process ends when the product is unloaded to the customer.

Non-competitor B is a Fried Chicken manufacturing company. It is highly successful in home delivery service. A Call Service Center-CSC of the company has been developed under the budget of 10 million Baht.

The customer order process starts when the customer orders the product via one easily-remembered telephone number. Employees of CSC will ask for the customer telephone number, address, the detail of order, repeat such order, and then send the information to the outlet/shop of the company that is closed to the customer address.

The company will then arrange the product according to the customer order, and send the product to customers.

Non-competitor C is a consumer product manufacturer. The customer order process start when the salesman receives order from customer. The salesman will send the order online from the client computer located in the hotel to the head office.

The head office will then manage the order and stock. If the products have to be sent to the countryside, the head office will send the order online to the Depot that closed to the customer. If the products have to be sent within Bangkok, the company will manage it within the concept of 'zero day delivery'.

## **3.5 Technology**

### **3.5.1 The Existing Information Technology that Supports The Customer Order Process**

The case company has invested in the customer & accounting data base, truck driver and truck data base, and terminal automation system for a several years, to support the customer order process.

Customer & Accounting database consists of:

- General Information of Customer e.g. Customer ID., Customer Name, Type of the business, Address, Delivery location, and etc. Some information is used to fill in the pick slip as a Fuel Product-Drivers' License.
- Information of sales performance: inventory, sales volume, sales revenue, pricing, account by customer, or by geographical area, and etc.

This information is on-line to the case company depot.

The accounting database includes:

- The financial history of customer
- The limitation of credit of each customer that the case company allows, and how much it remains in the system
- Account Receivable and Account Payable System

Terminal automation system includes:

- Information of truck's history, truck driver, the company where the truck driver is employed.

With this system, when the customer code is asked, the system will show the name of the customer's company. The system will also show the possible delivery location. Pricing is listed electronically in the system. Therefore, when the customer tells the location, the system will show pricing structure which include net price of product, freight, discount, etc. It can also show where the product should be loaded from for according to the destination.

In addition, at the ordering center, there are 12 running-number telephones. This means that if the line that the customer contacts the case company is busy, the system will switch to the available line automatically.



### 3.5.2 Opportunity of technology for call center, in the year 2000

1. E-mail

Develop e-mail as reliable transaction channel. Teach customer how to use this.

2. Internet

Create Internet site that provides comprehensive information access and ability to initiate transactions.

3. Contact Management

This system can integrate e-mail, fax, phone, and Internet transaction information into a comprehensive history of customer contact.

### 3.5.3 Electronic Data Interchange (EDI)

The Electronic Data Interchange (EDI) is the inter-company computer-to-computer communication of standard business transactions in a standard format that permits the receiver to perform the intended transaction. (Sokol, 1989:12)

Benefits of EDI: (Sokol, 1989:16-18)

1. Reduce cost associated with business transactions
2. Reduced order-cycle-pay period.
3. Improved trading partner relationships
4. Improved intra-company flow of data
5. Improve forecasting

Certain business situations that suit to EDI: (Sokol, 1989:18-20)

1. The company that buys or sells large volumes of stock items. For instance, purchasing department of a manufacturing company orders raw material and component parts to support its manufacturing activities. Especially, it is suit for manufacturing company, and automotive industry that implement Just In Time (JIT) as it pressure their suppliers to accept orders electronically.
2. The company that buys or sells a product that can be describe by product code and is quickly consumed e.g. grocery industry and drug industry.
3. The product requires careful tracking and reporting e.g. food, drug, chemical substance
4. The business transaction represents a tremendous amount of paper work e.g. shipping document.
5. The company or industry finds itself in a very competitive market; Revenue can be increased only by increasing the number of items sold.
6. There is a requirement for rapid processing and delivery of goods.

A noticeable exception is made to the metals industry: aluminum and steel that have attempted to quantify and codify all manufacturing specification parameter associated with their products. However, EDI is not used worldwide as it should be since it costs both in capital and operating cost. (Supachai Suckhanin, 1999)

### **3.6 Vision , Value, and Objective**

Vision: "To be a stated mechanism company in stabilizing national economic and energy security by completely operating an integrated petroleum business, with the quality, safety,

and environmental concern, and intent to provides the product and service quality under the world class management.' (The case company's Privatization Report, 1999)

Value and objective: 'among the competition, the case company should perform the work and business that create value to organization. That is the return of investment must be equal to the standard; invest in the core business, high importance and urgent project as the first priority. Stop investing in the project that is not important for today. In other word, the case company must reduce the cost, increase income, and effectively use asset to generate the benefit to the company. Employee must shared value, and go for the same direction to reach the company's goal. Focus on the customer satisfaction, and use technology that can support both in reducing cost and satisfy the customer' (The case company's Privatization Report, 1999)

### **3.7 Conclusion**

The survey results stated above will be used to create a new model of customer order process. These results can be summarized into 2 aspects: the company's point of view, and the customer's point of view.

In the company point of view, it needs:

1. focusing on the customer satisfaction, and using technology that can reduce cost and satisfy customers.
2. the employees to go for the same direction to achieve the company's goal, and shared value
3. awareness of investment cost; invest in the core business, and effectively use assets to generate benefits to the company.

In the customer's point of view, the most important issues for the industrial customer and Oil and LPG service station customers are listed below:

1. When order, they require 'Convenience when they want to order'.
2. While they are waiting for the products, industrial customers require 'Knowledge of truck status' while Oil and LPG service station customers require 'Promptness in the informing the customers when orders not complete'.
3. When they receive products, industrial customer and Oil and LPG service station customers require ' Right type of product delivered', and 'Quality of product up to specification' respectively.