



# EXPRESS SERVICE FOR AUTOMOBILE WORKSHOP OPERATIONS

by

Mr. Panit Pawattananont

A 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  
Assumption University

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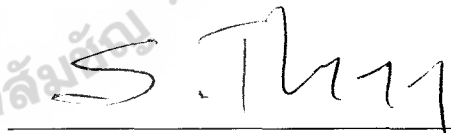
The Graduate School of Assumption University has approved this final report of the three-credit course, CE 6998 PROJECT, submitted in partial fulfillment of the requirements for the degree of Master of Science in Computer and Engineering Management.

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## ABSTRACT

Customer's satisfaction is very important in running a successful business especially for service industry. The more customer's satisfaction it is, the more customer's loyalty you gain. And time is an effective factor in creating customer's satisfaction, especially for a service organization. This project will give the concept of the new type of service in automobile business, called Express Service. Express Service will emphasize on reducing waiting time for customers. The author has summarized the overview of Express Service and some concept of quality in the literature review part. The normal workshop procedure and workshop organization will be shown on the background part.

In the next chapter, the author will discuss the basic feature, possibilities, and alternatives. The author will show the detail in each alternative. Next chapter will show how to establish Express Service in the workshops, which will include the whole process and every part of the workshop related to the Express Service. The author also includes the part of administration in the project to help workshop to apply in the workshop when establishing Express Service. Marketing is also the important part for every business, so the author shows the concept and method to survey, and the marketing tools to advertise Express Service to the customers. The last part is validation that summarizes the whole projects and generates the possibility of the Express Service in order to create a business opportunity.

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## I. INTRODUCTION

### 1.1 The Background

At present, time is the most important thing for everyone. And time is the main factor, which affects customer's satisfaction in business view. Every service business, waiting time is the main factor to make the business successful. This is the same as the after sale service of automobile business. Customers generally accept the fact that it takes a certain amount of time to carefully write down a workshop order for a larger job. What they cannot understand is why there should be such an enormous administrative effort by workshops in case of minor vehicle problem. From the customer's point of view, the effort involved bears no relationship with the service required. The amount on the invoice is, therefore, automatically considered to be excessive because the customer believes he is paying for an unnecessary administration system. This processing effort also leads to waiting times, which easily exceed the actual working time required.

Small jobs for which the customer is prepared to wait are also an additional burden for workshop personnel. After all, they disturb the daily work schedule. The customer is short of time and starts to become impatient. All the other staffs are busy. Those members of staff who are directly approached by customers feel obliged to shorten the process by making telephone calls and personal delivering order forms or materials requisitions. This can, in turn, lead to irritated reactions, which do not escape the customer's notice. Not a pleasant experience will happen to the customer.

Express Service is a simple and frequent job, which takes less than one hour to finish a job. Generally, customers don't like to drop their car for repairing at a workshop for long time, they like to wait until their cars are ready. Workshops have attempted to meet these demands by establishing a quick, immediate, on-the-spot service. and with



good quality. So Express Service will help workshops manage their mechanic's working time and customer service efficiently to meet with customer's demand and compete with other quick workshops.

### 1.2 Purpose of This Project

The purpose of this project is to show the workshop how they can develop their service sector further. In addition to increasing customer satisfaction, this intends to improve the workshop's profitability by streamlining the organizational procedures (Lean philosophy) and reducing the personnel workload by means of less stressful processes. The aim is to arrive at cross-departmental and systematic solutions.

### 1.3 Scope

The scope of contents in this project will be as followings:

- (1) This project only covers the part of procedure of workshop but does not include the computer system of workshop.
- (2) It also includes the Express Service marketing for communicating with customers.
- (3) This project covers the workshops in the Bangkok area only.

## II. LITERATURE REVIEW

### 2.1 The Concept and the Definition of Quality

Quality can be several things at the same time and may have various meanings according to a person, the measures applied and the context within which it is considered. Below are the several dimensions and approaches along which quality could be defined. These are based on both the objective and subjective notions of quality.

- (1) 'Quality is the search for excellence'

In this sense, quality is a mark of excellence, persistence, and maintenance over long periods of time. Such excellence is, of course, a function of habits, cultures and values, and may, thus, vary from person to person and from time to time.

- (2) 'Anything you can do, I can do better'

In this sense, quality is defined relative to available alternatives, and can be measured and valued by some imputation associated with these alternatives.

- (3) 'Quality is in the eye of the beholder'

In this sense, quality is not what we think it is, but what the customer says it is.

- (4) 'Quality is the "Proof of the pudding"'

Quality is what the market says it is. In this sense, quality is only a term that we can define, once consumer choices have been expressed relative to a range of potential and competing products. There may be many reasons for these choices, including each and all of the reasons stated above.

- (5) 'Quality is Value Added'

In this sense, the concept of quality is both objective and subjective,

and is based on product and service differentiation, on substitution, as well as on buyer perception and heterogeneity.

## 2.2 Quality and Service

Quality services exhibit special characteristics. Some of these characteristics include:

- (1) The quality of service generally involves not one but multiple services. For example, a gas station provides several services beyond the supply (usually at a regulated price) of fuel.
- (2) Services are mostly intangible, often subjective and are, therefore, difficult to define.
- (3) The quality services depend on both the 'server and the 'serviced'. Poor service is usually defined by the dissatisfaction of the latter.
- (4) The quality of service and its measurement are dependent. A server who is inspected might improve the quality of service delivery, for example, while a server who feels there are no controls might provide poor service. Such behavior introduces a natural bias in the measurement of service efficiency and its quality.
- (5) A service is not storable, unlike products that can be sampled and tested for quality.

The American Society for Logistic (ASLOG) suggests that service quality be defined in terms of Communication, Time, Organization, Flexibility, Reliability and Post Sales service see Figure 2.1.

- (1) Communication might be measured by the opportunity for errors, document errors, billing, client follow through and information exchange.



- (2) Time relates to delays of various sorts (supply response, routing, conformance and distribution).
- (3) Organization includes the range of services delivered and agreed upon, security in transport and stocking, as well as organizational forms such as subcontracting and franchises.
- (4) Flexibility is the potential dimension to meet demands under various circumstances, and to adapt to a broad range of operational and service conditions.
- (5) Reliability refers to the consistency of the service supplied, its timing and so forth.
- (6) Post Sales Service applies to maintainability, repairability, service proximity and availability as well as response time to post sales failures (Charles 1996).

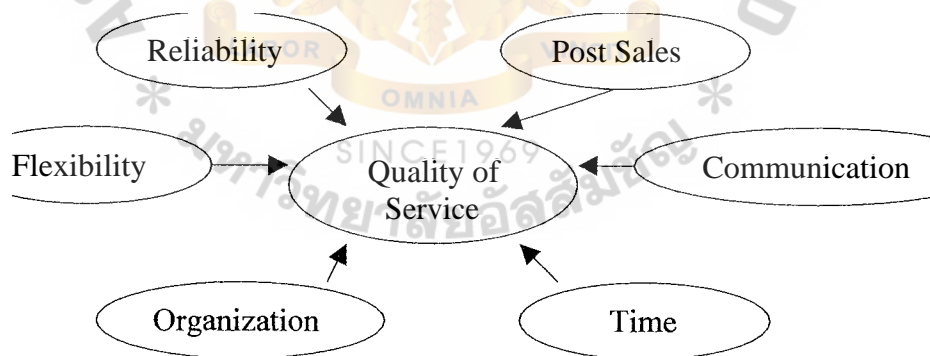


Figure 2.1. Dimension of Service Quality.

### 2.3 Customer Evaluation of Services

Intangibility and service complexity also combine to determine how customers evaluate the services they buy, and can provide some insights into how best to market different types of offerings. The quality of highly tangible services is generally easier to

evaluate than is that of services that are primarily intangible. The attributes that customers use to evaluate tangible goods are mostly those known as search qualities, properties that can be evaluated by the purchaser before the sale is made. More intangible services possess a greater number of experience qualities, properties that can be evaluated only after the purchase. This increases the buyer's risk, and requires that the marketer provide some of the reassurances mentioned earlier. At the extreme are certain attributes that a buyer may not be able to evaluate even after purchase. These are usually possessed only by technically complex, intangible services. Such attributes are called credence qualities, because customer must believe the presence of these qualities on faith based on the word of others (Rust, Zahorik, and Keiningham 1966).

## 2.4 Demand for Services

Demand for products generally has a certain amount of unpredictability. Even when management can forecast demand well, precise estimates are generally not possible. Changing economic condition, unexpected competitive behavior, the weather, and the inevitable unpredictability of human behavior all contribute to a certain level of randomness in demand patterns. Forecast inaccuracies incur two kinds of cost. The first occurs when management plans for more demand than actually materialize. In this case, costs arise from paying for idle capacity or from having an excess inventory of goods (including inventory holding costs, spoilage and theft losses, and the possible cost of markdowns to sell them). In the second case, when management underestimates demand, possible costs include a less and dissatisfied customers, or high costs required to supply products on an emergency basis. The perishability of services makes it very difficult for service managers to provide appropriate production capacity when demand fluctuates. A mismatch between service capacity and demand therefore results are lost sales.

The capacity/demand mismatch is important for other reasons as well. When demand becomes too great for current service capacity, service quality levels often fall because delays increase and errors occur. Similarly, service quality can degrade when facilities are underutilized, if personnel become bored or if part of the ambience is supplied by the presence of other patrons.

Once an optimal level of demand has been determined for the given level of capacity at various times, the elements of the marketing mix can be manipulated to alter demand to meet those target figures.

(1) Price

The standard economic solution to over- or underutilized services is to alter the price to changed demands. Resort hotels routinely raise prices during "the season" and charge lower rates during the off-season to attempt to level the use of facilities. Some sense of what the market will bear can be obtained by studying competitive prices and similar markets, but experimentation and research may also be required to develop a complete understanding of demand.

(2) Product

Price is not the only way to manage demand. In fact, in some cases, it has no effect at all. Altering the product mix is a common approach used by many services to even demand, whether to meet the changing tastes and needs of its clientele over time, or to reach different segments at different times.

(3) Marketing Communication

In some cases, advertising or personal selling can be used to persuade customers to shift demand to low periods. In addition of shifting demand,



more intense communication may be able to generate more new business to fill slow periods. Service firms should explore ways to induce trials using sales promotion techniques that reduce risk, including limited free trials, discount coupons, or programs that attract attention and generate excitement such as contests and premiums.

#### (4) Distribution

Management can also consider are increasing demand by adjusting the places and times at which services are offered. For example, Wal-Mart, a leader in customer service, now keeps many of its stores open 24 hours per day to accommodate its customers who have day and/or evening jobs.

### **2.5 Managing Service Capacity**

Since demand cannot be perfectly controlled, efficient management of resources requires that the firm also consider changing capacity by increasing it to meet high demand and contracting it in slack periods. Service capacity has several components that can be altered to match changes in demand.

#### (1) People

For many services, the most easily changeable component is people, the service providers. Service providers may prefer to supplement their permanent workforces with part-time employees who work fewer hours. However, the fact that part-time workers often have high turnover rates can run up expense if training costs are high.

To avoid training and hiring costs is to simply increase the work hours of the regular staff during periods of high demand. This policy provides high flexibility in matching short-term demand fluctuations, but it cannot be sustained for long periods of time.

(2) Facilities

Physical facilities are often more difficult to adjust. Adding a building tends to increase capacity by large amounts, and moving to new quarters of appropriate size is an impractical solution if done too frequently.

Facilities can also contribute to the improvement of productive capacity by providing a comfortable, efficient environment in which to work.

(3) Equipment and Tools

Productivity enhancement tools can increase the capacity of a fixed work force by freeing the staff from time-wasting, repetitive tasks. Computers that automate ordering and billing activities and keep track of customer purchase histories have transformed operations performed by the clerical staff in many kinds of firms.

(4) Time

Time is the most perishable component of service capacity. Time capacity can be increased by simply operating for longer hours even though this is not an option if those times do not match customer needs. Increasing hours of operations also produces some of the complications with personnel mentioned above. Time capacity can also be increased by shortening the time required to serve customers, by shortening the length of time customers spend in the service (Rust, Zahorik, and Keiningham 1966).

## **2.6 Total Quality Control**

The goal of competitive industry, as far as product quality is concerned, can be clearly stated: It is to provide a product and service into which quality is designed, built,

marketed and maintained at the most economical costs which allow for full customer satisfaction.

It is to the comprehensive, companywide system for achieving that goal as a definition:

Total quality control is an effective system for integrating the quality development, quality-maintenance, and quality-improvement efforts of the various groups in an organization so as to enable marketing, engineering, production, and service at the most economical levels which allow for full customer satisfaction.

Its breath and its essentiality to the achievement of business results make total quality control a new and important area of management. As a focus of managerial and technical leadership, total quality control has produced outstanding improvements in product quality and reliability for many organizations throughout the world. Moreover, total quality control has achieved progressive and substantial reductions in quality costs. Through total quality control, company management have been able to deal from strength and confidence in the quality of their products and services, permitting the products to move forward in market volume and product mix expansion with a high degree of customer acceptance and profit stability and growth.

Total quality control provides the fundamental basis of positive quality motivation for all company employees and representatives, from top management through assembly workers, office personnel, dealers, and servicepeople. And a powerful total-quality-control capability is one of the principle company strengths for achieving vastly improved total productivity

## **2.7 The 9 M's: Fundamental Factors Affecting Quality**

The quality of services is directly influenced in nine basic areas, or what might be thought of as the "9 M's": market, money management, men, motivation, materials,

machines, and mechanization, modern information methods and mounting product requirements. In each area, industry today is subject to a great number of conditions, which bear upon production in a manner never experienced in any previous period.

(1) Markets

The number of new and improved products offered in the marketplace continues to grow at an explosive rate. Consumer wants and needs are carefully identified by today's business as a basis for developing new products. Customers are demanding and getting more and better products today to fill these needs. Markets are becoming broader in scope and yet more functionally specialized in the goods and services offered.

(2) Money

The increase of competition in many fields coupled with worldwide economic fluctuations has shaved profit margins. At the same time, the need for automation and mechanization has forced large outlays for new equipment and processes. The resulting increase in plant investment, which must be paid for through increased productivity, has made any major losses in production, due to scrape and rework, extremely serious. Quality costs associated with the maintenance and improvement of quality have reached unprecedented heights. The operating costs and losses can be decreased to improve profits.

(3) Management

Responsibility for quality has been distributed among several specialized groups. Engineering has responsibility for designing a product that will fulfill these requirements. Manufacturing must develop and refine the process to provide a capability adequate to make the product to the



engineering specification. Quality control must plan the quality measurements throughout the process flow, which will ensure that the end result will meet quality requirements.

(4) Men

The rapid growth in technical knowledge and the origination of whole new fields such as computer electronics have created a great demand for workers with specialized knowledge. This situation has created a demand for the systems engineer who can bring together all these fields of specification to plan, create, and operate various systems that will assure a desired result.

(5) Motivation

The increased complexity of getting a quality product to market has magnified the importance of the quality contribution of every employee. Today's workers require reinforcement of a sense of accomplishment in their jobs and the positive recognition that they are personally contributing to achievement of company goals.

(6) Material

Owing to production costs and quality requirements, engineers are working materials to closer limits than ever before and using many new, so call exotic metals and alloys for special application. Material specifications have become tighter and diversity of materials greater. The visual inspection and thickness check of a few years ago no longer is acceptable. Instead, rapid, precise, chemical, and physical measurements must be made.

(7) Machines and Mechanization

The demand of companies to get cost reductions and production volume to satisfy the customer in intensely competitive markets has forced the use of manufacturing equipment which is steadily becoming more complex and much more dependent upon the quality of material fed into it.

(8) Modern information method

The rapid evolution of computer technology has made possible the collection, storage, retrieval, and manipulation of information on a scale never before imaginable. And the new and constantly improving methods of data processing have made available to management far more useful, accurate, timely, and predictive information upon which to base the decision that guide the future of a business.

(9) Mounting product requirements

Increased complexity and higher performance requirements for products have emphasized the importance of product safety and reliability. Constant attention must be given to make certain that no factors, known or unknown, enter the process to decrease the reliability of components or systems (Feigenbaum 1991).

## 2.8 Principles of Operation Management

### Operation Strategy-Formulation

(1) Customers:

- (a) Know and team up with the next and final Customer.
- (b) Become dedicated to continual, rapid improvement in quality cost, response time, flexibility, variability, and service.

(2) Company:

- (a) Achieve unified purpose via shared information and team involvement in planning and implementation of charge.

(3) Competitors:

- (a) Know the competition and the world-class leaders.

(4) Design and Organization:

- (a) Cut the number of product or service components or operations and the number of suppliers to a few good ones.
- (b) Organize resources into multiple "chains of customers," each focused on a product, service, or customer family; create work-flow teams, cells, and "plants-in-a-plant."

(5) Capacity:

- (a) Continually invest in human resources through cross-training (for mastery of multiple skills); education; job and career-path rotation; and improved health, safety, and security.
- (b) Maintain and improve present equipment and human work before thinking about new equipment; automate incrementally when process variability cannot otherwise be reduced.
- (c) Look for simple, flexible, movable, low-cost equipment that can be acquired in multiple copies-each assignable to work-flow teams, focused cells, and plants-in-a-plant.

(6) Processing:

- (a) Make it easier to make/provide goods or services without error or process variation.

- (b) Cut flow time (wait time), distance, and inventory all along the chains of customers.
- (c) Cut setup, changeover, get-ready, and startup times.
- (d) Operate at the customer's rate of use (or a smoothed representation of it); decrease cycle interval and lot size.

(7) Problem solving and control:

- (a) Record and own quality, process, and problem data at the workplace.  
Ensure that front-line improvement teams get first chance at problem solving-before staff experts.
- (b) Cut transactions and reporting control causes, not symptoms (Schonberger and Knod 1997).



Figure 2.2. The Operation Management System (Stahl and Grigsby 1997).

## 2.9 Customer Surveys

Focusing the efforts of the organization on the things that matter most to its customer is the surest path to retaining customers and to increasing revenues and market share. Yet how do we know, scientifically and reliably, which aspects are most important? To find out it is essential to conduct customer surveys, carefully designed and scientifically administered. Surveys can be used to determine the extent to which

customer are satisfied and delighted, and the extent to which this influences customer retention

### 2.9.1 Survey Methods

#### (1) Personnel Interview

A method for gathering information through face to face contact with respondents. It's a direct communication between workshop and customer.

##### The Advantages of Personnel Interview

- (a) More opportunities for feedback
- (b) Long length of interviews
- (c) The efficient interaction between an interviewer and a respondent increases the likelihood of receiving complete answers to a questionnaire.
- (d) High participation

##### The Disadvantages of Personnel Interview

- (a) High cost
- (b) Characteristic of the interviewer may influence the response.

#### (2) Telephone Interviews

Traditional telephone interviews involve phoning a sample of respondents and asking them a series of questions. It allows more privacy and willingness to respond to the interviews.

##### The Advantage of Telephone Interview

- (a) It allows all interviews to be conducted from the same location.
- (b) It is very fast and can conduct many interviews in the short times.
- (c) It eliminates huge time and cost involved.



### The Disadvantage of Telephone Interview

- (a) Lack of visual aids make some measurement instruments hard, and in some cases impossible.
- (b) The length of the interview, unless the interviewee is highly interested in the subjects matter, is definitely limited.

### (<sup>3</sup>) Mail Questionnaire

Questionnaire are mailed to preselected potential respondents.

### The Advantage of Mail Survey

- (a) Relatively cheaper than other methods.
- (b) Its likely to obtain accurate information and well thought of answers.
- (c) It can reach a geographically dispersed locations simultaneously.

### The Disadvantages of Mail Survey

- (a) If time is a crucial factor for the workshop then mail surveys may not be the best communication medium.
- (b) The major disadvantage of mail survey is the response rates.

## 2.9.2 Selection of Survey Method

No survey method is superior in all situations. Depending on factors such as information requirements, budgetary constraints (time and money), and respondent characteristics, none, one, two, or even all methods may be appropriate. For the medium size and small workshop, it is recommended to use mail survey according to speed, cost, and ease of operation.

## 2.9.3 Defining the Questions and Designing the Questionnaire

### (1) Basic Principles for Defining Questions

The following principles should be adhered to when to formulate the questions:

- (a) Do not ask questions which the customer is unable to answer, or to which an answer can be found in other ways (for example, Ask waiting times in minutes which it can be known by keeping time records in vehicle reception).
- (b) Only ask specific questions which are necessary for decision making on the part of the company. Generalized questions produce generalized answers which no subsequent conclusions can be drawn.
- (c) Choose the correct type of question. Example does not provide a selection of answer if the question can be answered in degrees.
- (d) Always formulate the questions so that the customer is asked for his own wishes and requirements, not to express a view on the requirements of others. For example: Instead of "What hours of business do you think are best" one should be asked, "When would you prefer to come?"
- (e) Restrict the number of questions to what is absolutely necessary.
- (f) Do not ask leading questions, e.g. "No doubt you find the Good Express Service? Yes/No?"

#### 2.9.4 Formulating the Questions

When formulating the questions, attention should be taken to ensure that questions can be generally understood. Abbreviations and specialist terms should particularly be avoided. Brief, clear, simply worded questions are to be preferred.

Since every company has a certain number of well-known regular customers, it is a good idea to test the questions on these regular customers beforehand to ensure these questions are easily understood.

When asking for an assessment, it is important to describe the assessment scale precisely (for example: "Please enter a score from 1 to 6, 1 = very good, 2 = good, 3 = satisfactory, 4 = adequate, 5 = poor, 6 = very poor") (Salant and Dillman 1994).



### III. PRESENT WORKSHOP OPERATION

At present, the exiting operation is still the effective workshop operation for workshop manager. It will help the manager can control his workshop conveniently and efficiently but the successful workshop should concern customer satisfaction. Not only convenience of the manager will make the workshop successful, customer satisfactions from workshop's service have more effect on the success of the workshop.

Operation is the key to successful workshop business. For service as an independent line of business, to be profitable, the following factors are decisive:

Performance - Range of shop services

- Efficiency of personnel

Turnover

- Customer visits to shop

- Volume of work, price level

Cost

- Expenditure for personnel and equipment

Before improving the workshop operation to meet the customer satisfaction, we must analysis the present workshop operation to know the cause of problem which causes inconvenience or dissatisfaction to customers. For a brief existing workshop operation see Figure 3.1.

Figure 3.1, shows that there are a lot of departments concerned in the workshop organization procedures such as: Reception, Controller/Dispatcher, Time control, Final control, Foreman, Mechanic, Invoicing clerk, Spare Parts Control, Special tools Control, and Cashier/Accountant. Each position has different responsibility and the next topic will present the responsibility of each position in the workshop. The detail of the process will be later shown in the other section.

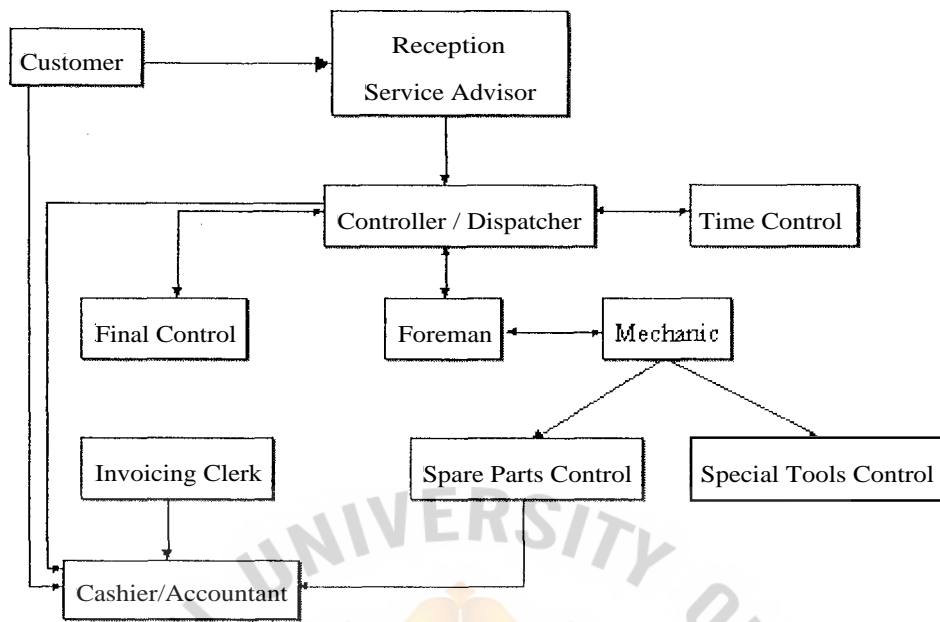


Figure 3.1. Workshop Organization Procedures.

### 3.1 Duties and Responsibilities of Main Positions in the Workshop

#### 3.1.1 Workshop Manager

The main responsibilities are to manage and control workshop.

Job descriptions:

- (a) To train, advise, and control worker's performance.
- (b) Coordinate with the department manager to delegate job to the subordinates.
- (c) To improve the standard of customer service to meet the standard of the Head quarter.
- (d) Analysis the problem and determine direction to solve the problem of the workshop.
- (e) Contacts with the customer to help customer reach their demand to create customer's satisfaction.
- (1) To motivate unity of subordinate in each department in workshop.





- (g) To find new customer and advise customer of the maintenance of other parts for the advantage of the customer's car.

#### 3.1.4 Foreman (Head of Mechanical)

The main responsibilities are to give advice and control the working of the mechanics in the workshop and the other activities of the workshop.

Job descriptions:

- (a) Control the working and assign the job to the suitable mechanic.
- (b) To advise and control the mechanic's working to increase working efficiency.
- (c) To control the method in repair and on time job.
- (d) To inspect status of warranty and manage warranty section.
- (e) To coordinate with the other department and advise service adviser in inspecting and receiving customer's cars.

#### 3.1.5 Dispatcher/Controller

The main responsibilities are to arrange the jobs according to the job card, control working to finish on time, and manage job cards (repair order).

Job descriptions:

- (a) To control the quantity of job cards and workshop's working according to the number of mechanics and tools.
- (b) To arrange the job cards for a foreman to distribute job cards to the mechanics later.
- (c) To contact the mechanic to determine the status of working and coordinate service adviser to finish the jobs on time.
- (d) To control spare parts order form and Sub-contract orders.

### 3.2 Repair Order Processing

This section will show the order processing in detail. And in the figure will show the order processing procedure in the flowchart format.

#### 3.2.1 Service Advisor

When the customers bring their cars for a maintenance at the workshop. Service adviser will:

- (1) Find the customers file from a folder if the file is not available, so service adviser will create a new customer file (new customer).
- (2) Inquire customer about their objectives and prepare repair order.
- (3) Enter number of repair order in the vehicle throughput book.
- (4) To allocate individual repair order as follows:  
Original (Green): For account - archive  
+ Vehicle release/gate pass  
2<sup>nd</sup> copy (White): For customer in confirmation of repair order  
3<sup>rd</sup> copy (Blue): Workshop office-progress control  
4<sup>th</sup> copy (Yellow): Workshop office-workshop-final control

#### 3.2.2 Dispatcher/Controller

When Dispatcher/Controller receive the 3<sup>rd</sup> copy and the 4<sup>th</sup> copy of repair order, Dispatcher/Controller will:

- (1) Check detail in customers file and repair order.
- (2) Allocate the 4<sup>th</sup> copy of repair order to the Foreman in delegate job to the mechanic.
- (3) Bring the 3<sup>rd</sup> copy of repair order to the progress control to be attached on the control board by marking ✓ in the job which is working and when this job is finished, mark X and pass it to the next job.

### 3.2.3 Foreman

When the Foreman receives the 4<sup>th</sup> copy of repair order from the Controller, he will:

- (1) Check repair order list, analyze detail of work.
- (2) Allocate jobs to mechanics by considering their skills and filling in the mechanic's code in the repair order.

### 3.2.4 Mechanic

When a Mechanic receives a repair order from the Foreman, he will:

- (1) Bring the repair order with the Mechanic's code to record time at a controller before starting the job.
- (2) Understand the job. The mechanic writes a material requisition slip or sublet order to place order with other companies and to obtain material from suppliers.
- (3) Send the material requisition slip to the Foreman for approval. After approving, give material requisition slip to material control officer.
- (4) Write Extension to repair order if addition work comes up during repairs and inform the Foreman and send it to a service adviser to contact the customer.
- (5) After finishing the job, the mechanic must send a repair order to the Foreman to checking the jobs and sign a signature in the repair order before closing time for that job at the controller.

### 3.2.5 Final Control/Controller

When the job is closed and the 4<sup>th</sup> copy or repair order from the controller is received, the Final control will:

- (1) Prepare final control lists to inspect the customer's car before sending it to a customer.
- (2) Make a final inspection and if there is a defect, the Final control officer will send it to the mechanic to check it according to the repair order.
- (3) But if there is no defect, the Final Control officer will send the repair order to the cashier.

### 3.2.6 Mechanic

When the mechanic receives the repair order and a customer's car with defect from the final control officer, the Mechanic will:

- (1) Check which part has a defect and if the defect is on the original repair order, he will repair the defects/rectification (repeat job).
- (2) But if it isn't the defect on the original repair order, the mechanic will send it to the Service Adviser to contact the customer about the matter. If the customer would like to repair immediately, the Service Adviser will extend the repair order and send it to the mechanic for rectification.
- (3) After rectification, the mechanic will send the repair order to the cashier.

### 3.2.7 Invoice Clerk/Cashier

When the cashier receives the 4<sup>th</sup> copy of the repair order, he/she will:

- (1) Collect material requisition slip, sublet order, and the 4<sup>th</sup> copy repair order to issue the invoice (4 copies).
- (2) The allocation of the invoice is:

Sheet I	Customer
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Cash payment If payment is made immediately, the customer will be given a receipt invoice (with all enclosures, e.g. copies of material requisition slips).



Credit payment If payment is made later, the invoice, stating terms of payment, will be mailed to the customer. If the invoice is ready when the vehicle is handed over, the invoice together with all enclosures can be given to the customer who can, then, acknowledge his agreement by signing it.

Sheet II                      Accounts department — file

As a reference for accounts

Sheet III                    Service reception — file

for entries into customer file and invoice summary sheet, if applicable.

Sheet IV                    Accounts. Reminder- used only if required

### 3.3 Analysis

Refer to the order processing procedure, you will see that each job consist of many processes. It is the system that every job must follow the whole system. From Workshops, customer service are in a wide area such as lubrication, body repair, electronic jobs, suspension, warranty and etc. And each type of maintenance has different time usage. Most customers can't wait for their car at the workshop although their jobs will be only lubrication jobs, which only take approximately 30 minutes. But the customer's car must wait for the mechanic or available work bay for maintenance in the prime time that each job varies for each car. It is different from the quick workshop such as B-quick, Max, or Checkpoint. Each workshop services simple or frequent job to customer such as lubricating job, tire change, brake system and accessories which each job don't take more time for repairing. Most customers can wait for their cars. But for the official workshop, customer must leave their car at the workshop, and come to pick it up later.

From the workshop there is a wide area of service and there are complicated order processing systems which have a lot of processes. From **the** order processing procedure, although a customer would like to change lubricating oil and fuel filter, which it is simple and takes approximate 30 minutes for working time, this customer must wait for an available workbay or the mechanics to finish the prior job. Some vehicles may take a lot of time to repair or wait for spare parts. Maintenance can't be done even with a simple work. And the other reason is every vehicle must pass the order processing whatever jobs they may be.



#### IV. BASIC EXPRESS SERVICE FEATURES, POSSIBILITIES, AND ALTERNATIVES

##### 4.1 The Objectives of an Express Service

The following objectives can be achieved with an Express Service:

- (1) A calmer atmosphere in vehicle reception and order processing: there are too many waiting customers.
- (2) Improving the flexibility of appointments, a frequent cause of customer complaints.
- (3) Improving the workshop's capacity utilization by exploiting new service market potentials.

##### 4.2 Space Requirements

There are two fundamentally different possibilities for accommodating an Express Service within the workshop area namely; an Express Service in the workshop (medium-size and small outlet models) or a separate Express Service. Both concepts have profound but different effects on the organization; the cooperation between the Express Service and workshop administration, and the scope for using the Express Service to exploiting further service market potential. The differences are as the followings:

###### 4.2.1 Express Service Reception

Express Service reception should not be located separately from the normal service reception area for the following reasons:

- (1) There should only be one workshop reception area as a single focal point, whatever the nature of the work the customer requires.
- (2) It should not be left to the customer to decide which are Express Service jobs and which are not.

- (3) The customer must not be sent to different members of staff in different rooms because his requirement is a borderline case or because it does not seem possible to carry out his wishes within the time desired.
- (4) For administrative reasons, the administrative process should be kept simple so that a service receptionist or hostess can take an Express Service order. The function of Service adviser should be to take orders which require a greater advisory input. Nonetheless, a customer service adviser should be close at hand in case an "expert" is required.

#### 4.2.2 Express Service in the Workshop (Small Workshop)

For this model, no special working group is formed. Instead a mechanic is allocated a dual role in which he carries out Express Service jobs as well as normal workshop jobs, if there are no Express Service jobs to be done.

##### Advantages:

- (1) This solution is extremely flexible in terms of capacity utilization.
- (2) The Express Service is organized along the lines of the existing procedures. no changes necessary.
- (3) This form of Express Service is really only an administrative model, and is, therefore, most easy to implement.

##### Disadvantages:

- (1) If the customer wishes to watch while the Express Service job is carried out, he will have to go into a workshop where other dirty and noisy jobs are in progress. Special attention must be given to the problem of working cleanliness.
- (2) The possibilities for making the Express Service workplace more attractive to customers are very limited.

- (3) There may be conflict on the workshop administration from the mechanic who has been allocated dual role of duties.

#### 4.2.3 Express Service in the Workshop (Medium Size Workshop)

In this model a working group of several mechanics is formed, if no repair groups already exist. This working group is allocated jobs by the Service adviser and also carries out Express Service jobs which it receives directly from the Service reception.

The working group is informed as soon as a service reception has taken an Express Service order. It collects both the order and the vehicle from the service reception, carries out the work and returns the order and the vehicle to the service reception.

If there are no Express Service jobs to be done, the group continues working on the orders allocated to it by the workshop administrator.

##### Advantages:

- (1) This is an extremely flexible solution in terms of capacity utilization. If the number of Express Service jobs to be carried out simultaneously exceeds the planned number of Express Service mechanics, an additional mechanic from the working group can be seconded for Express Service work.
- (2) No special organizational arrangements need to be made between the Express Service and the workshop administration.
- (3) The organization of the Express Service can be easily incorporated into the existing procedures.

##### Disadvantages:

- (1) If the customer wishes to watch while the Express Service job is carried out, he will have to go into a workshop where other dirty and noisy jobs are in



progress. Special attention must be given to the problem of workshop cleanliness.

- (2) The possibilities for making the Express Service workplace more attractive to customers are very limited.
- (3) There may be confusion and problems on the job allocation from the mechanic who has two supervisors.

#### 4.2.4 Separate Express Service

A separate space is arranged for an Express Service. This should be as near as possible to service reception or the entrance of the workshop which is easy to be seen from the street.

Advantages:

- (1) The procedures and the Express Service area can be completely organized according to the requirement of an Express Service.
- (2) The mechanic will have only one role in the workshop so that he will not be confused with his job.
- (3) The Express Service can operate as an internal subsidiary with its own financial accounts and operation.
- (4) The Express Service may be fully utilized as a service-marketing instrument.

Disadvantages:

- (1) An appropriate space must be available or provided.
- (2) A certain minimum volume of Express Service orders is required to economically operate a separate Express Service.
- (3) This arrangement requires a greater organizational effort.

- (4) Operating a separate Express Service requires correspondingly skilled management and well-qualified personnel.

#### 4.2.5 Discussion of the Three Models

The decision in selecting of one of these three models depends on the size of the outlet and its objectives.

If the objective is merely to find an organizational solution for customers who are prepared to wait, for example, then an Express Service in the workshop is quite sufficient in the case of smaller and medium-sized outlets.

In larger outlets there is a danger that the number of jobs carried out by an Express Service in the workshop might quickly lead to a loss of control, which means that work allocated to the Express Service mechanics by the workshop administrator will not be completed on time. For this reason a Separate Express Service with its own organization is suggested in the case of a larger outlet.

A separate Express Service will also need to be considered if the objective is to exploit the service potential further, as mentioned in Section 4.14 "Express Service Marketing (page 42), as the possibilities can only be fully exploited by this means. However, since specific Express Service marketing requires a certain effort and investment, this is only worthiness if a separate Express Service is able to generate a corresponding turnover. Therefore, this model is less appropriate for smaller outlets.

#### 4.3 Express Service Jobs

If an Express Service organization is to run smoothly, there must be a clear definition of Express Service jobs. Only then can procedures be simplified by preparation.

## (1) Definition and Distinction

To ensure that the Express Service will be retained, distinctions must be drawn with respect to the jobs it carries out:

- (a) The job scope is limited to ensure that the Express Service is not overloaded.
- (b) The working time required should be limited to one hour to ensure a clear distinction from normal workshop activities.
- (c) No specialist jobs, as it is not possible to provide the appropriate personnel and facilities within an Express Service.
- (d) No orders with extended completion times, as there is a problem that existing jobs will be continually postponed in favor of customers for which customers are prepared to wait, so the final result being late completion. And it will make a problem on the postponement of the next customers.

The distinction between Express Service jobs and other workshop jobs must be clear to the customer. Customers must understand that overall vehicle servicing cannot be responded by the Express Service. Therefore, the workshop should strictly maintain this distinction and explain it to the customer when necessary.

Extreme cases should also be avoided, however. For example, If the Express Service has taken an order to renew the brake pads and it then becomes apparent that the brake discs should also be replaced, the order should be extended by agreement with the customer. And the work is rapidly carried out either by the Express Service in case that these jobs take

less time and customers do not need to wait long, or by arrangement with the workshop administration.

(2) Categories of Express Service Jobs

The following is an attempt to categorize the Express Service jobs in terms of the effort and benefit involved in ensuring speedy completion by good preparation. These are theoretically possible categories, which represent the different possibilities to pricing, payment and materials requisitioning. The outlet can use these categories to define and administer its range of Express services in line with its needs. It isn't necessary that an outlet should operate with all the categories.

The following distinctions may be drawn between Express Service jobs according to preparation and procedure:

Category	Pricing	Payment	Parts form
EX 1:	All-in price for labour and materials	possible before work carried out	sub-store
EX 2:	All-in price for labour and materials	possible before work carried out	main store
EX 3:	Fixed price for labour, materials as needed	after work carried out	sub-store
EX 4:	Fixed price for labour, Materials as needed	after work carried out	main store
EX 5:	Labour and materials as needed	after work carried out	main store
EX 6:	Carrying out the work reveals an urgently necessary addition to the order which isn't listed in the scope of the Express Service.		

The criteria for categorization are:

- (a) Frequency
- (b) Required storage space
- (c) Dependence on vehicle model

#### 4.4 Express Service Capacity

When determining the Express Service capacity, it is initially advisable to evaluate workshop orders.

The following factors influence the Express Service capacity:

- (a) Current number of typical Express Service jobs as a proportion of the total vehicle throughput (working time less than 1 hour, customer waiting).
- (b) Extent to which the Express Service will be used as a service marketing instrument.

If the Express Service is operated in an existing building, and if there is no experience in Express Service before, it is advisable to start with an Express Service in the workshop for the starting period.

Although the large workshop will have available space for arranging the separated Express Service, workshop orders should be evaluated for forecasting Express Service capacity before making decision.

##### 4.4.1 Number of Workplaces

The number of workplaces in the Express Service depends on the peak demand which the outlet intends to serve. The number of workplaces depends on:

- (a) the number of customers who arrive without an appointment
- (b) the time distribution of Express Service jobs with the number of Express Service job in the nearby time period.
- (c) the estimated future development of the workshop



#### 4.4.2 Arrangement of Working Time

In order to provide customer- satisfaction business hours for the Express Service, but not to have excessive idle times for the mechanic, it is sensible to arrange the working hours according to the demand. The following models are possible depending on the working hours of the workshop and the number of customers in each time period:

(a) Multiple shift operation

The Express Service capacity can be adjusted by overlapping the shifts.

For example: 1<sup>st</sup> Shift may start from 08.00 to 17.00 (depending on each workshop). Lunch break may be from 11.00 -- 12.00 and the 2<sup>nd</sup> shift has already started work.  
2<sup>nd</sup> shift may start from 11.30 to 20.30 and may have a short break before the end of the 1<sup>st</sup> shift.

(b) Dual Role

In this model, workshop mechanics are "seconded" to the Express Service from Express Service mechanics are having a break, the workshop mechanics will serve customers during peaks demand in the limited periods of time for Express Service jobs. A lower capacity workshop is taken into consideration for these "Dual Role" periods.

Of course these two models can also be combined. Customer requirements and financial success are best satisfactory by being as flexible as possible.

#### 4.4.3 Personnel Requirement

The personnel requirement depends on the number of workplaces, the hours of business and the working time arrangements (see Section 4.4.2). At least the numbers of workplaces correspond to the number of Express Service mechanics.

If there are two to four Express Service mechanics, the most experienced should be appointed the group leader for the Express Service. He works productively himself, controls the group and makes arrangement with the customers and the workshop administration.

If there are 5 or more Express Service mechanics, it is advisable to appoint a foreman to run the Express Service in controlling the job and workshop administration.

#### 4.5 Business Hours

If the objectives are to be met, the business hours of the Express Service must be in accordance with customer needs. The following peak periods must always be taken into account when deciding the business hours:

- (a) Operation during the mid-day period, as customers like to come during their Lunch break.
- (b) Open for business in the evening unit the local shops close, as many customers come to have smaller jobs done on their vehicles after leaving work. Also Saturdays.

Before making a decision on hours of business and make a better estimate on capacity utilization, workshop should make workshop analysis as well as customer survey.

#### 4.6 Appointments

If a customer makes use of an Express Service, he naturally does not wish to wait long. Particularly in the case of a separate Express Service, this cannot be ensured during peak demand periods without a certain amount of mechanics. A simple appointment system is the most appropriate solution. If there is more than one mechanic in the Express Service, arranging appointments can be limited to just a part of the Express Service capacity, e.g. the capacity of one mechanic.

#### 4.7 Order-Taking

The order-taking process must be simple that a receptionist, a customer adviser or an administrative staff member, without technical knowledge, can prepare an Express Service order to avoid customer-waiting times.

The Express Service jobs defined by the workshop (categories EX 1 to EX 5) are shown on an Express Service list. This list with its fixed and all-inclusive prices is the basis for the order. Depending on the order processing procedure (see next Section), the relevant Express Service job is taken from the Express Service list are included in the repair order form as an item in the repair order.

No special order form is required for Express Service orders, to save money the company's normal repair order forms should be used.

#### 4.8 Order Processing

There is a basic choice between manual or EDP-based order processing, however the decision should not be a foregone conclusion just because the workshop processes orders by EDP (Electronic Data Processing).

The criteria for manual order processing:

- (a) No EDP system available.
- (b) No additional monitor and printer available for Express Service orders.
- (c) The response time of the EDP system is too long from the low performance of computer system or the EDP system is unsuitable for on-screen order-taking.

The criteria for EDP-based order processing:

- (a) Availability of an efficient EDP system.
- (b) Availability of the hardware to support Express Service job.

The advantages of EDP-based order processing are the automatic accounting of services provided and automatic entry in the vehicle service history.

#### **4.9 Materials Requisitioning**

Common spare parts of the Express Service job should be taken from an Express Service sub-store, which contains a main frequency requirement parts and sub- store should be located in the close area with Express Service workplace. In the case of small workshop, sub-store may be in the same place as the main store but it should be arrange the frequency requirement part is in the front of store for convenience of material control officer or provide a specific area for these frequency requirement parts.

The main store is used in case of less commonly used parts, or parts whose space requirement is unavailable. Parts administration may use a manual or EDP-based.

#### **4.10 Invoicing**

The use of all-inclusive and fixed prices greatly simplifies the accounting procedure for most Express Service jobs, for minimizing the administrative job and avoiding customer-waiting times.

#### **4.11 Working with Workshop Administration**

To avoid the Express Service stand idle during certain periods while the workshop is unable to meet its job schedules on time, the Express Service must work together closely with the workshop administration.

##### **(1) Express Service in the Workshop**

If the Express Service is in the workshop, the workshop administration should be controlled by administration. The volume of Express Service work is controlled by the workshop administrator:

- (a) By instructing vehicle reception to accept a greater or smaller number of Express Service jobs.

(b) By increasing or reducing the number of Express Service mechanics.

(2) Separate Express Service

In case of a separate Express Service, the administrative cooperation should be governed by the following aspects:

- (a) Waiting Express Service customers or those with appointments have priority.
- (b) The maximum time required for a job referred to the Express Service by the workshop must not exceed half an hour.
- (c) The workshop can only refer individual job to the Express Service by prior agreement.
- (d) If the Express Service mechanic has accepted a job from the workshop administrator it is carried out immediately and has priority over Express Service jobs, which arrive meanwhile.

#### **4.12 Final Inspection and Quality Control**

Naturally, quality must not be measured by speed in working of the Express Service jobs. For this reason, specific arrangements must be made for final inspection and quality control.

(1) Final Inspection

Final inspection means a "final examination" of all express Service jobs before the vehicle is returned to the customer. The final inspection procedure includes (a) Checking the work carried out and (b) Spot-checks on operating safety and roadworthiness.



(a) Express Service in the Workshop (Small Workshop)

The final inspection is carried by the Express Service mechanic himself after completion of the work, and is confirmed by his signature on the order sheet.

(b) Express Service in the Workshop (Medium Workshop)

The leader of the Express Service group is given the responsibility of carrying out the final inspection.

(c) Separate Express Service

If several mechanics are involved, the group leader or the Express Service manager carries out the final Inspection for all Express Service orders.

If the separate Express Service has only one-two mechanics, he carries out the final inspection himself after the completion of the work, and confirms it with his signature on the order sheet.

(2) Quality Control

This means checking to ensure that the final inspection has been carried out properly, and can be done on the principle of random sampling. A separate record should be kept of the results.

In case of an Express Service in the workshop, an Express Service vehicle can be done by the workshop's final occasionally inspection process.

In case of a separate Express Service, the jobs which have been referred to the Express Service by the workshop can be checked by the workshop's final inspection process on completion.

#### **4.13 Registration of Express Service Jobs in the Vehicle Service History and Accounting for Express Service Jobs**

Since the Express Service also carries out safety-related jobs and warranty claims can arise, it is necessary to keep a record of these jobs. This registration can be as follows, depending on the form of the organization:

(1) Order processing by EDP

If this registration is normally carried out in the EDP-based vehicle history and if the Express Service orders are to be processed by the workshop EDP system, then the registration problem is basically already solved.

If vehicle files are kept, the Express Service orders must be added to these files. Files are stored in the same way as normal workshop orders.

(2) Manual order processing

If order processing is manual, we recommend that Express Service orders are entered in the vehicle history or added to the vehicle file.

In case of manual processing, the Express Service jobs must also be separately entered in the sales ledger and in the corresponding debit accounts where appropriate.

#### **4.14 Express Service Marketing**

The task of Express Service marketing is to ensure that the Express Service is in accordance with the requirements of the market by:

- (1) Designing the Express Service to improve customer satisfaction and increase turnover by increasing utilization of the service potential.
- (2) Pricing levels are acceptable to customers and enable a positive pricing image to be created.

(3) Marketing consists of information of the existing and new customers about the Express Service, Express Service advertising and ascertaining customer opinions concerning the scope, business hours, and efficiency of the Express Service.

This is only a brief reference to the possibilities of Express Service marketing in order to provide ideas for decision-making. Detailed descriptions may be found in Chapter 7.

#### 4.15 Express Service Target

There are two different target groups for the target of Express Services, namely; regular and new customers.

##### (I) Regular Customers as a Target Group

Where regular customers are concerned, the objective of the Express Service is to retain them and use price offers to discourage them from trying out other workshops. The rapid and unbureaucratic completion of small jobs by the Express Service is an excellent basis for using intelligent pricing to exploit the possibilities of an Express Service.

##### (2) New Customer as a Target Group

A good Express Service also creates the conditions for attracting new customer segments. This potential should be considered when establishing the price structure.

Express Service jobs and price should be clearly defined to the customer. The level of acceptance is very strongly influenced by the pricing.

The price structure of the Express Service has a strong influence on the pricing image of the entire company.

The special characteristics of an Express Service are more direct processes and simplified administration to minimize the processing times included in flat rates and a special pricing package.

#### 4.16 The Express Service as a Profit Center

Organizing the Express Service as a profit center has the following advantages:

- (a) Precise monitoring of costs.
- (b) Clear cost calculations as a basis for the pricing structure.
- (c) Express Service is managed in a professional manner.

This is achieved by managing the Express Service as a subsidiary company in accounting terms, though these can be sensible if costs and sales are accounted for strict separation. The effort involved is usually only worthwhile above a certain size. In case of an Express Service in the workshop; a clear allocation of costs presents a problem. A profit center concept is, therefore, only appropriate in the case of a separate Express Service.

## V. ESTABLISHING THE EXPRESS SERVICE

Having discussed possible company-specific solution for an Express Service, we shall now briefly describe how it can be established.

### 5.1 Deciding the Express Service Capacity

The results of the following analysis can be helpful in deciding the capacity of the Express Service. These do not automatically determine the number of workplaces or mechanics, but are capable of providing indicative values on which to base a managerial decision.

#### (1) Analysis of Distribution by Seasons and Weekdays

The objective of this analysis is to establish how many Express Service orders demanded by customer in the past, and how they were distributed. For this purpose all the orders for one week, if possible a typical period, are evaluated:

- (a) in the rainy season
- (b) in the pre-Christmas period
- (c) in the winter
- (d) in the pre-summer holiday period and
- (e) During the summer holiday period.

Two evaluation sheets are prepared for each week, with columns for the days of the week. One is given the heading "Express Service jobs" and the other "Workshop jobs" When evaluating the orders, the invoiced time are evaluated by the following criteria:

- (a) working time less than one hour
- (b) customer waiting time



Both of them is entered on the "Express Service jobs" sheet for the appropriate day. For those jobs which do not meet these criteria, the invoice times are entered under the appropriate day of the week on the "Workshop jobs" sheet.

When all the orders have been analyzed in this way, the columns are totaled on each sheet (total invoiced time and number of orders) and the total for each sheet is calculated (total invoiced time and number of orders).

The column totals (weekdays) for the individual sheets can be added together on a separate sheet.

These enable a ratio to be established between Express Service jobs and workshop jobs.

This procedure will produce the following information:

- (a) Proportion of Express Service orders within the total order volume
- (b) Distribution of Express Service orders by days of the week
- (c) Seasonal fluctuations in Express Service orders.

When deciding the Express Service capacity, however it should be remembered that the number of Express Service jobs will probably increase once the Express Service has been established.

## (2) Analysis of Distribution by Time of Day

For precise information on the time fluctuations the orders on the evaluation list can be analyzed according to time of day. To limit the effort this involves, we recommend doing this for only one or two weeks.

The information is evaluated as described in Analysis of distribution by seasons and weekdays section. By entering time when customers bring

their cars to the workshop on each workday and calculate the percentage of number of Express Service orders in each time period per each workday.

## 5.2 The Express Service Workshop

When establishing the Express Service, the workshop manager must first decide whether a separate Express Service or an Express Service in the workshop is established.

### (1) Separate Express Service

The area in which the Express Service is carried out should meet the following requirements:

#### Basic Features

- (a) Located separately from the workshop; noise and dust from the main workshop should not cause too much disturbance in this area.
- (b) Clean appearance, as it is also accessible to customers.
- (c) Located as close as possible to the service reception area and customer can easily see from the street.

#### Extended possibilities

- (a) Express service area fully visible from service reception.
- (b) Waiting seats attached to the wall in front of each workplace, separated from the work area by a railing.

This acts as an invitation to the customer to watch and monitor the work being carried out. It is intended as a gesture that indicates openness and transparency: "We have nothing to hide."

Observations have shown that customers seldom make use of this option. However, the image of openness and transparency still remains. If

the objectives of the Express Service are aimed at exploiting the market potential to the full, these extended features should be considered.

(2) Express Service in the Workshop

The Express Service workplace should be located as closely as possible to the workshop entrance.

(3) Express Service Facilities

The Express Service workplace or Express Service section in the workshop should have the following equipments:

- (a) A vehicle hoist (inspection pits should be avoided for customer safety reasons)
- (b) Fresh oil supply and waste oil disposal facilities
- (c) Parts substore (possible lockable steel cabinets located near the workplaces)
- (d) Time clock for manual time registration or EDP monitor with printer for batch processing as well as additional time registration terminal for EDP-based job timing
- (e) Intercom system connected to service reception and workshop administration
- (f) If appropriate, waiting facilities for customers.

### 5.3 Express Service Jobs

#### 5.3.1 Defining Express Service jobs

Express Service jobs must be defined and divided into categories as described in Section 4.3, on page 33. The examples shown in Section 5.3.2 below may be used to provide ideas. The allocation of Express Service jobs to their processing categories

should be reviewed on an ongoing basis and adapted to suit the demand. The differences of the various job categories are explained below.

#### EX 1 Express Service Jobs

These Express Service jobs require only the simplest and quickest processing. These are simple, frequent and precisely defined jobs whose material and labour content rarely depends on the vehicle model, and for which all-inclusive prices can be calculated. Order texts, part numbers and all-inclusive prices are entered on the Express Service order directly from the Express Service list or are stored in the EDP system as a package. Payment can be made before the work is carried out.

Example: Change engine oil and filter

#### EX 2 Express Service Jobs

The order processing procedure for these jobs is the same as for EX I jobs. The difference is in materials requisitioning. These are parts which vary from model to model and are too large for a substore. They are, therefore, obtained from the main store. Labour and materials are combined into an all-inclusive price and shown on the Express Service list or stored in the EDP system as a package. Payment can be made before the work is carried out.

Example: Changing battery

#### EX 3 Express Service Jobs

The labour content of these jobs is not model-dependent, while the parts required have only slight difference from model to model and can be accommodated in the Express Service substore. The order texts are shown in full in the Express Service list and merely transferred to the Express Service order form including the fixed labour charge. The Express Service mechanic enters the materials used on the order in

accordance with their descriptions on the substore shelving. Payment is made when the work has been completed.

Example: Replacing front brake pads

#### EX 4 Express Service Jobs

The jobs in this category are Express Service jobs which do not occur quite frequently. Their labour content is also predominantly unrelated to the vehicle model, which is why the labour component is also shown in the Express Service order. Because of their size and frequency of use, it is not worthwhile stocking the parts in the substore. Instead the Express Service mechanic is provided with a materials list showing part numbers and prices, which enables him to complete a materials requisition quickly. He then picks the required parts from the shelves in the main store himself. Payment is made when the work has been completed.

Example: Replacement of headlight lenses

#### EX 5 Express Service Jobs

This category included all other jobs which can be completed within one hour. Since they occur very infrequently, it is not worthwhile to make special arrangements. A time clock is used to register the beginning and end of the work and includes the total time required to carry out the order. The necessary parts are requisitioned from the main store as in the case of normal workshop jobs. The invoice is prepared according to the time and materials used.

Example: Fitting new decorative trim

#### EX 6 Express Service

The jobs in this category were originally assumed to be Express Service jobs which would take less than one hour to carry out. During the course of the work it becomes apparent that further work relating to safety or roadworthiness is required



which is beyond the intended scope of the Express Service. In this case, a suitable solution must immediately be agreed with the customer and the workshop administration, taking into account the existing appointments for the Express Service and the workshop. These jobs are processed in the same way as normal workshop orders.

Example: while replacing the brake linings, it becomes apparent that the track rods are adjusted.

Different Categories of Express Service Jobs on a Single Order

If an Express Service order contains jobs belonging to different categories, we recommend invoicing the entire order according to the category, which requires the least preparatory effort.

Example: If an order contains both EX 1 and EX 3 jobs, the entire order can only be invoiced and paid for on completion.

5.3.2 Suggested Express Service Jobs and Their Categorization

This is a sample of Express service jobs and their categorization.

EX 1 to EX 3 Jobs		
Job number	Hrs.*	Text
01-0001	0.5	Inspection
01-0002	0.4	Oil Change
02-0001	0.5	Remove and refit wheels (excluding new tire)
03-0001	0.6	Renew front brake linings
03-0002	0.1	Replace windscreen wiper blade
Replace bulb(s):		

	Hrs.*	Text
03-0003-01	0.2	Headlight unit
03-0003-02	0.2	Rear light

#### EX 4 Jobs

Left	right	Hrs.*	Text
04-0001-01 + 04-0001-02		0.9	Replace headlight lens
04-0002-01 + 04-0002-02		0.3	Replace rear light lens
04-0003		0.6	Replace new tire

\* This item is time which forecasts an approximate time for each jobs.

### 5.4 Express Service List

The Express Service list should:

- Show the results of the price calculation for the range of Express Service jobs.
- Provide a clear survey of the range of Express Service jobs offered, to ensure that the customer contact personnel are quickly able to give information about services and prices.
- Provide a basis for written orders.
- Provide a basis for advertising statements as part of Express Service marketing.

#### Example of an Express Service List

In case of EDP-based package and all-inclusive price processing, this price list is stored in the EDP system with package numbers for example. For this project, we use Mercedes-Benz as an sample.

Job no.	Text and parts	All-inclusive price
02-0003	Replace Battery	
	Battery "YUASA"	Bht 1,100
01-0001	Inspection	
	Gasoline model:	
	190 E 1.8-2.3/200-230E/C 180-220	Bht 1,699
	Engine oil & Oil filter	
	300 E/S 280-S 320	Bht 1,999
	Engine oil & Oil Filter	

## 5.5 Materials Requisitioning

### 5.5.1 Establishing an Express Substore

The substore should contain the average daily parts requirement for EX 1 and EX 3 jobs. The administrative procedure for the substore depends on the Express Service procedure.

Parts should be stocked for every model, which is distributed in Thailand Market but the number of parts must be prepared by reviewing previous repair record summary to estimate demand of Express service.

Following the example for EX1 and EX3 jobs, the substore will contain the following parts:

- (a) Engine oil filters
- (b) Front brake pads
- (c) Engine Oil
- (d) Assortment of light bulbs
- (e) Windscreen wiper blades

The shelves are not only marked to ensure that parts are correctly identified, but also have details which must be entered on the order in case of the manual processing:

- (f) Part designation
- (g) Vehicle model
- (h) Part number
- (i) Part price including VAT (only for manual processing)

5.5.2 Requisitions

In case of EX 4 jobs, a requisition list should be compiled for parts which must be obtained from the main store.

In case of EDP-based processing, it is sufficient to indicate the:

- (a) Part designation
- (b) Part number
- (c) Vehicle models for which the part is used.

In case of manual processing this requisition list should also contain the Gross list price.

This is entered on the order for a manual processing.

For the above examples such a requisition list might take the following form.

(Mercedes-Benz is used as a sample)

Part designation	Part number	For Models	Price
Headlight lens			
Left			
Bosch	000 820 08 66	all W 124 except 500 E	2,100
Hella	124 820 21 66	all W 124 except 500 E	2,200
Hella	000 820 21 66	500 E	2,400

Right

Bosch	000 820 09 66	all W 124 except 500 E	2,100
Hella	124 820 22 66	all W 124 except 500 E	2,200
Hella	000 820 13 66	500 E	2,400
Seal	001 826 31 80	all W 124	190

## 5.6 Appointments Diary

Appointments may be registered in a normal calendar / diary in which each day is divided into half-hours. If the working capacity of more than one mechanic is administered by the appointment system, the diary must be large enough to permit a column for each mechanic.

Appointments are entered in the diary in half-hourly stages so that sufficient time remains to carry out any unassigned minor jobs as well or leave time for minor additions to Express Service orders.

## 5.7 Express Service Working Procedure

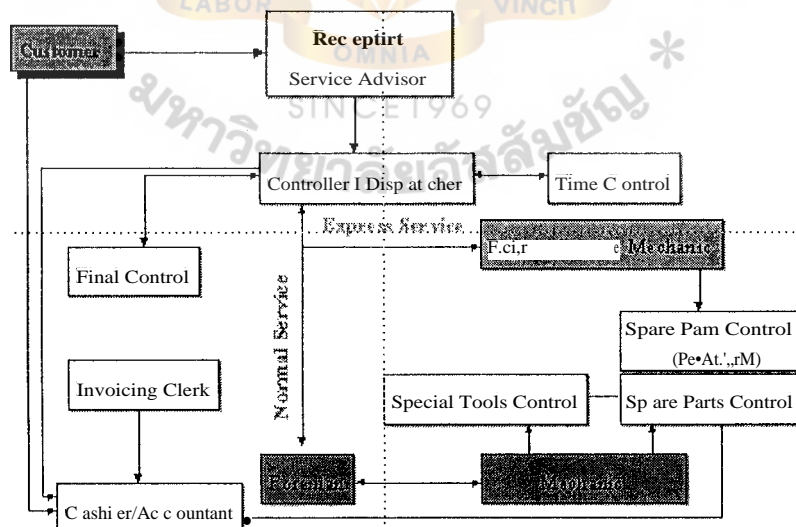


Figure 5.1. Proposed Workshop Procedures (Express Service).

## VI. EXPRESS SERVICE ADMINISTRATION

This section contains a detailed description of the administrative procedure.

### 6.1 Express Service Order

The normal workshop order form can be used as Express Service orders. Or specific design form is used as Express Service order form.

### 6.2 Order-Taking

#### 6.2.1 Manual Processing

The customer's name and full address should be entered in the address box on the Express Service order form.

The following obligatory details must be given at the head of the order form:

- (a) Date
- (b) Vehicle registration number
- (c) Model
- (d) Mile reading

In case of the manual processing, the Express Service order form doubles as an invoice. In view of the need for rapid processing by means of the best possible preparation, EX 1 to EX 4 jobs should be taken from the Express Service list (see Section 4.4) and entered on the order form when taking the order, with the details required for invoicing and subsequent entry in the vehicle history. A manual Express Service order should, therefore, contain the following details:

- (a) The order form number; the Express Service orders are paginated.
- (b) For EX 1 and EX 2 jobs: job numbers, texts, part description, and all-inclusive price.
- (c) For EX 3 and EX 4 jobs: job numbers, texts, and part description



- (d) For EX 5 jobs, the customer requirements are entered on the form by hand, without using standard texts and fiat rates.

#### 6.2.2 EDP Processing without an Service Package

In case of EDP processing, the obligatory details shown in the above section must also be given unless the job is ordered by a regular customer whose vehicle and customer details can be taken from the EDP master file.

#### 6.2.3 EDP Processing with a Service Package

The order is generated as in the same way as without a service package.

In case of a service package, packages (all-inclusive price) are stored in the EDP system as packages consisting of labour and materials. For these jobs the Express Service list contains only the package number and the all-inclusive price.

### 6.3 Materials Requisitioning

For materials requisitioning purposes we must distinguish between processing which involves parts from the substore and parts from the main store, as well as the general processing of Express Service orders.

#### 6.3.1 Manual Substore Administration

The initial stock in the substore is registered. However, the parts it contains belong to the main store inventory.

All the parts used by the Express Service are registered on the batch requisition.

Parts taken from the substore are registered as follows:

- (a) In case of EX 1 and EX 2 jobs, the part number is already entered on the Express Service order. The Express Service mechanic confirms the removal of parts from the substore by signing a signature behind the part number.

(b) In case of EX 3 jobs, the Express Service mechanic transfers the part number from the shelf description to the Express Service order in writing, as well as the part designation and the price.

When the Express Service order has been invoiced; the parts taken from the substore are entered on the batch requisition and, thereby, deducted from the stock. The batch requisition is accounted for each day and serves as basis for replenishing the stock in the substore.

#### 6.3.2 EDP-based Substore Administration as a Subsidiary

If the administration system is EDP-based, workshop operating the entire Express Service including the substore as a subsidiary company are recommended.

Stock movements are accounted, according to the possibilities of the EDP system. The following procedure is usually appropriate:

Supplies from the main store to the subsidiary, e.g. daily replenishment of the substore are made against an internal invoice. Then these parts are booked into the subsidiary's store.

Since the Express Service is operated as a subsidiary, all Express Service jobs are generated under the heading "Subsidiary" in the EDP system. All its sales are automatically allocated correctly, and parts removed from the substore are deducted from its stock.

#### 6.3.3 Materials Requisitioning from the Main Store

When stock is taken from the main store we recommend using the Express Service's daily batch requisitioning and accounting procedure (see Section 5.3.1).

In case of EX 2 jobs, the part number has already been taken from the Express Service list and entered on the order by a vehicle reception.

In case of EX 4 jobs, the Express Service mechanic takes the part number and price from the materials list and completes a material requisition.

- (a) The order number is the number of the batch requisition.
- (b) The Express Service order number is shown under "Customer".
- (c) Part number, designation and price (from the materials list).

The Express Service mechanic takes the completed requisition directly to the main store and personally picks the parts from the shelves. He leaves the original of the requisition in the main store so that the process can be registered there. The hard copy remains in the Express Service to be added to the batch requisition. The Second copy of the requisition is added to the Express Service order for invoicing purposes.

In case of EX 5 jobs, workshops use the normal requisitioning procedure. The Express Service mechanic completes a materials requisition and obtains the parts from the main store. In this case the order number is entered under "Customer". In these case the store subsequently enters the price including value-added tax on the requisition. The copies are registered and distributed as in the case of EX 4 jobs.

#### 6.4 Time Registration of EX 5 Jobs

For EX 5 jobs, the time work begins is stamped on the reverse of the order form. The work begins when the first activity takes place for the order, e.g. driving the vehicle into the Express Service working area.

The completion time is also stamped on the order form.

The Express Service mechanic enters the total working time in the Express Service order form. Work interruption time due to work on other vehicles should be taken into account.

## 6.5 Order Invoicing

### 6.5.1 Manual Invoicing

In case of manual processing, the materials used for EX 3 to EX 5 jobs (not all-inclusive price jobs) are transferred to the Express Service orders form the materials requisition by hand.

For EX 5 jobs, the labour charge is calculated from the time taken and the flat rate including value-added tax, then entered.

The relevant all-inclusive, fixed labour, actual labour and parts prices are totaled manually and entered in the Total column. In case of customers entitled to deduct value-added tax, the VAT component must be shown separately to satisfy the regulations.

This amount is calculated as follows:

$$\text{Tax} = \text{price include Tax} - \text{price include Tax} / (1 + \text{tax rate} \times 0.01)$$

Example: price include Tax 1,070, tax rate 7%

$$\text{Tax} = 1,070 - 1,070 / (1 + 0.07 \times 0.01)$$

$$= 1,070 - 1,070 / (1 + 0.07)$$

$$= 1,070 - 1,070 / 1.07$$

$$= 1,070 - 1,000$$

$$= 70$$

### 6.5.2 EDP-based Invoicing

Express Service orders are invoiced according to categories:

- (a) All EX 1 and EX 2 jobs, including materials, have already been registered and possibly already invoiced on order generation, or they have been registered while work is in progress so that all detail are presented in the invoice when the vehicle is handed over.

- (b) In case of EX 3 and EX 4 jobs, the materials used are entered subsequently.
- (c) For EX 5 jobs, the working time must still be entered. This procedure depends on the EDP system used.



## VII. EXPRESS SERVICE MARKETING

### 7.1 Express Service Offer

Naturally the Express Service offer must be attractive and follow customer requirements. First of all, it is necessary to define the target groups whose requirements are met by Express Service jobs. These may be regular or new customers, depending on the objectives of the Express Service.

#### 7.1.1 Regular Customers as a Target Group

From regular customers dissatisfied about long waiting time, the range of Express Service jobs should include the followings:

- (a) Maintenance jobs within the scope of the Express Service (for example inspection)
- (b) Replacement of wearing parts which may become necessary between service intervals (replacement of front brake linings, tires)
- (c) Seasonal jobs (raining season inspection)
- (d) Fitting attractive accessories (Changing wiper blade)

#### 7.1.2 New Customer as a Target Group

In order to attract new customers at an Authorized dealer workshop, the following areas should be considered:

- (a) Tire replacement
- (b) Changing engine oil and filter
- (c) Brake system and spare parts
- (d) Changing Battery
- (e) Pre-raining, holiday or long distance travel and winter check-up.



## 7.2 Pricing

The pricing system can be based on a progressive pricing table. This has the advantage that quick jobs which a customer can easily comprehend and take less time are charged at a lower rate than longer jobs of which the customer has a less clear view. This enables the company to influence its pricing image positively.

### 7.2.1 Progressive Table of Charges

A table based on the following factors has proved useful when applying progressive charges:

Starting value:  $0.3 \times \text{rate per hour}$  (Example is Bht 180 per hour)

Graduation: 0.1 hour (6 minutes)

Number of graduations using hourly rate: 10

Therefore, when charging according to hourly rate:

Graduation:  $(\text{rate per hour} - \text{starting value}) / 10$

In case of hourly rates, the price for a job taking up to 1 hour is calculated as follows:

Price =  $(\text{starting value} + \text{graduation} \times (\text{number of hours} - 0.1) \times 10) \times \text{no. of hours}$

Example: Hourly rate: Bht 180, number of hours: 0.3 (18 minute)

Starting value:  $180.00 \times 0.3 = 54.00$

Graduation:  $(180.00 - 54.00) / 10 = 126.00 / 10 = 12.60$

$$\begin{aligned}\text{Price for 0.3 hours} &= (54.00 + 12.60 \times 0.2 \times 10) \times 0.3 \\ &= (54.00 + 25.20) \times 0.3 \\ &= 79.20 \times 0.3 \\ &= \underline{23.76}\end{aligned}$$

The remaining values are as follows if rate of Bht 180, - per hour is used:

<u>Progressive Method</u>		<u>Proportion Method</u>	
Hrs.	Price (Bht)	Firs.	Price (Bht)
0.1	5.40	0.1	18
0.2	13.32	0.2	36
0.3	23.76	0.3	54
0.4	36.72	0.4	72
0.5	52.20	0.5	90
0.6	70.20	0.6	108
0.7	90.72	0.7	126
0.8	113.76	0.8	144
0.9	139.32	0.9	162
1.0	167.40	1.0	180
1.1	198.00	1.1	198

#### 7.2.2 Deciding All-inclusive Prices

The examples below illustrate the method of calculating hourly-based all-inclusive prices for EX 1 and EX 2 jobs, using the above charge rates (based on hourly rate) and material price.

Description:

Replace MB-star

Job number	Flours	Labour
01-0012	0.2	13.32
Part designation	Part no.	Material price
MB-star	24.0031.404.40	700.00
Total price		<u>714.00</u>

### 7.2.3 Deciding Fixed Labour Charges

Fixed labour charges must be decided for EX 3 and EX 4 jobs. This is done in the same way as the labour component for all-inclusive prices. In this case, VAT must be added too.

## 7.3 Marketing Communication

The followings are a few guidelines on marketing communication.

### 7.3.1 Express Service Advertising

The customers must be informed that the Express Service has been established, and also about the services it provides. The target groups for this information are the regular customers as well as new customers.

#### (1) Informing Regular Customers

To offer the Express Service to regular customers, they must also be informed about:

- (a) the necessary limitations regarding Express Service jobs
- (b) the administrative procedure
- (c) the ability to make appointments, as well as the priority given to customers with appointments.

This information can be given by means of:

- (a) Leaflets distributed to customers when visit the workshop (workshop, store, or sales)
- (b) Enclosures with invoices
- (c) Direct mails.

Direct mails are the quickest and most effective method. Such an information letter may be combined with a customer survey for the suggestion from the customer about Express Service.

## (2) Advertising for New Customer

New customers must be informed about the attractiveness of the Express Service.

The main emphasis of the advertising message should not be on the price, but rather on:

- (a) Unbureaucratic procedures
- (b) The use of original Mercedes-Benz parts
- (c) Authorized workshop quality standard
- (d) Warranty for genuine spare parts.

When a customer buys a car, car owners have already shown that they appreciate the quality, safety and after-sale service. Otherwise they would probably have purchased a less expensive car. Of course, this basic attitude in the part of car owners does not mean that exorbitant prices may be charged only for car's performance. These customers will certainly pay a good price if they consider that the service provides value for money. The point is, therefore, to communicate the fact that Express Service and its excellent quality fully justify the price charged.

These ensure that the Express Service is not positioned at the "cheap end" of the market. The quality image is used to distinguish it from independent Express Service.

Suitable advertising media are:

- (a) Leaflets distributed at the showroom
- (b) Advertising page on newspapers or magazines
- (c) Radio advertising, perhaps featuring a joint with the entire Authorized workshop.

(d) Banner at the front of a Workshop

## 7.4 Customer Surveys

### 7.4.1 Designing the Questionnaire

The questionnaire should begin with an introduction and end with thanks for taking part in the survey. It is helpful to refer to the confidentiality of the answers, for example: "Your answer will be used for statistical purposes only and will be kept strictly confidential".

The layout of the questionnaire should be clear and easy to understand. In case of closed answers, care should be taken to ensure that the answer criteria are clearly laid out.

Examples of questionnaires are shown in Appendices A and B.

### 7.4.2 Sample Size

It is almost impossible to do a complete survey of all customers. A properly designed sample is more efficiently managed, has less potential for bias, and can provide a high level of information necessary for a workshop.

The statistical formula to be used to determine the sample size is:

$$\frac{(pq) Z^2}{E^2}$$

Where     $n$     =    Sample size

- Probability of the positive response
- $1.00 - p$

Standardized normal random variable( to equal to confidence level required)

- Sampling error

For example

The workshop assumes that 50% of respondents are aware of the Express Service. The workshop wishes to estimate with 95% confidence that the allowance for sampling error will not be greater than 5%. What sample size is required?

$$N = \frac{(pq) Z^2}{E^2}$$

$$\frac{(0.5)(1-0.5)(1.96)^2}{0.05^2} \text{ (For 95\% confidence level } Z = 1.96)$$

$$\frac{(0.25)(3.8416)}{0.0025}$$

384.16

Sample size

384 respondents

The workshop would survey 384 respondents.

#### 7.4.3 Carrying Out the Mail Survey

##### (1) Accompanying Letter

Since the survey requires a certain amount of the customer's time, and the effort the customer prepares to make influences the response rate. Therefore, the validity of the survey, the reason for carrying out the survey should be explained in an accompanying letter. The requirements for such a letter are similar to those of an advertising letter. The accompanying letter should:

- (a) Address the customer personally (if possible naming the customer and referring to the customer's vehicle).
- (b) Present the importance of the customer's opinion of the company.



- (c) To be signed by a senior manager (definitely not a printed facsimile signature).

The range of Express Service jobs as shown in the Express Service list should be enclosed with this accompanying letter.

## (2) Response Envelope

A response envelope must be provided for returning of the questionnaire. The response envelope is pre-addressed to the company and should be marked "postage paid".

## (3) Sending Out the Questionnaire

The accompanying letter, questionnaire and response envelope are placed in an envelope ready for distribution.

The questionnaires may be distributed in the following ways:

- (a) Giving them to the customers when collecting their vehicles or receive invoice.
- (b) Sending them by post after vehicle collection.

## (4) Evaluation

If no other facilities are available, the survey results must be evaluated manually. This procedure varies according to the type of question.

- (a) Assessments

This type of question is best evaluated manually by averaging the scores obtained. The scores for each answer are noted on the evaluation sheet and divided by the total number of answers.

- (b) Criteria

The answers are evaluated by drawing a column for each criterion on the evaluation sheet and placing a tick in the relevant

column when a criterion is mentioned. The columns are, then, individually totaled and added together as a grand total. The results for each criterion are, then, calculated as a percentage of all the answers to this question.

(c) Numbers as Answer

These answers are best evaluated by establishing average or collective values. The method used depends on the purpose behind the question. If the question concerns the acceptable waiting time in days for appointments, for example, then calculating an average will provide the required information. If asking about opening hours, it is more appropriate to establish collective values, however.

To establish collective values, first we must define ranges (for example 8.00 am to 1.00 am). A brief look at all the answers will provide the upper and lower limits. The time between these two limits is now divided into classes of equal size. The following classes are suggested when asking about when a customer prefers to come:

8.00-10.00, 10.01-12.00, 12.01-14.00, 14.01-16.00, 16.01-18.00, 18.01-20.00

The evaluation sheet is now divided into columns showing these ranges and the answers are marked down as appropriate. Each column is totaled, a grand total is calculated and the results for each range are expressed as a percentage of all the answers to this question.

(d) Open Questions

These questions may be evaluated by classification. The individual answers are examined for their content and written down in

sequence in the form of a standardized statement. If the answers by other customers reflect the standardized statements already written down, a mark is made next to the relevant statement. When the totals for each statement and the grand total have been established, the result for each statement can be expressed as a percentage of all the answers in this question.



## VIII. MODEL VALIDATION

### 8.1 Validation of Express Service

Generally, any business will be successful if they are attractive and follow customers requirements as well as satisfy their needs. First of all, it is necessary to define the requirements of the customers and know the demand of the service which we are providing.

Before Express service is implemented, we should know how much customers are interested in the Express Service. Questionnaire is a tool that makes you know the requirement of customers.

#### (I) Questionnaire when Establishing Express Service

These questionnaire (see Appendix A, page 80) will make the workshop manager know the requirement of the customers about Express Service such as time, days, types of service and etc. These data will make the workshop manager establish Express Service according to the customer's requirement.

#### (2) Questionnaire After Establishing Express Service

These questionnaire (see Appendix A, page 82) will make the workshop manager can evaluate their Express Service procedure and know what the problems are in the customer's view. The feedbacks from the questionnaire, together with result of the workshop operation, should be brought to evaluate and reconsider Express Service to determine the direction of Express Service to satisfy most customers needs.

#### (3) Comments from the Experts of After-Sale Service in Automobile Business

These Express Service concepts are analyzed and commented by the experts in the field of After-Sales Service in Automobile business.

## 8.2 Evaluation of Questionnaires

### 8.2.1 Questionnaire When Establishing an Express Service

When establishing an Express Service, a customer survey can provide valuable information about the form. It should be:

(1) Question 1 and 2

Question should be evaluated as open questions. The standardized answer to question 1 might be the service offers which were sent out with an accompanying letter.

(2) Question 2

Question may reveal what is still missing in the range of services provided.

(3) Question 3

Question 3 is an objective, closed question with prescribed criteria and is intended to provide information concerning utilization of the Express Service capacity.

(4) Question 4 and 5

Questions are intended to indicate the time distribution of Express Service usage. This is important for personnel planning to decide the hours of business.

(5) Question 6

Question 6 provides information about the likely proportion of appointments.

(6) Question 7

Question 7 is an open question and may provide further ideas.

### 8.2.2 Questionnaire to Ascertain the Acceptance of the Express Service

The aim of this survey is to establish how well the Express Service is performing.

(1) Questions 1 to 3

These questions are assessment questions for which an average score should be established.

(2) Question 4

Question is a criterion question and reveals the extent to which interest in the Express Service has changed since the introductory survey.

(3) Question 5

Question is an open question and may suggest further improvements.

### 8.3 Factor for Validation

(1) No Investment

In Establishing Express Service in the workshop, investment budget is not needed. Only some points of the present workshop procedure need to be arranged.

(2) Use the Present Location

Generally, Express Service doesn't require a particular place for it. The workshop manager doesn't need to expand the area of the workshop for Express Service in the initial period (depending on each workshop). Otherwise, the workshop manager should consider on the size of the workshop and number of customers in each day.

(3) Use the Present Workforce

Express Service job doesn't require the high skilled mechanics, so it doesn't need to hire them for serving Express Service particularly. Because



most Express Service jobs are maintenance jobs which every mechanic can do, they don't need to be trained.

(4) Maintain Regular Procedure

Express Service doesn't change regular workshop procedure, but it will emphasis on managing working time of mechanics and categorize jobs between repair jobs and maintenance jobs. The main procedure is still the same as the regular procedure. So it is not necessary to spend much time on training the employees how to run an Express Service.

(5) Increase Business Opportunity

Express Service can be expanded by changing the customer's perception about the Authorized workshop. Express Service is a low — profit project but it will bring the customers from Express Service to the main jobs, this is the initial stage to increase the customer base of workshops such as new customers or increase loyalty of the old ones.

## IX. CONCLUSIONS

Waiting time are needed to considered at all levels of a service organization. The waiting time will increase or decrease the customer's satisfaction for the service organization. Every service organization tries to design their working procedure to decrease the waiting time of customers. Especially in Automobile business, customer who bring their cars to a workshop for a maintenance job, no customer wants to leave their car at the workshop all day for a small maintenance job. This Project is designed to solve these problems and try to make the workshop utilize their resources and time effectively. The author has tried to collect information from the experts in Automobile workshops to design the concept of an Express Service in Automobile workshop.

This project will show the present workshop procedure and analyze the present workshop procedure to define the problem of the present workshop procedures. These concepts of Express Service must be consistent across organizational levels so as to be effective planning aids because Express Service is linked with every department of workshops. The author will present the whole element of the workshop procedure such as material requisition, working hour, personnel requirement, order-processing, working with workshop administration, and the other basic feature, alternative and possibility of Express Service. These features will make the workshop manager understand each feature of Express Service before they decide to establish an Express Service in their workshop. After a workshop manager understands the feature of an Express Service in the process to establish Express Service in the workshop, there are many elements in the business which a workshop's manager should take into consideration when establishing an Express Service in the workshop. Although the workshop procedure is important in an Express Service but administration system is also important in controlling the

workflow in an Express Service procedure so as to improve customer satisfaction and increase service turnover according to the objective of establishing an Express Service in the workshop. To achieve this objective, quick, immediate, and on-the-spot service have been designed to meet these demands. This is to take an overall approach towards these practical problems. It evaluates and includes the Express Service possibilities for franchise dealers. Possible alternatives are shown with their advantages and disadvantages, so that each outlet can develop the solutions which best suit its circumstances.

The main conclusion of this project is to present how a workshop can further develop their Service sector. Apart from increasing customer satisfaction, this is also intended to improve workshop's profitability by streamlining the organizational procedure and reducing the personnel workload by means of less stressful processes. The aim is to arrive at cross-departmental, systematic solutions that take full practical account of all aspects of vehicle technology, the part sectors and the latest findings in the field of organizational development. It represents an attempt to present familiar facts as an overall problem-solving approach. Alternatives are deliberately mentioned and discussed to ensure that sufficient substance remains for company-specific solutions.

And these projects which include Express marketing is to ensure that the Express Service is in accordance with the requirements of the market. The workshop manager can understand and design his own Express Service which is suitable for the market situation in each workshop circumstance.

## X. RECOMMENDATIONS

Firstly, the author shows the scope of these projects and the approaches for the franchise workshop or the present independent workshop which are operating only. For persons who interest to invest money for opening particular Express Service workshop same as Max or B-Quick, them should emphasize on financial and accounting sectors which have not been included in this project. For the franchise workshop, there are many approaches to establish an Express Service depending on the workshop circumstance. Before the workshop manager establishes an Express Service in their workshop, the author recommends he analyze present workshop situation and customers history first. Because each franchise workshop will be located on different locations so there should be different customer groups or different market condition. The information which should be considered are how many cars enter the workshop for maintenance or repair job on each day, and which jobs are frequently operated. Besides waiting time for customers, repairing time for each car should also be taken into consideration.

The availability of sufficient workshop capacity is a precondition for establishing an Express Service. If the appointment time of the workshop exceeds one week, customers often attempt to use the Express Service as a tool to bring their vehicle into the workshop sooner. For example, an appointment is made for an oil-change which suddenly becomes a full service. In such cases, the Express Service will not contribute to improve flexibility of the workshop's service reception. Instead it is advisable to consider expanding the workshop capacity. There is also no point in seeking to develop new service potentials if the capacity is already insufficient.

The other important point in establishing Express Service is the standard of performance in order processing, quality of jobs and working process of mechanics. The

workshops manager should make sure that every department in the workshop understand Express Service procedure well and can practice in the same direction before starting to operate Express Service in the workshop.

For further project, the author expects to design a Express Service in the full range of element, including financial and accounting parts and will emphasize especially on the marketing part. For the independent workshop who is interested in changing their workshop to a full-range Express Service or open a new brand of particular Express Service workshop to compete with Max and B-Quick, can apply these project with their workshops. Marketing is an important part in attracting customers. And the other section will be added in the further project such as location selection, operation management, advertising strategy, and etc. The following topics will make the further Express Service project cover the whole area of Automobile business for the new owners or investors who are interested in the after-sales service in automobile business.

APPENDIX A

QUESTIONNAIRE FOR A CUSTOMER SURVEY WHEN ESTABLISHING  
AN EXPRESS SERVICE





QUESTIONNAIRE FOR A CUSTOMER SURVEY WHEN ESTABLISHING  
AN EXPRESS SERVICE

Questionnaire

The enclosed letter provides details of our new Express Service. We would like to tailor this Express Service to your requirements, therefore, we would be grateful if you could answer the questions below as fully as possible. Your answers will be used for statistical purpose only, and will be treated as strictly confidential.

1. What do you find particularly attractive about our Express Service?

\_\_\_\_\_

2. What do you find *less* attractive about our Express Service?

\_\_\_\_\_

3. Are you likely to use our Express Service?

(Please make a cross in the appropriate box.)

Yes                      No                      May be

4. On which day of the week would you prefer to bring your vehicle to the Express Service? ? (Please cross the appropriate box.)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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5. At which time of day would you prefer to bring your vehicle to the Express Service? (Please cross the appropriate box.)

0600-0800	0801-1000	1001-1200	1201-1400	1401-1600	1601-1800	1801-2000
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6. Would you prefer to make an appointment to avoid waiting? (Please cross the appropriate box.)

Yes                      No                      Sometime

7. Do you have any further suggestion?

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Thank you for your co-operation.



**APPENDIX B**  
**QUESTIONNAIRE FOR A CUSTOMER SURVEY TO ASCERTAIN  
THE ACCEPTANCE OF AN EXPRESS SERVICE**



# QUESTIONNAIRE FOR A CUSTOMER SURVEY TO ASCERTAIN THE ACCEPTANCE OF AN EXPRESS SERVICE

## Questionnaire

We would like to tailor this Express Service to your requirements, therefore we would be grateful if you could answer the questions below as fully as possible. Your answers will be used for statistical purpose only, and will be treated as strictly confidential.

- How satisfied were you with the waiting time before you were served?

*Please indicate your level of satisfaction according to the following scale:*

*1 = very satisfied, 2 = satisfied, 3 = adequate. 4 = dissatisfied, 5 = very dissatisfied*

Satisfaction with waiting time	Score	1	2	3	4	5
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- How satisfied were you with the administrative process?

*Please use the scale in question 1*

Satisfaction with order-taking procedure	Score	1	2	3	4	5
--	-------	---	---	---	---	---

Satisfaction with the work carried out	Score	1	2	3	4	5
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Satisfaction with the invoice	Score	1	2	3	4	5
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- How satisfied are you in general with our Express Service?

Overall satisfaction	Score	1	2	3	4	5
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- Are you likely to continue using our Express Service? (Please cross the appropriate box.)

Yes	No	May be
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- Do you have any further suggestion?

Thank you for your co-operation.

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