



CHAPTER 1 INTRODUCTION

1.1 Background of Research

Nowadays, mobile phone is a product that is very popular and used widely not only for communicating and transmitting data but as a tool for doing business. Mobile phone has played an increasingly important role in making everyday life easier. There are 2 main factors for wireless communication: mobile phone and network. Both of them have to be compatible in order to service the user. In Thailand, there are currently 4 network systems: AMPS800, DIGITAL1800, NMT900, GSM900 and there will be 1900 MHz system in the near future. Besides these four systems, there is an introduction of a new system that has just serviced to the customers. It is called the PCT system. This system is similar to mobile phone service but uses different technology.

Mobile Type Approval process is created in order to ensure that customers will receive a qualified mobile phone and prevent the feasible problems that can occur with customers after they buy it. This process involves in checking document, specification, network features, SIM card features and software of the mobile phone sample.

For Thailand, in order to bring electronic equipment to sell in the market, it has to receive a permission for Telephone Organization of Thailand (TOT), and Postal and Telegraph Department (PTD). TOT is responsible for testing the sample of electronic equipment and informs a report whether it passes according to the standard, then TOT will license that company to sell it in the market. After the test is finished, PTD will confirm that company to import that equipment for distributing and selling.

Each operator which operates and maintenance a mobile network aims to respond the customers' need and make them satisfied by expanding the serviced area, improving quality of services continuously, and bringing new model of mobile phones to sell in the market as quickly as possible.

Therefore, Type Approval process or process for checking the quality to mobile phone is an important process in running telecommunication business. It should be efficient and quick as much as possible in order to respond the customers' need and be competitive in the market.

Mobile Type Approval Process

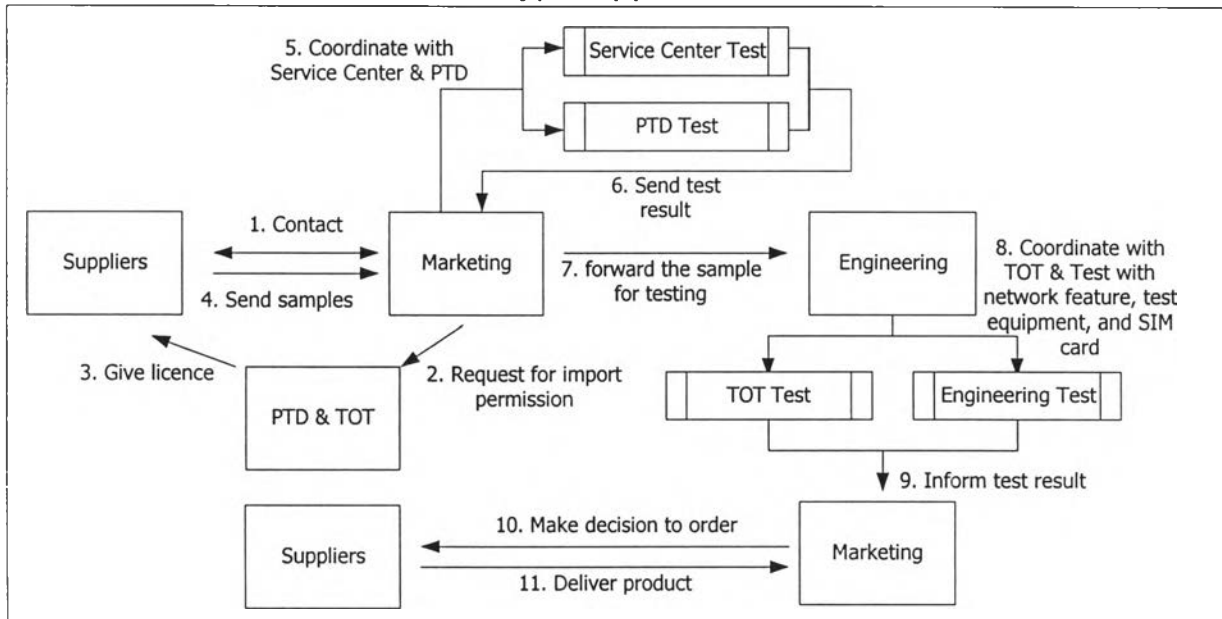


Figure 1.1 Mobile Type Approval Process

First of all, suppliers will contact the Marketing for launching new model in Thai market. Once the marketing group decides the new model has potential, they will request to PTD and TOT for importing mobile phone samples for testing. After that PTD and TOT give license to the suppliers. Then suppliers send the samples and useful documents to Marketing. Then Marketing sends one of them to Service Center for Basic Usage test. After finishing the test, Service Center sends the test result back. During that period, Marketing also requests PTD for testing and sends another sample to PTD. After PTD and Service Center finish the test, Marketing forwards them to Engineering. In Engineering, there are two main tasks: TOT Test and Engineering Test. First, TOT Test; Engineering sends one of the mobile phone samples to TOT following to concession promise. TOT does the test whether the sample follows to standard specification. If all of the tests pass, TOT will summarize test results and give a test certification. Second, Engineering Test; Engineering does the test with test equipment, network features, and SIM cards also in order to make sure that the mobile phone is compatible with our network and SIM card. When finishing all of the tests, Engineering will summarize test results and inform both test results (TOT and Engineering) to Marketing. Marketing will take this information in making a decision to order the product from suppliers. After the suppliers receive the order, they will deliver the product to Marketing. This is called Mobile Type Approval process.

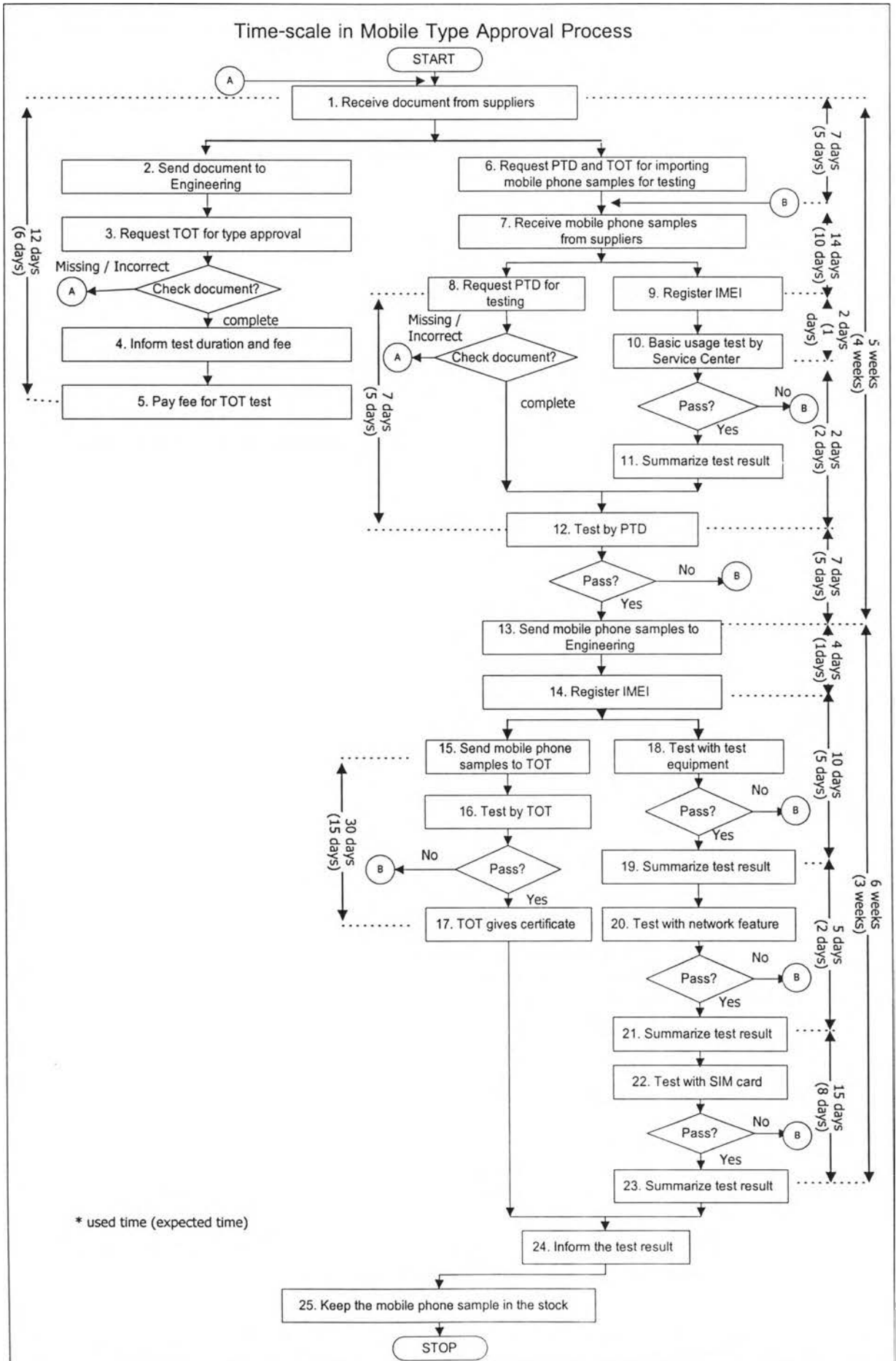


Figure 1.2 Time-scale in Mobile Type Approval Process

1.2 Statement of Problems

In the competitive market, each company aims to launch new product into the market as quickly as possible. So the process that involves in introducing new product should be short. In this case, Mobile Type Approval process is a kind of process in introducing new product into the market. There are 2 major parts (Marketing and Engineering) concerning in this process. Marketing responsible for importing, distributing and selling mobile phone to the customers. And Engineering responsible for operating and maintaining network, and improving quality of service.

Problem can be summarized as following:

1. *Time used in this process is long.*

From the meeting between Marketing and Engineering, they have determined to take 7 weeks (per model) in Mobile Type Approval process. But in practical, it takes time about 11 weeks (per model). Sometimes Marketing has to risk in launching the mobile phone before finishing all the test.

2. *There is nothing to show the progress in Mobile Type Approval process of each mobile phone.*

At present, after Marketing sends the mobile phone sample and useful document to Engineering for doing test. There is no feedback to Marketing about progress of each model and expected finished date. This make Marketing be difficult to forecast and plan further.

3. *Some activities are redundancy/overlap with the others.*

Owing to time is an important factor in this process, the redundancy and overlapping of activities should not be occurred. But there is still redundant activity in this process such as activity no. 9 and no.14

4. *Marketing does not understand what Engineering is testing.*

Currently, the method of testing is created from Engineering point of view only. There is no research on Marketing and customers' expectation. So Marketing does not understand what Engineering is testing. And Engineering does not know what Marketing really wants.

1.3 Objective of Research

To improve efficiency and reduce timing in Type Approval process

1.4 Scope of Research

4.1 We will cover process of Mobile Type Approval, which is about checking quality in specification, mobile phone, SIM Card and feature.

4.2 In this research, we study on timing of Mobile Type Approval process in order to reduce it as much as possible but maintaining quality of works.

4.3 Activities of this process will exclude the activities outside the company, e.g. PTD, TOT.

1.5 Research Procedure

1. Study and survey the research that is related.
2. Study relationship of operation in the organization and Mobile Type Approval process.
3. Make questionnaire to survey the customers' need and created House of Quality according to QFD phase 1.
4. Analyse and determine method to improve operation to be consistent with customers' expectation as much as possible.
5. Improve steps and process to be shortest and quickest but still meet the customers' expectation.
6. Implement new process in the workplace.
7. Evaluate performance before and after improvement in term of time reduction.
8. Develop standard process after improvement.
9. Conclusion and recommendation.
10. Develop thesis book.

1.6 Expected benefits of Research

1. Improve steps and procedure in checking quality of mobile phone to be more efficiency and quicker.
2. Improve test procedure and method to satisfy customers' need.
3. Response to bring mobile phone into the market faster.