

CHAPTER I

INTRODUCTION

1.1 General

Introduction of computer applications has been developed rapidly in many sectors. Construction industry is one of the sectors which use several features of computer technologies. Namely, electronic data interchange, World Wide Web based application, and data warehouse are commonly used in enhancing effectiveness and efficiency.

Online bidding is one of the tools of web based technology. It is expected to change the conventional bidding process (i.e., paper-based). Liao et al. (2002) presented the advantages of online bidding compared to paper-based bidding. Online bidding establishes an open, fair, transparent, and efficient environment for government procurement. It also enhances the procurement processes and reduces the possibility of collusion. As online bidding bases on electronic format, it reduces paperwork. The information in online bidding is published in World Wide Web base hence can be easily accessed. Participants of tender may increase therefore the buyer has more alternative to select the best contractor. Online bidding also reduces obstacles in conventional bidding processes due to time and place.

However, Liao et al. (2002) discovered some technical problems of implementing online bidding as follows.

1. immunity of electronic file and computer system toward virus,
2. identity certification,
3. document digitalization,
4. network bandwidth,
5. progress update for government authorities, and
6. system requirements

Recently, number of countries using online bidding is increasing. The service is not only in construction industry since it was developed in purchasing field. New Zealand, South Wales, India, and Japan are countries using online bidding intensively. In Southeast Asia region, Singapore and Malaysia have started in this implementation. The Philippines, Thailand, and Indonesia are now implementing online bidding.

The figure below shows the overview of online bidding system in general. Complexity of the system varies depending on the conditions and objectives of its application. The following sub-chapter describes what systems have been found in some countries as result of preliminary investigation and literature review.

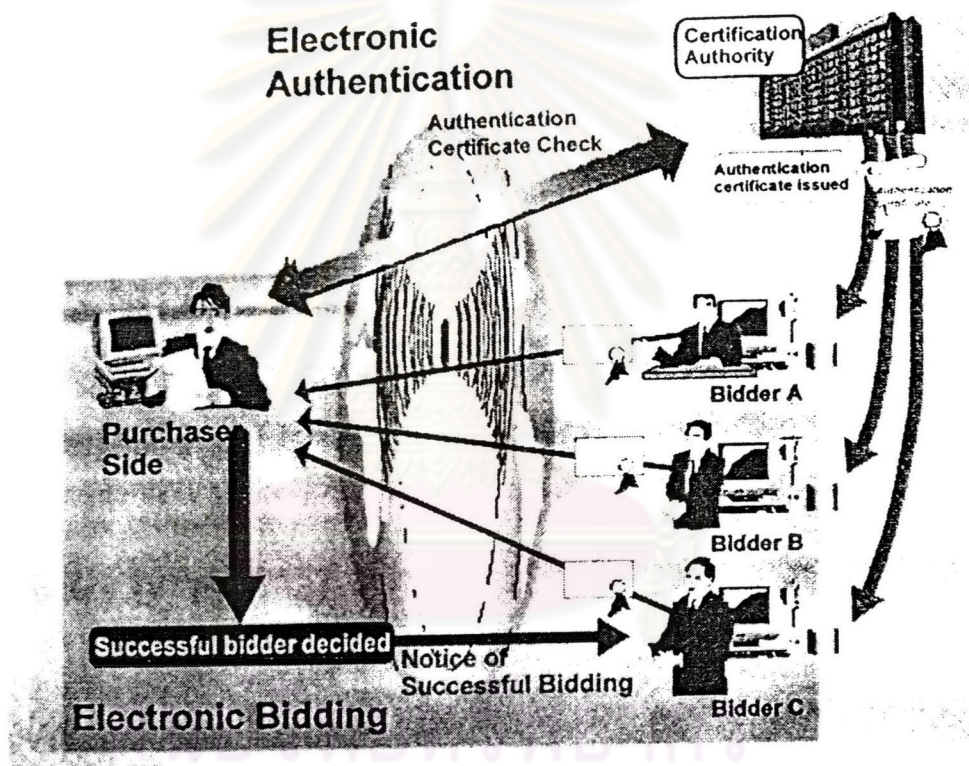


Figure 1.1 General system of electronic bidding (JACIC, 2004)

1.2 Problem Statements

According to preliminary data obtained and literature reviews, each country has their own policies in implementing on-line bidding. These affect the procedures of each stage of bidding. The differences are from the result of obstacles faced in each country. For example, the limited IT development cannot provide sufficient bidding system.

However, laws and government policies have major effect in creating procedures of on-line bidding. All of the countries have specific requirements for the contractors to join the bidding. Accreditations are given to the contractor who is eligible for bidding according to local government laws. The requirements may arise in terms of experiences in the similar projects, the size of company turnover, economic capability of company, and administrative aspects.

Considering several methods applied in the current practices and addressing problems in countries which newly applying online bidding, this research tries to explore advantages and disadvantages of each method. Preliminary investigation and literature review provide these criteria which will be analyzed in details in this research.

- a. type of construction offered in online bidding,
- b. project size offered in online bidding,
- c. purposes of implementing online bidding,
- d. service provider selection,
- e. bid invitation process,
- f. document distribution process,
- g. pre-qualification process,
- h. price quotation and winner selection process,
- i. reporting and documenting bidding documents,
- j. technical setting, and
- k. training.

1.3 Objective of the Research

The objectives of this research are:

1. to explore the current practices of online bidding and to discover the advantages and disadvantages in each stage compared to conventional method and between countries, and

2. to provide a guideline for government to select method used in each stage of online bidding related to bidding conditions.

1.4 Scope of the Research

Commonly, online bidding in construction is used for government projects (i.e., infrastructure projects) which require reliable contractors. This research is aimed for Southeast Asian countries. However, only four selected implementing online bidding are observed.

Based on these constraints, the scope of this research is:

1. The research were conducted only to these four countries: Indonesia, the Philippines, Singapore, and Thailand, which are known applying online bidding for construction services.
2. Only the projects under government budget were observed. The sizes of the projects were not restricted since they vary according to the local government requirement.
3. The research was conducted to the government both as the owner and user, government agencies or private companies as the service providers, and contractors as the users.
4. All stages of bidding were considered; bidding invitation, document distribution, document submitting, and winner selection.

1.5 Contributions of the Research

This research should be useful for construction industry as follows.

1. The outcomes of the research will be an exchange information among Southeast Asian countries about experiences of using online bidding. The information includes background of using particular methods in online bidding stage and also advantages as well as obstacles of each method.
2. The results can be used as a guideline for countries that start to implement online bidding. The country may select and consider the method used in particular stage based on the conditions and backgrounds of its usage.