

The Internet Puutori – an electronic information exchange for timber trade in Finland

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Abstract

The main aim of this paper is to describe the ongoing process of establishing an electronic market place in the Internet for timber trading. There are several advantages of electronic markets. For the buyer, it is easier to search for the most suitable item from the database and the likelihood of finding suitable quality of timber for further processing will increase. Electronic market system, like Puutori, can also reduce timber procurement costs. It is likely that Puutori will induce more competition in the Finnish timber markets. The participants become more equal with respect to their place of residence which is an important feature for timber sellers. The Internet technique has several advantages compared to the client-server solutions.

Keywords: electronic markets, timber trading, Puutori-system, Internet

1 Introduction

1.1 Timber trading and electronic markets

The Finnish timber trading business has been quite traditional in its ways of operating. The representative organisations of both timber buyers and sellers used to agree over the timber

price for the following season. However, EU officials promoting free competition focused their attention on the agreement system. Starting from the beginning of 1997, price agreements in the old form were no longer allowed. The negotiations have to be executed directly between the company and the forest owners or their representative.

The electronic markets have grown fast in recent years. The Internet has made it possible for people to communicate, transfer data and do business in a whole new way. Previously, the applied technique has widely been the client-server solutions. Here the expression electronic markets refers to both techniques, while the consequences to markets are similar.

Electronic systems may be used in trading goods and services in several ways and levels. In an information exchange, the participants get only information about traded goods, usually from a sales announcement on the computer screen. Often this form of information sharing is also referred to as an electronic market place. In the electronic markets, in addition to information transmission, the actual trade can often be executed on the screen. The speed of establishing electronic markets for various products has been very fast over the past few years, although so far it is still mainly some small size consumer goods that can be ordered via the Internet.

Compared to more traditional ways of doing business, electronic markets have several economical advantages. Electronic market place is a new way of trading goods. People become more equal with respect to their place of residence. Through the electronic systems it is equally easy for any user to contact the market place. For the buyer, it is easier to search for the most suitable item from a database instead of contacting each seller individually. This will also increase the likelihood of finding a suitable quality of raw material

for further processing. The importance of a two-way information flow has also been stressed in the context of electronic markets. This is achieved e.g. through discussion groups and electronic mail.

In timber trading, it is assumed that procurement costs could be reduced by an electronic market place. This reduction could be achieved by describing the stand accurately enough, so that the buyer is able to make an offer without seeing the stand. The need for prospective buyers to visit stands can be reduced which lowers the timber procurement costs. Part of the gain could be transferred to sellers as increased timber prices.

Electronic information system can induce more competition by increasing the number of offers per stand. The new offers could come from small companies who could easier get update information on stands for sale. An important consequence of establishing electronic timber markets is that such a system better meets the requirements of EU free competition policies.

1.2 Related research and aim of the study

In Finland, there has been discussion about the need for a timber (round wood) exchange since mid 1980's. Both the Helsinki School of Economics and Finnish Forest Research Institute have conducted research on this topic. Timber exchange was investigated and simulated by Kallio and Salo (1992), Kuula et al. (1992) and Vepsäläinen and Kuula (1992).

Their idea was to let the computer optimize the trades among the buyers and sellers. The feasibility of derivative instruments, futures and options, on the Finnish timber and lumber markets was investigated by Määttä and Palo (1991). They found that there is some interest for experimenting a commodity exchange in the Finnish timber and sawn timber markets. So far timber is not traded in any futures exchange in the world.

Toivonen and Palo (1995) stated that there is demand for an information exchange type of system for timber trading in Finland. Normal exchange and timber futures exchange were at that time not considered by the interviewed experts to be suitable for timber trading.

The main aim of this paper is to describe the process of establishing in the Internet a market place for timber trading. A preliminary study has been conducted to find out the attitudes and technical preconditions towards an electronic information exchange for the timber trade in the Northern Savo area of Finland (Määttä & Pesonen 1998). The project was named Puutori (a Finnish word Puutori means literally a market-place for wood). The results of the study have formed a basis in developing a prototype of the Puutori software and its Internet version. Even the most sophisticated and user friendly system may fail in becoming accepted by the potential users. Bearing this in mind, special emphasis in the project has to be put also on supervising the users and informing the timber trading parties about Puutori.

2 The Puutori market place

2.1 The Puutori system

There are two versions of Puutori: a client-server version and the Internet version. In the client-server version, the program installed into the client computer handles the transfer of sales announcements to the server computer. The server takes care of the storage of the sales offers. The client contacts the server through modem and the public telephone net. In the Internet version, the connection is made as to any web site using a web browser. The information content is the same in both versions. Users are identified by a personal username and password in order to control system users and gather statistics. Some forest owners prefer to place sales offers anonymously into the system. This is most easily arranged by putting the contact information of the local forestry association in the offer.

Advantages of the Internet version are often obvious. It is easier to start using the web version than a program requiring installation to a computer. The maintainer on the other hand avoids copying and sending disks, which is very convenient also in case of version revisions. In large timber buying companies, the security of the network is utmost important. The Internet services are easier to build safer against unpleasant attacks through data cables. The client-server version has often problems getting through the fire wall systems.

Using Puutori is easy for anybody familiar with Windows programs and the Internet. The seller fills in the facts describing the stand and sends the offer to Puutori. The timber buyer can set search criteria in the program, and the sales announcements in the server meeting these criteria are transferred to his screen. In the search criteria window, the timber assortment can be selected from a list and criteria for the amount per assortment can also be given (Fig. 1). In the client-server version the connection for data transfer is established by the Puutori program. After the transfer operation the program automatically disconnects the line. The server checks for the password and username. The server computer was situated in the Finnish Forest Research Institute.

The information in Puutori system has to be up-to-date in order to maintain the interest for using the program continuously in the timber trading process. To avoid old sales offers hanging on in the system, the deleting has to be properly arranged. An offer becomes expunged e.g. when the stand is sold or the data in the announcement has changed. Only the person who has put in the offer is also able delete it at any time. The users may neglect removing the offers, so there has to be also an automatic system for this process. A common method is to set a maximum time limit for the information to stay in the database.

There are of course many features to be included into the Puutori, the software development is never finished. The Puutori software should

Figure 1. Sample screen of Puutori - query from sales offers.

be integrated with the other software used by forestry associations. It should be possible to easily transfer the data contained in forestry plans and stamping captions into Puutori to avoid writing the same data twice. The benefits of Puutori would be further increased, if the stands could be seen on the map. Also the possibility to send bids by e-mail has been wished by the test users.

2.2 The suitability of electronic market systems for timber trading

In this section, we refer to the study made by Määttä and Pesonen (1998). The data in their study was collected by a mail inquiry in Autumn 1995. The questionnaire was sent to the private forest owners, forestry associations and forest companies in Northern Savo district. There was also a brochure enclosed to ensure adequate information for answering the questions. Here we present some of the results, which can be applied to both the client-server version and the Internet version of Puutori.

The expectations towards Puutori were asked from the forest owners and forestry associations. It is assumed that timber sellers prefer several buying offers over few offers. Forest owners estimated that the amount of offers on their stands would increase or remain stable after Puutori had commenced (Fig. 2). Similarly, forestry associations expected the number of offers either to increase (38 %) or to remain stable (38 %). In forest owners' opinion, electronic market place is expected

to have a positive effect on the timber markets.

The stands sold directly by forest owners are visited by two buyer candidates while the number is three when sold via associations. Every fifth of the stands marketed through associations is visited by more than three buyers. Asking a related question from the forest companies, 77 % answered to visit every or almost every stand which is on sale. The most common reason for visiting a the stand is to check the timber quality. Cutting conditions are checked by half of the buyers. There is a chance for huge savings in timber procurement, if there were only one preliminary visit to the stand before the trade.

Forestry associations were prepared to use computer programs in timber trading (Fig. 3). Half of the forest companies and 20 % of forest owners were also prepared to use

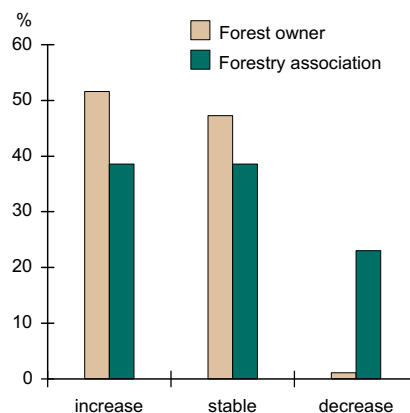


Figure 2. The effect of Puutori on the amount of bids per stand.

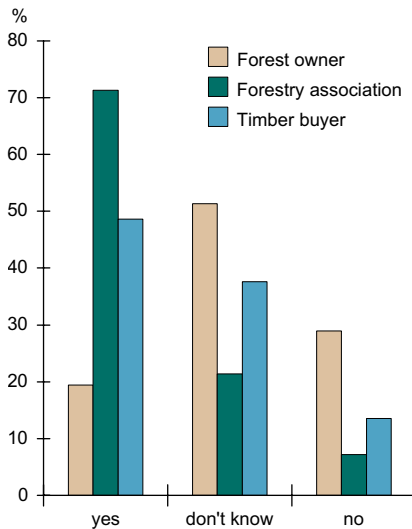


Figure 3. Readiness for computer based timber trading.

computer program. The share of people who had no opinion was quite high especially among forest owners. The timber trading professionals benefit more from electronic market system which might explain the differences between the groups. Forest owners sell timber irregularly and are often elderly people. The result is encouraging and probably changing even better along time.

3 Discussion

The decline in the number of timber buyers and agreements on timber price have caused the lack of real competition in the Finnish timber markets. The aim to increase competition was one of the reasons to start investigating the possibility to establish an electronic market place for the Finnish timber trading. Elec-

tronic information system can induce more competition by increasing the number of offers per stand and thus better meet the requirements of EU competition policies. The project to develop an electronic market place for Finnish timber trading was named Puutori.

Currently the technique to put up an electronic market place is the Internet. Puutori has got both the Internet version and the older client-server version. Advantages of the Internet version are often obvious. It is easier to start using the web version than a program requiring installation to a computer. The maintainer on the other hand avoids copying and sending disks, which is very convenient also in case of version revisions. The Internet connection is safer for companies with own network which is protected with fire wall technique. The client-server version has often problems getting through the fire wall systems. The impact on market structure is in both cases about the same.

There are several possible benefits known to be achieved by establishing electronic markets to a certain commodity or service. It is possible to reduce the costs in the whole trading and production chain. Information is electronically transferred to larger amount of people at lower unit costs as compared to more traditional methods. Cost savings can be achieved also in order handling etc. Electronic systems are thus often more effective than old trading systems.

Usually the timber buyers get the information of stands for sale from the forestry associations or directly

from sellers. If the same information were given to Puutori, the buyers would not have to go to forestry association office to check the stamping captions. The information is easier to keep up-to-date in an electronic system. At the same time a sales offer is transferred to database by the seller, it can be seen by all the buyer candidates.

It is common that the buyers go also to the forest to check the timber quality and harvesting conditions in the stand. Most of these visits to stands do not lead to a deal. In Puutori the timber quality should be described accurately enough in order to avoid the unnecessary visits to the stands. This would lead into reductions in the timber procurement costs.

Especially small timber buyers using in production special timber qualities, can benefit from Puutori. Small companies usually do not have own timber procurement personnel and they use more often special timber species and qualities in the production. Special quality may be for instance certain length or diameter of timber suitable or optimal for manufacturing a particular product.

The establishment of Puutori does not necessarily mean giving up the traditional ways of dealing with business partners. Puutori is a supplement system to the current timber trading method. When the system becomes better known in the markets, an increasing number of trades could be done based on the information obtained from Puutori. The fear of losing market power has raised some doubt against an electronic system among timber buyer and seller or-

ganizations. It is likely not the system causing the changes in market strength, more probable cause is the new regulations enforced by authorities.

During the experiment using Puutori is free of charge. In the future the system should be able to cover its expenses. There are several ways of taking a commission of using Puutori. Usual methods in similar systems are e.g. a fixed annual charge, per cent of trade sum and paying based on the time connected to Puutori. According to the study by Määttä and Pesonen (1998) the timber traders prefer to pay a fixed percentage of the trading sum.

The duration of sales offer before expiry is important for the system reliability. In similar market places has also arisen the problem of old announcements remaining in the database. Unnecessary contacts based on the old information undermine the system reliability and usability.

The organization to run Puutori should be clearly specified and impartial. This ensures the trust of the trading parties towards the system. The maintainer will be decided later based on the information obtained in the experiment period. The physical location of the Puutori server, however, does not play an important role for the system users.

The technical preconditions for the experiment are good: forestry associations and most buyers have the equipment to run Puutori software. There are many essential questions to be answered after the test use period. The fee for using the Puutori system and the information content of the software are some of the most

important questions to be decided. According to the results, the timber trading parties in Northern Savo in Finland are willing to participate in the Puutori experiment (Määttä and Pesonen 1998). It will in timber market participants' decision whether they start using the new possibility of contacting trading partners. It seems to be evident, though, that there will be changes forthcoming also in the traditional timber trading business.

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