

Internet as a Way of International Transportation and Logistic Market - International Multi-User Electronic Data Interchange

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The Internet and its facilities have been used by different sectors and businesses. For different sectors e-markets have been created and Electronic Data Interchange software and systems are still used. For international transportation and logistics sector a browser / TCP/IP based Electronic Data Interchange system may be adopted for those using outsourcing for their logistics transactions. In this paper a proposal of International Multi-users Electronic Data Interchange system (IMUEDI) is submitted. The system which may be used globally by both logistics and other outsourcing firms will bring advantages to all users from market growth to performance analysis of all parties engaged in logistics. With the integration of internal ERP systems and IMUEDI transactions will be full automatic for the sector.

Keywords : e-commerce, logistics, transportation, EDI, market, peer to peer.

1. Introduction:

The internet has dramatically reduced the cost of search for companies and consumers, especially in case of goods and services with “digital attributes”[1]. What ever you search is almost a click away on the internet electronically. It is also very different from the other media being global and changing the way of business conducted [2]. With the developing DLS technology the speed and the cost of the internet has become remarkably affordable for individual consumers and small businesses in comparison with dial-up connections. In addition, e-services overcome many of the traditional problems of service marketing by giving the marketer unprecedented control over the previously capricious characteristic of services [3]. Companies which can respond to the needs of customers, handle their requests on time and support their buying decisions gain value and win customer-loyalty and trust [4]. The internet is a tool to achieve all these by assisting customers with online services such as easy search of products and services. As being the medium of information it has been used by many different people and organizations for very different purposes such as Doctor’s advice, Lawyer’s advice, Beauty Saloons, Broadcasting Services, B2B Consulting etc. Relationships in the B2B environment are mostly based on information

exchange, this has an inevitable effect on market growth and structure and information integrated to improve service saves customers’ time and eases frustration [5]. As it is in classical way, on the internet the same trade cycle exists [6]:

- **Pre-Sale:**
 - Search - finding a supplier
 - Negotiate – agreeing the terms of trade
- **Execution:**
 - Order
 - Delivery
- **Settlement:**
 - Invoice
 - Payment
- **After-sales, e.g. warrantee and service**

Customers search on the internet the best product with the best price and then they order it. Invoice and payments come after it, again via the internet - electronically. For most of the cases after sale services are conducted electronically. For pre-sale phase there are portals to help customers find and especially make comparison among the existing goods, services and suppliers. Because it is a new way of conducting business via the internet and ecommerce experiences its infancy [7] there are many areas that e-commerce has not been used, yet.

The internet can be taken as a shop window globally seen by many surfers, so some shopping malls are created on the net and some market places as well (alibaba.com). E-commerce is used to gain competitive advantage by firms. Through fast response, JIT, better after sale service and support competitive advantage is gained. When it comes to gaining competitive advantage you should do it independent from your rivals, not sharing the facilities with your competitors. This is true when you look from the sellers' point of view. However, buyers will prefer to see the sellers close to each other in distance in order to make an easier comparison, perhaps using the same facilities. That's why a market place is better for buyers. This is true for all sectors including transportation and logistics. As e-commerce links suppliers, manufacturers, and downstream customers it adds value to activities as well [8]. As the value of the activities increase the price may go down as a consequence of competition. An effective market should firstly have as many buyers as sellers and none of them should be dominating, secondly the goods or services to be transacted should be homogeneous or standardized and finally, buyers and sellers should be well informed about the quantity, characteristics and price of the goods [6]. An electronic market will have the same traits as of the classical one. Especially, the customers want the market to be easy to access to. So, an electronic market must be superior to the classical one, namely buyers and sellers could be much more easily to exchange information about price and product offerings.

In B2B e-commerce there is a parameter that should not be discarded: *formal control*. Formal control may be defined as using some tools and devices to monitor and evaluate the performance of employees, units and the firm [9]. Another important issue for the firms is to control the performance of the counterpart they are in business. External performance analysis is more difficult than the internal one which is related to our own firm, as the previous one is to others'. Integration is another issue in business in general and B2B [9]. Integration is defined as lateral communication within the firm [10] and signifies the level of coordination among different units [11]. As it is well known e-commerce is mostly used to make efficient the activities such as purchasing, supplier management, sales activities, payment management, service and support. In addition to all these, e-commerce and its technology may be used for the purpose of

performance analysis of both our own company and the one we have worked or may work with in near future. In other words e-commerce may be used for analyzing the firms in the market.

2. Transportation and Logistics

Logistics is defined as a business planning framework for the management of material, service, information and capital flows. It includes the increasingly complex information, communication and control systems required in today's business environment[12]. Logistics concept includes the following activities;

1. Transportation
2. Storage
3. Inventory
4. Handling
5. Order Processing
6. Packaging
7. Procurement

Most of the firms in Europe use outsourcing methods for the first two activities i.e. transportation and storage. These activities may be considered as some of the main activities for other production firms especially the big ones. Thus, transportation and storage may be considered as key activities for a large production company and their cost is another important parameter for the companies besides their efficiency. When the firms use outsourcing for transportation, the selection of the right logistic company for the right time with the optimum cost gains importance.

3. Need and Importance of a Web Portal as a Market Place for Logistics

Firms either use outsourcing on a contract based system or non-contract based for their transportation or logistic related transactions. Outsourcing of logistics functions in the world is growing importance [13] [14]. Schary and Skjott-Larsen claim that logistics services in Europe have shifted to the outsourcing of freight transport and warehousing, and then to 3PL and 4PL companies [15]. When firms work with a third party (3PL) logistic company with a contract which is for a certain period of time, only the general framework is drawn in the contract, because every single transaction cannot be put in the contract technically. So, a network of communication is necessary for negotiations which may include price, payment method, invoicing, destination etc. for each further transaction. For non contract outsourcing, firms have to search the optimum

logistics company to work with each time. They need a quick but efficient search mechanism. Today, this is done via the Internet, telephone and fax. However, because of the time constraints this cannot be done efficiently and it is not always possible to reach every single logistics company, especially the new ones in the market and the smaller ones, they may be the optimum ones at that time, though. A portal on the Internet may be a solution to create a market place to reach every single logistics company available. Logistics companies may put their price, destination etc. lists on a database controlled portal which may be searched by registered customer companies. These customer companies will be able to reach all the firms in the system at the same time and will have a great chance to make a comparison. Besides the search activity, contracts, negotiations, can be done through the system. It is obvious that successful logistics management depends more and more on the performance of the 3PLs [16]. Taking goods from one location to another within a certain period of time can be used to measure a logistics company's performance; however it is not the only parameter to do this. Sometimes during the negotiations because of the inefficiency of the other company a lot of time and labor may be wasted. Logistics managers or staff responsible for logistics planning in the firms deal with problems such as agreeing the terms of the current transaction besides dealing with optimization of the transaction. For such situations value of frustration may exceed the cost. Thus, although it seems the firm is reducing the expenses related to logistics, in the future it will be more costly to the company because of losing efficiency. When the negotiations are done online and recorded, it will be very easy to be used for performance analysis of a company. Nonetheless, if these negotiations are done, for instance by phone, it is almost impossible to use this activity for performance analysis. Electronic market may be a solution for such problems besides its other benefits. It has been used by various sectors and business in the world but it is not by logistics sector excluding some EDI applications among several firms. This system may be structured as an international multi-user electronic data interchange (IMUEDI). Forming an international internet portal for exchanging purposes will not only serve to performance analysis of third party logistics firms, but it will also be a good market to compare services and price. IMUEDI will be used by all the firms which supply and demand logistics or related issues. An easy system to be integrated by different

type of ERP programs will work out. 3PLs may join the system manually entering their proposals such as price, service etc. or they can connect their internal ERP software to have a more automated system. This will give equal chance to all 3PLs, because it is no cost to board on a portal. Customer firms will search logistics suppliers for their needs through the system or they will simply leave their list of needs on the system to be responded by those who are interested.

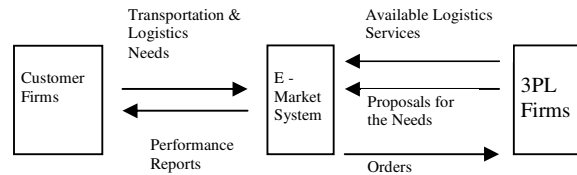


Figure 1. Overall System

3PL firms which are boarded on the system will hear about all the transportation and logistics needs of other firms and they will be able to produce reports out of the system. The system may even turn into an auction for some orders or needs from time to time. For contract based transactions, all the contracts kept in the system database will be used to handle transactions within the agreed terms. When the firms integrate their internal software, the systems will be more automatic and merely turn into a real IMUEDI for logistics. Besides, the system will produce news and general information about logistics such as international freight rules, new customs regulations, innovations in the sector etc.

4. Conclusion

Today, firms can manage their activities and all business transactions via ERP software or some modular programs through their intranets. They can reach their suppliers or customers by EDI or just using the facilities of the internet as well. However, there is not a network to meet all the logistics firms and their customers, keep track of each transaction and give reports to its registered user through queries. Today's browser, TCP/IP, Internet Security Systems, ISDN or DSL connection speeds are enough elements to start such a campaign. Creating an exchange portal or a Multi-user Electronic Data Interchange mechanism will bring several advantages to all parties and it will be beyond an electronic market.

1. Firms will reach all the online 3PLs in seconds.
2. Because the system will be open for all 3PLs without regarding the size each company will have equal chance to be reached by a customer.
3. Barriers to enter the sector will be removed, because there will be room for all new 3PLs.
4. Competition will boost up, so service quality will rise as the prices go down.
5. Firms will be able to analyze the performance of 3PLs they have worked with.
6. If it is agreed on transparency, firms will be able to see the performance of the other customer / logistics firms they do not work with or their performances for the business they are not involved in.
7. 3PL firms will be able to evaluate their sales – negotiation - performance by examining past negotiations.
8. 24 hours search mechanism and service will be available.
9. Technical, legal and academic information will be shared through the system.

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