E-COORDINATES OF CONTEMPORARY LOGISTICS

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ABSTRACT:

Today's the enterprises make their web-sites a place where customers will not only get detailed information about the services offers, but also where they can conduct business with the suppliers. The web-sites can provide a universal, self-service system for customers. Logistics managers can order any service and access the information they need to coordination the materials and products flows exclusively online. Thus, information technology and communication give logistics systems more flexibility in managing the increasingly complex and various movements of products and information between enterprises partners. E-logistics helps enterprises deliver better services to their customers, accelerates the insertion of the technologically progress in their critical activities, and lowers their operating costs. The Internet allows customers to access the information, place delivery orders, track shipments and pay the invoices. E-logistics functions are taking enterprises a great step forward by providing customers with a faster and easier way to do collaborate with them.

KEYWORDS: *logistics system, e-logistics, e-purchasing, e-transportation, e-fulfillment, third-party logistics, web-sites, customers, suppliers*

The logistics system is a network of suppliers, factories, warehouses, logistics centers, retailers, wholesalers through which raw materials are acquired, transformed, and delivered to the final customers. Moving from a simply supply chain to a logistics system presents new challenges for enterprises. Information technology and communication, especially the Internet are fundamentally changing the nature of logistics systems, and redefining the manners of identify, select, purchase, and use products and services from consumers. The result is a new approach of logistics systems that are consumer-focused rather than product-focused. They also provide customized products and services.

The challenges of the global marketplace are increasingly forcing today's process centered enterprises to utilize more efficiency the skills, knowledge, competencies, and resources found in their integrated logistics systems. The explosion of strategic alliances and partnerships on a global scale has brought about the formation of virtual enterprises capable of leveraging the skills, tangible resources, and innovative knowledge that reside at different locations in logistics systems, around the world.

Many enterprises use their information processing networks and strive to become knowledge-enabled organizations to ensure that all employees are able to locate, access, and utilize the knowledge and skills they need to meet their individual and enterprise goals. A common data model also need for the entire logistics system knowledge, because the effectiveness of e-technologies depends largely on its ability to assure interrupted intra- and inter-organizational information flows. This new e-logistics offers unlimited opportunities on the marketplace when enterprises fully integrated their knowledge, processes, and technology.

At the leading edge of this technological transformation, e-logistics and the Internet's role in reducing costs and improving customer service shape logistics' capacity and provide the most of the momentum going forward.

The principal factors that affecting e-logistics adoption are:

- increased customer sophistication, demands and expectations;
- an increasing intensity of competition by consolidations, alliances and partnering and the proliferation of new entrants;
- extending globalization lowering trade barriers for access to broader markets and international distribution networks;
- technology-enabled virtualization supporting globalization through the elimination of barriers of time, space and form;
- technological-development – slow down enterprise IT assimilation or adoption rates, IT project prioritization, industry infrastructure standardization and the integration of e-solution with the existing systems;
- organizational readiness – changing traditional culture, building skilled resources and augmenting logistics capabilities through deliberate and dynamic organization strategies;
- market readiness – the ability to quantify and convey the value of e-logistics, unclear customer and enterprises partners demand and issues of privacy and trust.

Clearly, the Internet and Electronic Data Interchange (EDI) play key roles in enabling the full realization of e-logistic benefits, although in different ways. With both a low usage cost and a low entry cost, the Internet continues to be adopted rapidly and ubiquitously by logistics whatever their scale. Coupled with the speed and standardization benefits of EDI, the Internet will make direct links between suppliers and consumers easier, eliminating cost-laden middlemen, brokers, and agents. Transaction processing via an EDI is fast, cheap, and extensive and creates conditions for investment in Internet infrastructure. Cheap logistics capabilities of large providers undercut many mini shops that cannot deliver service or value commensurate with the prices charged.

Although many enterprises are experimenting with web-sites services and facets of electronic technologies – particularly e-transportation, e-purchasing and e-fulfillment through web-sites marketplaces and exchanges – only a small percentage of enterprises worldwide actually have the capabilities to operate in an e-logistics system.

E-transportation

Because transportations are so crucial to maintaining continuous materials and products flows, this component of logistics system are using technology in enormously creative ways. In the new economy, organization and coordination of transports rely on computing, satellite technology, radio-frequency identification tags, bar-coding, cellular telephone, X-rays, intelligent systems, and the Internet. Today's it would not be possible to source goods, track shipments, inventory goods, or send freight bills on a real-time basis – let alone on a global basis – without advanced technology.

Transportation visionaries see the web-site being used more and more to manage real-time logistics operations. For truck fleets, the sort of optimization software that is already allowing the big enterprises to better manage truck capacity, ensuring that all space is utilized each delivery, is available via the web-site to smaller enterprises.

E-transportation allows the enterprises to exchange cargo documents electronically over the Internet. Thus, enables shippers, freight forwarders and other third-party logistics enterprises to streamline document handling without the monetary and time investment required by the traditional document flows.

By using e-transportation, enterprises can reduce costs, improve data and information accuracy, assure continuous logistics processes, accelerate materials and

products flows, and enhance customer service. Naval carriers and their trading partners can exchange bill of lading instructions, freight invoices, container status messages, and other documents with very good accuracy and efficiency by eliminating the need to redundant or reformat documents. Same procedures can execute by others means of transport too. The only tools needed to take advantage of this solution are a personal computer and an Internet browser.

E-transportation allows users to establish an account and obtain real-time information about goods shipments. They may also create and submit bills of lading, place a cargo order, analyze charges, submit a freight claim, and carry out many other functions. In addition, e-transportation allows customers to track shipments down to the individual product and perform other logistics management and decision support functions. The application uses encryption technology to secure information transactions.

E-transportation can help automate the receiving process by electronically transmitting a packing list ahead of the shipment. It also allows enterprises to record the relevant details of each item, parcel, pallet, and container being shipped. E-transportation ensures that each freight bill is efficiently reviewed for accuracy. The result is a greatly reduced risk of overpayment, and the elimination of countless hours of paperwork, or the need for a third-party auditing firm. By intercepting duplicate billings and incorrect charges, a significant percent of shipping costs will be recovered. In addition, carrier comparison and assignment allows for instant access to a database containing the latest rates, discounts, and allowances for most major carriers, thus eliminating the need for unwieldy charts and tables.

E-transportation decreases manual intervention because standard bills of lading, shipping labels, and carrier manifests are produced automatically; this includes even the specialized export documentation required for overseas shipments. Paperwork is significantly reduced and the logistics system will therefore be more efficient.

E-transportation allows online inquiries which gives instant shipping information access to anyone in the enterprise, from any location. Unit loads shipments can be tracked and proof of delivery quickly confirmed. A customer's transportation costs and performance can be analyzed, thus helping the customer negotiate rates and improve service.

Experts point out that the third-party logistics is lagging when it comes to e-technology and must now speed up efforts to acquire technology that will enable it to electronically aggregate shipments, help customers visualize inventory levels, deploy transportation assets or save costs by consolidating shipments.

Many third-party logistics, however, have been slow to adopt existing technology because of lack of investment funds and the difficulty of attracting top IT professionals to run their services. And many carriers and other third-party logistics customers just aren’t technology-enabled enough to take advantage of web-site services.

E-purchasing

For many enterprises, finding the best materials or services at the best price and under the most advantageous shipping arrangements is a laborious process. There are many instances where human knowledge and interaction make a difference. The fact that many enterprises resist using advanced technology or automating their sourcing activities has made e-purchasing slow to catch on.

E-purchasing embodies a different logistics operations and shift in bargaining power. E-purchasing generally ties supplier’s and buyer’s logistics processes together to deliver seamless transactions. Although electronic purchasing will facilitate business-to-

business or business-to-consumer processes between suppliers and buyers, buyers are the primary beneficiaries.

E-purchasing offers to the customers some advantages, such as:

- *online catalogs* which providing customers the opportunity to research and compare the products, prices, and services offered by a supplier;
- *online order processing* which provides customers tools to comparison shop, search for desired quality and service requirements, view product or service aggregations, participate in online auctions, and access related product or service mixes through electronic portals;
- *online order configurability* which enables customers to design their own products and services through special configuration capabilities;
- *instant messaging* which creates possibility to the customers and suppliers to be in immediate and continuous contact with each other.

E-purchasing is an important opportunity for logistics process to speed up. Some e- purchasing simply moves the paper-based systems to electronic paperless systems using the Internet to transmit the order documents and the various other documents involved in the purchasing and supply cycle. However, one of the major benefits of e-purchasing is that the buyer can search the array for supplies from their computers. This allows a customer to search supplier catalogues around the globe. It is important that suppliers pay attention to their catalogue data and keep their Internet sites user-friendly and up-to-date.

Effective supply sourcing reduces costs, improves quality and speeds time-to-market cycles. Internet-based sourcing automation, or e-purchasing, can streamline strategic sourcing by creating highly efficient and collaborative online negotiation environments that deliver.

E-purchasing includes using web technologies to automate and modernize the identification, evaluation, selection, negotiation, and configuration processes of the optimal mix of suppliers, products, and services into a logistics system that can rapidly respond to changing market demands.

The complete purchasing cycle require enterprises to configure the appropriate mix of technologies, strategy and product and supplier expertise into an *e-framework*. To the supplier some of the most significant benefits of the e-purchasing include:

- reduced transaction costs;
- reduction of stocks of obsolete products and inventory for those products, owing to more timely reaction of supply to demand;
- reduced inventory levels in general, through reduced cycle times;
- quicker reaction to changing market trends, enabling an enterprise to gain a competitive edge in new product development;
- redeployment of logisticians and other professionals away from transaction processing activities toward work that is more strategically important to enterprise performances – such as global market research and analysis, long-term negotiations with strategic suppliers, improvements of logistics processes, supplier development, and researching of new-technology tools that can promote purchasing and logistics system management performance.

To the consumer, some major benefits of e-purchasing include:

- -the descriptions and prices for a range of goods and services can be compared quickly and easily;
- -reduce time spent on shopping important for time-poor consumer;
- -reduce delivery times; convenience of home delivery removing the need to visit stores (virtual shopping rather than physical shopping);

- -creates a more competitive marketplace as information transforms the market allowing consumers to make more informed choices about their purchases by being able to search and find a larger variety of competing products and services;
- -„e-competition" in turn creates lower prices, through transparency.

Before spending some money on technology, logistics managers which wish to implement e-purchasing and electronic logistics management systems should: consult with key suppliers, examine and possibly change inefficient logistics processes, and invest in „e-solutions" drivers that maximize financial returns. Logistics managers must convince the enterprises partners that they will change their own enterprise' inefficient practices and they should do this before they make major technology investments. This is necessary for avoid wasting a lot of money.

E-fulfillment

E-fulfillment is a term that has been developed to emphasize the need to ensure that the physical delivery of products ordered via the Internet is carried out effectively. Although Internet access provides a direct and instantaneous link from the customer to the selling enterprise, the actual physical fulfillment of the order must still be undertaken by traditional physical means. Very often this may even necessitate the introduction of a new means of physical distribution, because traditional channels are set up to delivery to shops rather than direct to e-commerce customers. This is likely to necessitate a major change in the distribution strategy of many enterprises.

E-fulfillment incorporates activities such as order management, inventory management, warehousing and shipping, and processing and disposition of returns. Together, these activities represent a significant proportion of e-commerce enterprises' tangible assets and have the greatest influence on customer service.

The physical delivery of products to customers is one of the most significant challenges for enterprises interrelations in the logistics system, because fulfillment capability is already proving to be a strong market differentiator. Good reliable service is a key factor to achieving repeat sales while poor service creates a loss of trust and diminishes future selling opportunities. In the future, the basis for measuring e-fulfillment service will be percentage of perfect order executions rather than average performance.

E-fulfillment is the essential link between the virtual and physical logistics processes. Selecting the right operation, level of service and logistics provider means understanding the cost and effort involved in generating, capturing and fulfilling each order. It must also be known *if* and *how* each order will contribute to the strategic objective of achieving critical mass – how the model will lead to economies of scale that drive e-technology economics.

Today's consumers expect their complete online shopping experience to be price competitive with traditional retailers' shelf prices. High e-fulfillment costs will inevitably increase the price to consumers and on the Internet price differences are completely visible. Thus e-fulfillment costs have the potential to threaten the enterprise's competitive position. In addition, the variable costs associated with product returns are causing many organizations to rethink their reverse logistics processes.

The choice of e-fulfillment in the logistics systems has enormous implications for the growth and profitability of any product rely on e-technology and requires a strategic selection that not only recognizes the need for higher service performance, but that also delivers a competitive cost structure. Enterprises must rigorously question the underlying elements of the logistics strategy being considered.

The control of delivery costs is crucial to the long-term viability of the logistics processes. Some methods of controlling these costs include: targeting only densely populated logistics areas, requiring a minimum order size, extending the promised delivery deadline and using intelligent routing software.

In the future, there may be even greater opportunities for tight *e-linkages* between the provider and the customer. One technological development that may enable customer intimacy is the wireless or mobile Internet access device. Accessing each order anytime from anywhere enhance the loyalty and value proposition for e-fulfillment to customers.

The logistics processes developed for enterprises success on the Internet are appearing as fast as the technologies to support them. Many are not successful methods in the long run, while others create entirely new distribution network and logistics systems. The e-fulfillment method for customer satisfaction, when implemented according to strict cost-benefit guidelines and with tight cost controls, will likely become a profitable long-term method for conducting certain logistics online. Its strength is the provision of reliable delivery of essential materials and products and valuable related services to final consumers or business customers.

When combined with a personalized interaction experience and expertise at assembling and analyzing customer information for customized offers, it should contribute to the retention of a loyal, predictable customer base, which leads to overall profitability, and competitive advantage.

Conclusions

Today's the e-logistics landscape is still highly fragmented, the role of third-party logistics providers is changing from tactical to strategic, and logistics exchanges are moving from the fringes to the center of logistics management.

A number of areas have been identified where e-logistics developments have facilitated opportunities for better logistics management. These areas are: collaborative demand planning between retailers, wholesalers, and manufacturers of products, synchronized production planning, joint product development between buyers and sellers, better logistics planning with warehouses and freight carriers, largely utilize radiofrequency identification tags, bar coding, Electronic Data Interchange, Intranets, Extranets, Virtual Private Networks, and others. This new e-logistics offers virtually unlimited business opportunities in the alignment of processes and technologies. A well-designed and well integrated logistics system will improve the profitability and the competitive advantage of the enterprises.

In conclusion, it is important to retain that:

- the big push in logistics environment is the move from an individual supply chain to a logistics system mentality;
- enterprises may lack the advanced technology to operate in a logistics system, but can start thinking and planning for a collaborative logistics future;
- three key logistics functions – transport, purchasing, and fulfillment – can now be conducted on the world-wide-web;
- moving goods just-in-time means concentrating on improved order response, tracking logistics capabilities, shipping accuracy, and timing from suppliers;
- training becomes crucial. Logisticians and other employees need to learn how to function in a collaborative e-logistics environment.

The winners in the Internet era will be those enterprises that can respond most rapidly and efficiently to the customer's demands. As a result, an e-logistics must provide

support for the capture and communication of customer demand, as well as enable this demand to launching manufacturing lines, starting logistics process, and other operations within the enterprises and across the logistics system.

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