

# Trends of the Future Logistics in E-Commerce

Olga Freyuk

Ph.D. student, Kyiv National University of Trade and Economics, UKRAINE, Kyiv, Kioto street 19,  
E-mail: frida2411@ukr.net

*Abstract – In the background of changing situation on local and global markets of delivery and sales companies more often use the Internet tools, letting realization of electronic transactions with partners in supply chain. Changes in management of supply chain happen with development of clients' needs and technological possibilities of cooperating partners. Ecommerce is growing, but logistics seem to stay behind. In the past, innovations mainly focused on the opportunities in the area of home delivery. What the market really needs now are alternative delivery options.*

Key words – e-commerce, e-logistics, internet trade, e-business, electronic data, e-fulfilment, technology, company.

## I. E-logistics in e-commerce

The growth of share of electronic commerce in commerce in general has caused a need of an online access to logistic services amid suppliers and recipients on market. Growth of electronic commerce evaluating towards e-business has brought about a natural need of the growth of processes of the commodity flow service, in the area of the company front-office (e.g. sales, marketing, client service), as well as back-office (purchasing, warehousing, transport, production and co-production)[2].

The e-logistics utility in an online business to customer (B2C) or business to business (B2B) setting, the latter offers a broader concept focusing on utilizing information and communications technology to manage information and information flows in supply chains or supply networks.

The most often used tools of cooperation in the virtual scope of e-logistics are [1]:

- the Internet portal,
- electronic platform,
- electronic catalogue,
- data warehouses,
- information services,
- systems of offers and purchasing,
- transactions systems,
- systems and communication tools,
- systems and software, e.g. applications of supply chains' planning, dictionaries, digital maps, e-learning systems, etc.

Effective use of information and communications technology can make the flow of goods transparent, allow for the integrated management of a physically dis-integrated unit, and harmonize decentralization and centralization within one operating system. Improvements in customer service, operation efficiency, information quality and support of collaborative planning and execution, as well as improved responsiveness, are well acknowledged benefits. More specifically, e-business can

facilitate effective information exchange and the removal of unnecessary players in the supply chain[3].

## II. E-logistics technology

One of fundamental tool of supporting business processes became electronic data interchange through the Internet. It has caused epochmaking change for clients' values — independent access to information about products' flow and localization of supply chain's partners[7].

Typical e-logistics applications enabled by web-based technologies and cloud computing are, for instance, single window systems. These are predominantly used to deal with cross-border issues by government bodies, or logistics community systems such as port community systems, to integrate and manage a range of stakeholders in a particular community[4].

E-Logistics Technology (examples):

- The personal computer;
- Electronic data interchange (EDI) among carriers, shippers and customers;
- Barcoding and scanning;
- Advance ship notices (ASNs);
- Shipment and package tracking systems;
- Satellite global positioning systems (GPS) and geographic information systems (GIS);
- The World Wide Web;
- The Internet, intranets and extranets;
- Web-enabled relational databases, data warehouses and data marts;
- Decision support systems;
- Electronic signature technology;
- Wireless technology;
- Enterprise resource planning systems.

Customers prefer to have as narrow a delivery window as possible so that they are not left hanging around waiting for the delivery. They also want to be able to return any unwanted goods with as little hassle as possible. Early attempts at e-fulfilment did not meet with great success and the future of e-tailing hung in the balance because of these issues. Many companies simply did not understand the complexities involved in getting the goods to the customer – particularly the 'last-mile' element[5].

E-fulfilment can be made using a variety of different methods, depending somewhat on the quantity and type of goods being delivered, as well as on the location of the destination relative to the e-tailer. Many large e-tailers operate specialist e-fulfilment centres, where goods destined for the consumer are stored and from where they are picked and dispatched. Amazon are also trialling other, more unusual methods. In California, for instance the company trialling deliveries by taxi. In 10 of the US's warehouses, it is deploying robots to speed up picking times. Dave Clark, Amazon's senior vice-president says that rather than human operatives going to shelves to pick the goods, the shelves are brought to the human operatives by the robots.

The robots glide under the shelves and lift them up and take them to where the humans are assembling orders. Each stack of shelves that the robot lifts can be 4 ft wide and hold up to 750 lb of merchandise. The items are then picked from the shelves by the humans. These robots are speeding up the picking time by an estimated three times and have the added benefit that the number of aisles in the warehouse can be increased as the space between aisles can be decreased[6].

### III. E-logistics trends

#### 1. Large amount of logistics from abroad

The amount of crossborder purchases is increasing rapidly. This ensures that more and more logistics are coming from abroad to your country.

#### 2. Consumers needs first

Consumers are now often presented with a number of delivery options in the online store's checkout. In the future, consumers will be the ones who determine what the specific delivery time and location will be. We see many online stores that increasingly offer specific delivery options with a faster delivery in smaller time frames. Ultimately, consumers want to be able to determine exactly where and when their order is going to be delivered.

#### 3. New entrants fulfill the last mile

In recent years, the shipping and delivery market was determined by a small number of large parties. However, this appears to something of the past. Smaller parties – who often focus on specific, sustainable logistics – are now also completing the last mile.

#### 4. Sustainable logistics high on the priority list

Sustainable logistics are being pushed forward in many different ways. The growing ecommerce market and the increasing delivery demands of consumers cannot be reconciled with the current non-sustainable organization of logistics. And it should be sustainable, if we want the system to continue to function. For example, more delivery options need to be offered to decrease traffic in city centers. In addition, sustainable transport should be the standard, for example by using electric cars and bicycles. And, of course, sustainability should be higher on the consumers' priority list as well.

We see that governments are exerting more and more pressure on sustainable logistics. Europe has set a target to reduce CO2 emissions by 40% in 2030 compared to what it was in 1990. This reduction has to be made somewhere. Also, consumers show a growing need for sustainability.

#### 5. Return logistics increase

The circular economy is the economy of the future. Raw materials will continue to exist in the supply chain and retain their value as much as possible.

As a result, more often used products of consumers will find their way back to the producer or recycling company.

#### 6. Packaging innovations – especially for perishable goods.

#### 7. Real time order tracking: aps to track vehicular movements.

## Conclusion

Companies need to develop a well-articulated e-logistics strategy that drives business performance via capturing new business opportunities through innovation and creating value in core businesses to serve customers better.

At a regional level, government bodies and import nodes in a global supply chain, such as seaports and airports, need to tackle the complex issues of visibility and interoperability in order to streamline the information flow and integrate information that is used by all the actors involved.

The dynamic of changes of the contemporary environment of business entities requires the necessity to introduce changes, among others, in the field of optimization of e-logistics processes by searching for innovative solutions aimed at adapting to new conditions. In the era of global competition, it is also extremely important to react fast to the changeability of client needs and apply modern technologies and information systems to support the field of management.

Whether building an e-logistics capability at micro level within and between organizations or at macro regional or country level, the designed capability should be fit for the information processing needs of the key stakeholders involved.

## References

- [1] Kisperska-moron, D., Krzy\_aniak, S. [red.] *Logistyka*. Wyd. Biblioteka Logistyka, Poznan, 2009.
- [2] Antonenko, O. M. Mischuk, I. P. Khamula, O. O. (2012), "The development of systems of e\_trade and the logistics: the theory and the practice", *Visnyk Natsional'noho universytetu "Lviv'ska politekhnika"*, vol. 749 *Lohistyka*, pp. 349—356.
- [3] Val'kova, N. V. (2013), "The use of information and communication technologies and implementation of electronic logistics in the plant facilities", *Ekonomika: realii chasu*, vol. 4 (9), pp. 155–160.
- [4] Vitlins'kyj, V. V. Mel'nyk, H. V. Skits'ko, V. I. (2014), "The simulation of electronic sales logistic subsystem applying Petri fuzzy net", *BiznesInform*, vol. 8, pp. 82—87.
- [5] Global Commerce Initiative. *2020 Future Value Chain: Building Strategies for the New Decade*. <http://www.capgemini.com/resource/2020-future-value-chain-building-strategies-new-decade>, Access on 20.02.2015.
- [6] Bukreev, M. B. "Elektronnaia logistika v trgovle, chast 1" [E-commerce Logistics, Part 1]. <http://retailtech.ru/food/articles/1699/29010/>
- [7] Płaczek E. New challenges for logistics providers in the e-business era.: 2010, *Log Forum* 6, 2, 6 : [http://www.logforum.net/pdf/6\\_2\\_6\\_10.pdf](http://www.logforum.net/pdf/6_2_6_10.pdf).