
NEW TRENDS AND STRATEGIES IN POSTAL LOGISTICS

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Abstract: *This paper will present the latest trends and strategies in postal logistics and will also give the experiences of most developed postal operators in the field of logistics. Postal business network of Serbia is the largest infrastructural and logistical network. Serbian post has a wide range of logistics services and post is a leader in the provision of logistics services. We will provide an adequate prediction of the future development of postal logistics and assess the current situation in the field.*

Keywords: *Logistics trends, logistics strategies, experiences, Serbian post, prediction*

1. INTRODUCTION

The rapid technological development has given a number of trends that have affected all areas of logistics activities. Besides the technological trends there are and social-business trends. In combination with the technological trends they create unique value for business improvement. Social-business and technology trends are the result of megatrends such as digitization, globalization and so on. Universal Postal Union monitors all modern trends, implements them and adjusts for postal logistics.

The aim of this paper is to summarize the most important trends as well as strategies which passing through from these trends in the field of postal logistics , give the experience of leading operators in postal logistics, and then analyzes the state of postal logistics provider "Post Serbia" to accept new trends as leading postal logistic provider. Through SWOT (Strength Weakness Opportunities Treats) analysis it will be determine the readiness to accept new trends and perform the appropriate conclusions.

2. TRENDS IN POSTAL LOGISTICS

According to research conducted by Kückelhaus and Wegner (2013) from the Department for Innovation of DHL in cooperation with Detecton consulting, it was concluded that logistics is influenced by a numerous of trends. The most important of them are labeled as megatrends. Some of these megatrends are:

- Digitalization
- E- substitution
- Sustainability
- Continuing globalization
- Outsourcing

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- Demographic change and urbanization.

In addition to the identified megatrends, it is important to note the impact of new technologies and their development trends that appear in logistics. The greatest impact have these new technologies:

- Mobil devices of next generation : smart devices and tablets
- Cloud based market places
- Internet of everything
- Internet of things
- Mobil application
- In-memory computing etc.

By combining the megatrends and new technologies, DHL company was able to identify trends that are present in the logistics and divided them into two categories:

- Social and business trends
- Technology trends

Heutger and Kückelhaus (2014) from DHL's sector for inovation have also conducted identical study and in the following table are given the most important trends from the aforementioned two categories, ie. trends which have the greatest impact on logistics providers (Table 1):

Table 1. Logistics trends

Logistics trends	
Social and business trends	Technology trends
Supergrid Logistics	Big Data/ Open Data
Real-Time Services	Cloud Logistics
Anticipatory Logistics	Autonomous Logistics
Urban Logistics	3D printing
Omni-Channel Logistics	Internet of Things

2.1 Social and business trends

Supergrid logistics is a very important logistic trend. There is a tendency in major urban areas to connect with each other and create supergrid transportation networks, and that networks will be one day connected to large international mega-cities, which will act as logistics hubs. This trend has already begun. United States Postal Service (2014) imposed one problem. Problem is the existence of "last mile links, to connect people from rural areas to the rest of the world. That segment will also be very interesting for postal logistic providers.

Heutger and Kückelhaus (2014) said that in the trend of real time services, there are two dominant influence: real time tracking services (for example, services that provides information about positions of items) and real time order management (ordering along the way). There are a variety of mobile applications for this logistic trend in postal logistic.

Anticipatory logistics is improved method for predicting request for items. It is especially applicable for military operations. Predictive logistics planning is particularly important in e-commerce. Companies analyze the user's search, shopping history, desires and prepare the order before ordering.

By research of Federal Ministry of Education and Research (2014), 85 percent of European population will live in urban areas in 2050. The existing infrastructure does not represent a guarantee for a sustainable supply chain of goods and services. Postal, parcel, express and other logistics companies will consider new opportunities that are special designed for urban areas. Urban logistics will occupy a very important place in the logistics industry.

Omnichannel logistics is made of better linking shop and e-commerce opportunities. There are several options, one of them is that the user, for example, can go to the store and see an object that he likes and to order for home delivery or to order online and pick up in store. This trend is beginning to appear in the postal logistics.

2.2 Technology trends

Universal Postal Union (UPU) over 140 years of collecting data on global postal exchange. In the postal terminology, this term has become known as big postal data. In Report of Universal Postal Union for December (2013) was concluded: "whether you make a phone call, send a letter, you leave some footprints digital character". The private sector can use this data to improve business. Postal big data is the key to global development and UPU realized that data is public good.

IBM researchers have demonstrated how big data can be used for optimization of public transport in African cities matching of bus routes with traffic from mobile phones. That allowed them to create the new routes that passengers will save 10% of the time in transit.

Postal and logistics companies can benefit by shifting IT components to the cloud across their entire value chain. Most postal and logistics companies already started their cloud migration journey. TNT uses cloud to support both front- office and back office operations. Postal and logistic companies can generate revenue from offering their service from the cloud. Services are accessible anytime and anywhere. (Deloitte 2012)

Kückelhaus and Wegner (2013) indicated that autonomous logistics is the implementation of unmanned aerial vehicles (UAVs), cellular transport systems and other similar systems that provide a variety of opportunities in the sector of storage and transport. Such systems in the coming years will become a reality and the postal and logistics sector will be impossible to imagine without their use. All companies that are involved in express delivery are considering autonomous logistics in the air. The potential application is in hard to reach areas or for medical purposes. (figure 1-DHL tested parcelcopter)



Figure 1. DHL parcelcopter*

3D Printing was presented as an automatic method that will be used for the production of prototypes. There are several technologies and most of them work on the principle of building

* <http://www.aircargonews.net>

up layers of material. The materials used in the 3D printing are mostly of plastics and ceramic. 3D printing is a technology that will change the lives of people. Bearing this in mind, 3D printing will have a big influence on the logistics company. Manners-Bell and Ken Lyon (2012) indicated that this trend will create new opportunities and will develop new sector that will deal with storage and movement of raw material used by 3D printers. With the available 3D printers, for operations in remote locations is only required electronic library with items and computer. Combination of 3D scanners, computers, 3D printers allow you to print the desired object.

Universal Postal Union saw the significance of the trend which is known as the "internet of things". Term "internet of things" is adapted for postal vocabulary and become "internet of postal things" (Figure 2) .When it says "internet of things" usually refers to the use of sensors that enable physical objects, for example letters and packages that collects a variety of information in real time through Internet. In this manner are obtained "big data" for analysis. This will help any company to promote their business or to develop a new set of services*.



Figure 2- Internet of postal things**

3. STRATEGIES IN POSTAL LOGISTICS

In this section it will be given some basic characteristics of strategies of leading postal logistic operator: DHL and Swiss Post.

The strategy DHL is based on three pillars: Focus, Connect, Grow. The objective is to remain in position logistics provider for the world. Each of the three pillars has very clear goals. Focus on the things that make them successful. The company continues to focus on logistics as a primary activity, and plans to 85% of revenue comes from logistics activities. They are trying to expand services for e-commerce market. Connect pillar is based on linking the organization. This is achieved by making the exchange of internal know-how expertise. Connect pillar allows to increase service quality.

To ensure the development of the company they created a grow pillar. With it, the company is expanding into new market segments, especially in the sphere of e-commerce***.

Swiss Post is a modern logistics company. Every day delivered half a million packages and 15 million letters. It strives to meet user needs, and at the same time to remain effective national company. Swiss Post is going to increase the efficiency from collection to delivery. Swiss Post's logistic strategy provides common basis for development for the company's different areas. This applies to all fields of the process chain. (Swiss post and politics 2014).

* http://news.upu.int/no_cache/nd/internet-of-postal-things-offers-food-for-thought

** <http://nfpe.blogspot.com/2014/10/upu-news-forum-on-internet-of-postal.html>

*** http://www.dpdhl.com/en/about_us/strategy.html

4. POSTAL LOGISTICS IN SERBIA

Post Serbia offers numerous logistical services. Services include set of postal, logistical and IT services. Post use modern technology to improve business. In this paper we deal with ability of Post Serbia to accept new trends, technological and social-business trends *. By analyzing the existing capacities of post and history of accepting new trends in postal sector we have summarized the most important features in the SWOT (Table 3) matrix.

Table 2. SWOT Analysis for new logistical trends in Serbian Post

SWOT analysis	
<p style="text-align: center;">Strength</p> <ul style="list-style-type: none"> • Good infrastructure and capacity to receive technological trends and social-business trends • Strategic approach to business • Educated staff who can quickly implement social-business and technological trends • 	<p style="text-align: center;">Weakness</p> <ul style="list-style-type: none"> • Time of implementation of new trends due to regulations and laws • The high cost of new services • Cultural differences and time to customer adaptation on new trends
<p style="text-align: center;">Opportunities</p> <ul style="list-style-type: none"> • The appearance and availability of new users (by using autonomous logistic-reach hardly accessible areas, delivery of drugs etc) • Implementation of new technical and technological systems (increase company brand in eyes of customer) • New services with additional values (real time services) 	<p style="text-align: center;">Treats</p> <ul style="list-style-type: none"> • The appearance of competitors with lower costs • The appearance of competitors with a higher level of quality • The introduction of new laws that increase the cost of business • Changes desires and habits of users

5. CONSLUSION

At the end of the paper can be summarized that the new trends in postal logistics will shape the different ways of doing business, which can lead to the creation of new services that have added value to the user, and thus increase profits for the logistic company. In Serbia, in the next period is expected development of e-commerce. Users want to have their ordered products delivery in

* <http://www.posta.rs/default-eng.asp>

the shortest possible time. This can be achieved through a combination of new trends, particularly the application of cloud logistics in the postal sector and providing various electronic services, which are attractive for users. Post Serbia has all the capacity to become a regional leader in the provision of logistics services, as well as very easy to implement certain trends such as cloud logistics, urban logistics, autonomous logistic especially in the sphere of processing shipments. Future research in this sector we will focus on the analysis of other providers of postal logistics and the development of new services in this domain.

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REFERENCES

- [1] Cristiane, B. (2014). Urban Supply, Federal Ministry of Education and Research.
- [2] Deloitte, (2012). Cloud computing in postal and logistic sector, Post Expo.
- [3] DHL, (2014). Strategy 2020, Focus. Connect. Grow, DHL.
- [4] Heutger, M., Dr. Kückelhaus, M., Detecon consulting, (2013). Logistic Trend Radar, DHL Customer Solutions & Innovation.
- [5] <http://www.aircargonews.net>
- [6] http://news.upu.int/no_cache/nd/internet-of-postal-things-offers-food-for-thought/
- [7] <http://www.posta.rs/default-eng.asp>
- [8] Manners, J., Lyon, K. (2012). The implication of 3D printing for the global logistic industry, Transport Intelligence.
- [9] Swiss Post, (2008). Post and Politics, Logistic Strategy, Efficiency from collection to delivery, Swiss Post Corporate Communication.
- [10] UPU, (2013). EDI messages help human development new stats bring good news, Universal Postal Union.
- [11] U.S. Postal Service Office of Inspector General, The Global Logistic Revolution: A Pivotal Moment For Logistic Sector, (2013). US Postal Service.
- [12] Wegner, M., Dr. Kückelhaus, M., Detecon consulting, (2013). Logistic Trend Radar, DHL Customer Solutions & Innovation.