

## "THE NEW LOGISTICS TRENDS IN SUPPORT OF RETAIL "

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### **ABSTRACT**

In today's business environment business rules are little more than guidelines that drive the company. If the sales process properly used, they can be instruments for competitive advantage, which will enable the company to be more innovative, more productive, more quickly react to market changes and can make a successful collaboration with employees, partners and customers. Importance of business rules for the operation must not be neglected. Today, there are new logistics trends that are accelerating and that positively affect sales, but despite this, it is obvious that there are large enterprises staff, who still use the outdated, rigid and other inappropriate applications.

Starting from the fact that the transportation and logistics represent one of the key factors for the development of a country's trade, and thus to encourage economic development and to connect with the world economic trends, the need to analyse the emerging logistics trends and perceive their role and importance in the process of sales, as a condition for the development of sales as a macro and micro level.

**Keywords:** logistics, logistics trends, merchandising, productivity

### **INTRODUCTION**

Computerization, globalization and internationalization have led to drastic changes in retailing. These processes resulted in the acceleration of retail processes, creating new distribution channels and revenue growth in the retail trade, as well as globally. Globalization and the changing dynamics of the industry, has forced retail businesses to review their business strategy and to implement new technological solutions to improve customer service you have given. Greatest impact on the development of retail, logistics especially in the past decade has, thanks

to the constant development of new technologies present in logistics<sup>1</sup>. The use of new technologies stems from labelling goods becomes conducive to faster electronic receipt, labelling and sale. The new technology consists in labelling with bar code and radio technology (Radio Frequency Identification - RFID) that affects further full automation of trade processes, particularly in the transport, storage and supply of goods.

### **The role and importance of logistics in the modern system of reproduction**

Logistics in the 20th century, developed very quickly, especially affirms the economy<sup>2</sup>, which has become an important factor in the development of the country, and a significant impact on the retail sector. Research conducted by the McKinsey Global Institute has revealed the impact of logistics on national productivity, ie the development of the retail sector and the impact of the world's leading retailers Wal-Mart for developing countries.<sup>3</sup>

The importance of logistics for the national economy is reflected in the share of logistics services in the gross domestic product (GDP) of the country. This share varies and is higher in developed countries compared to countries in transition and developing countries. Logistics services share in GDP in high ravienite countries (eg Germany, France, USA and Japan) for the past twenty years has been around 10-15%.<sup>4</sup> Level of development of logistics depends on a number of factors that cause the intensity of development varies within individual sectors. In accordance with Table 1, which shows the share of logistics services in GDP in transition countries and developed countries, it is evident that the highest intensity of development of logistics is in the tertiary sector.

Table 1. Logistics services share in GDP in developed countries and countries in transition

<b>Sector</b>	<b>Highly developed countries (2000year)</b>	<b>Countries in Transition (2000year)</b>
Primary	25%	< from 10%
Secondary	30%	< from 10%
Tertiary	50%	10% to 20 %
Квартарен	30%	10% to 20%
Квинтарен	30%	< from 15%

<sup>1</sup> Ellram, L.M., La Londe, B.J. I Webwr, M.M. (1999); „Retail logistics“, International Journal of Physical Distribution & Logistics, 29 (7/8), p. 484

<sup>2</sup> Zelenika, R. (2005): Logistics Systems, Rijeka, Faculty of Economics in Rijeka, p. 19

<sup>3</sup> Mangan, J., Lalwani, C., Butcher, T. (2008): Global Logistics and Supply Chain Management, United Kingdom: John Wiley & Sons, Ltd., p. 7

<sup>4</sup> Wifi Croatia (2009): "What is logistics?" (Access 02.12.2012.), [Available to the <http://www.wifi-croatia.com>

Source: Wikipedia (2009): "Gospodarski značaj logistike", (access 24.11.2012.), [Available [http://hr.wikipedia.org/wiki/Gospodarski\\_zna% C4% 8Daj\\_logistike](http://hr.wikipedia.org/wiki/Gospodarski_zna%C4%8Daj_logistike)].

According to research carried out in Western Europe, the share of logistics costs in total operating costs of companies accounted for an average of 10-25%,<sup>5</sup> and the results of studies conducted in 2003 in Europe show that logistics costs accounted for 7.8% of revenue, and in 2008 year increase of 8.5%<sup>6</sup>.

Ranking countries in logistics operations, U.S. consulting firm ATKearney use index global logistics operations (engl. global logistics performance index - LPI) developed by the World Bank<sup>7</sup>. Index logistical implementation, ie logistical excellence includes seven indicators: Customs (engl. customs), infrastructure (engl. infrastructure), international transport (engl. international shipments), logistical capability (engl. logistics competence), tracking of goods (engl. tracking and tracing), domestic logistics costs (engl. domestic logistics costs) and the timeliness of delivery of items required destination (engl. timeliness). The goal of logistic implementation index is a comparison of the average performance index of 150 countries according to the above indicators and quality assessment of individual indicators of nominal scale (ranging from 1 to 5, where 1 is worst and 5 being the best score) as well as the ranking of countries in terms of other countries.<sup>8</sup> According to the index of the logistical implementation, leading country in logistics operations is Singapore (LPI value = 413)<sup>9</sup>, while the Republic of Macedonia is 99 LPI place with a value of 2.56475<sup>10</sup>, as shown in Picture 1. Picture 1 shows that best indicator in the Republic of Macedonia is the timely delivery of shipments required destination, with a value of 2.79079.

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<sup>5</sup> Wikipedia (2009): "The economic importance of logistics" (access 02.12.2012.), [Available to the <http://hr.wikipedia.org/>].

<sup>6</sup> Segetlija, Z. (2005): "The importance of logistics costs in trade", *Modern Trade*, 21 (2), p. 71

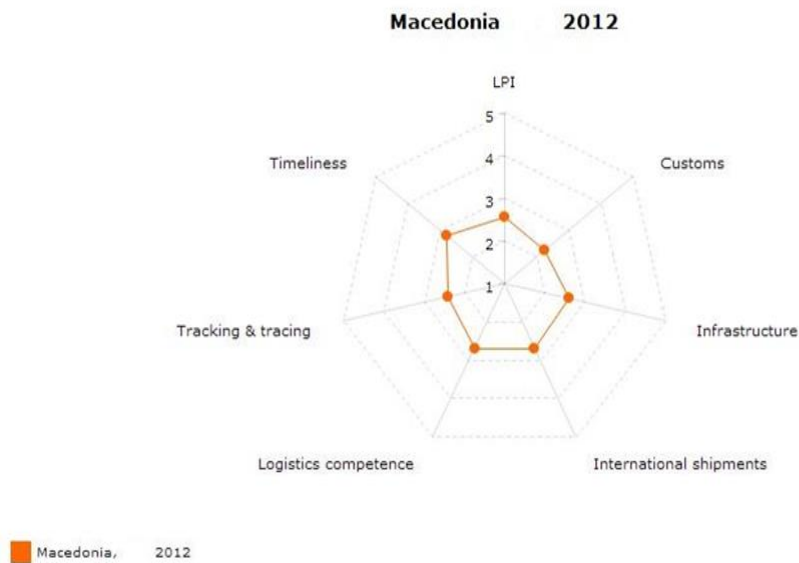
<sup>7</sup> Mangan, J., Lalwani, C., Butcher, T. (2008): *Global Logistics and Supply Chain Management*, United Kingdom: John Wiley & Sons, Ltd., p. 21 and 22

<sup>8</sup> The World Bank (2012): „Trade Logistics in the Global Economy – the Logistics Performance Index and its Indicators“ ( 02.12.2012.), [<http://siteresources.worldbank.org/INTTLF/Resources/lpireport.pdf>], p. 8

<sup>9</sup>The World Bank (2012): „International LPI ranking“(02.12.2012.), [<http://lpiurvey.worldbank.org/international/global>]

<sup>10</sup> The World Bank (2012): „Country scorecard Macedonia“ (02.12.2012.), [<http://lpiurvey.worldbank.org/international/scorecard/column/254/C/MKD/2012#chartarea>].

Picture 1. Value of the LPI index Macedonia



Source: The World Bank (2012): "Country Score Card International" (access 22/11/2012) available [<http://lpisurvey.worldbank.org/international/scorecard/column/254/C/MKD/2012#chartarea>]

## New technology in logistics

### - RFID

Radio frequency identification is still considered the domain of young technology as it develops a longer period, until lately come to its commercial exploitation and varied use of the same<sup>11</sup>. RFID is an electronic procedure for the identification and marking of goods and living creatures. It is a technology that uses radio frequency to exchange data between the handheld device, and computer memory. RFID system typically consists of a transponder (tag that contains information about the product), which communicates with transponders and antenna controller that controls and monitors communication between the antenna and the computer. The ultimate goal of the use of this technology is any product, each element or each part of a complex product has its own unique number and can be monitored in the whole chain, from production to waste everywhere and anytime<sup>12</sup>. Use of this technology allows continuous insight into the amount of inventory, automated ordering product, and simplified recovery.

<sup>11</sup> Roussos, G., Kostakos, V. (2009): „RFID in pervasive computing: State-of-the-art and outlook“, *Pervasive and Mobile Computing*, 5 (1), p. 110-131

<sup>12</sup> Ustung, A., Tanyas, M. (2009): „The impacts of Radio Frequency Identification (RFID) technology on supply chain costs“, *Transportation Research Part E. Logistics and Transportation Review*, 45(1), p. 29-38

Although RFID is mentioned for over a decade, the implementation of this technology has recently begun at the request of the U.S. military and major shopping chains, including Wal-Mart and their suppliers have delivered so marked goods. Wal-Mart in the middle of 2003 asked its 100 largest suppliers to place RFID tags on all products until January 1, 2005, and the project responded to Gillette companies, Hewlett-Packard, Kimberly-Clark, Sara Lee and Johnson & Johnson<sup>13</sup>. The main reason for the slow implementation of modern technology for marking products on the Macedonian market is the high cost of equipment and the work that is generally not included in the value of the end product. The world's developed solutions using databases, Internet and product labels can provide all necessary information on how the occurrence of certain products, and the ingredients of the product, this enables global electronic network (Engl.EPCglobal Network )<sup>14</sup>. Electronic global network enables tracing and monitoring products and data stored on the product throughout the entire supply chain. In this way users are becoming available all requested data. EPCglobal network is the backbone of the RFID technology which is unique compared to other available technologies that enables the exchange and processing of data over the Internet and much faster way compared to all known technologies. The greatest value of the RFID system is contained in the EPC global network that allows each participant in the supply chain automatic data collection, processing, storage and control over the information collected through the internet for each object. In terms of cost, it can be said that more physical proximity of the goods means increased costs for companies. Potential savings are in envy handling automation products. Pie Chart 1 shows the costs of enterprises in the United States (in %) in the total commodity handling<sup>15</sup>. Istatiot is evident that the greatest costs of enterprises in the total cost of handling goods represent input controls (36%) Order Processing (32%) and removal of goods (23%).

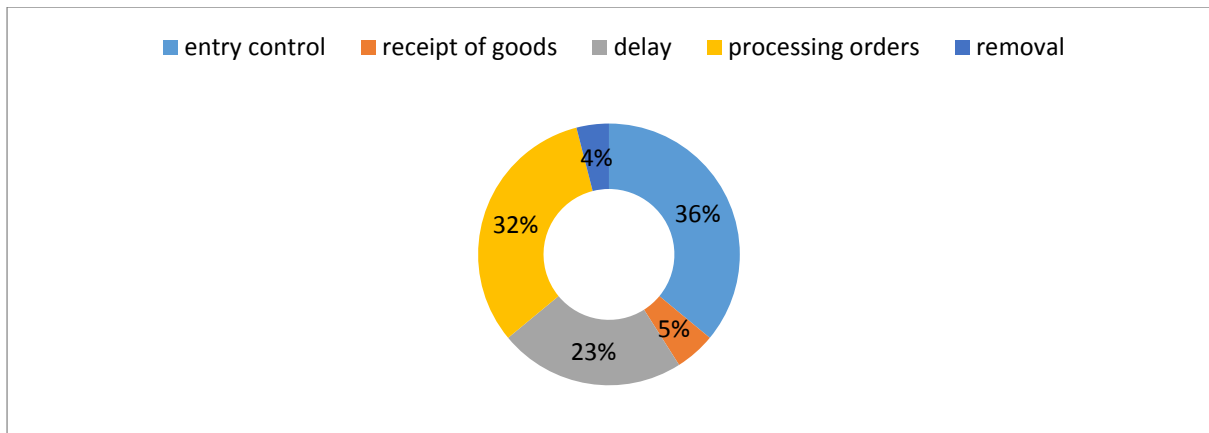
Pie Chart 1. Share poedinechnnite works in the overall handling of goods

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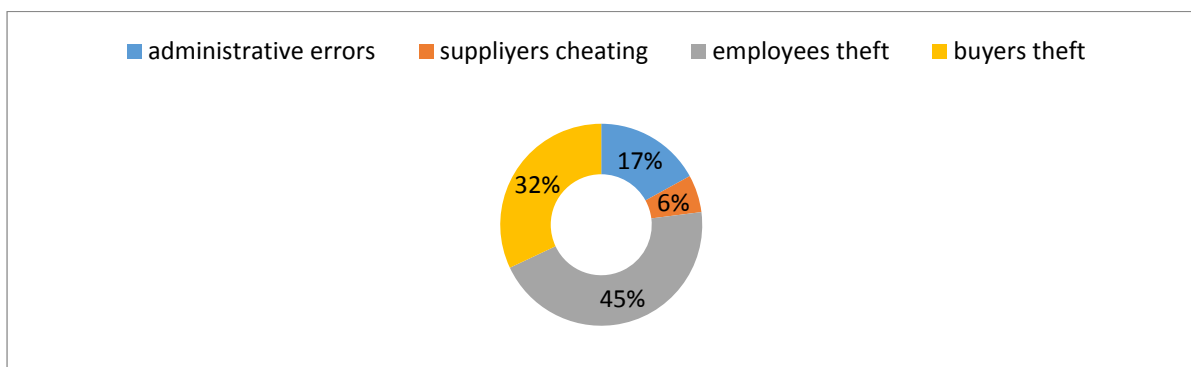
<sup>13</sup> Petljak, K. and Tupanić, I. (2009): "Supply chain management at Wal-Mart," the case study is the SPDS-The management of trade, Zagreb, Faculty of Economics in Zagreb

<sup>14</sup> Grasso, J. (2004): „The EPC global Network™ and The Global Data Synchronization Network (GDSN)“ (02.12.2012.)[[http://www.epcglobalinc.org/about/media\\_centre/EPCglobal\\_and\\_GDSN\\_v4\\_0\\_Final.pdf](http://www.epcglobalinc.org/about/media_centre/EPCglobal_and_GDSN_v4_0_Final.pdf)], p.7

<sup>15</sup> Brand, M. (2006): „RFID“ (23.11.2012.), [[http://info.biz.hr/Typo3/typo3\\_01/dummy-3.8.0/index.php?id=492](http://info.biz.hr/Typo3/typo3_01/dummy-3.8.0/index.php?id=492)]



Pie Chart 2. Display loss of goods in a company



Source: Brand, M. (2006): "RFID" (access 23.11.2012.), [Available [http://info.biz.hr/Typo3/typo3\\_01/dummy-3.8.0/index.php?Id=492](http://info.biz.hr/Typo3/typo3_01/dummy-3.8.0/index.php?Id=492)]

Pie Chart 2 shows the loss of the products in the enterprise, and it is evident that the greatest cost of the enterprise represent stolen products, company employees (45%), as well as by customers (32%). Computer simulations show that the application of RFID technology is a potential saving in these activities between 5 and 40%.<sup>16</sup> Similar analyzes associated with the use of RFID technology which are made in companies dealing with transport .

## CONCLUSION

High reliability can be said that RFID technology is highly profitable, and that companies that do not implement this technology in the near future will not be able to survive in the market. Such companies will be competitive and compliant to meet the demands of the environment.

<sup>16</sup> Brand, M. (2006): „RFID“ (пристап 23.11.2012.), [[http://info.biz.hr/Typo3/typo3\\_01/dummy-3.8.0/index.php?id=492](http://info.biz.hr/Typo3/typo3_01/dummy-3.8.0/index.php?id=492)]

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(02.12.2012.)[[http://www.epcglobalinc.org/about/media\\_centre/EPCglobal\\_and\\_GDSN\\_v4\\_0\\_Final.pdf](http://www.epcglobalinc.org/about/media_centre/EPCglobal_and_GDSN_v4_0_Final.pdf)], p.7

7. Brand, M. (2006): „RFID“ (23.11.2012.), [[http://info.biz.hr/Typo3/typo3\\_01/dummy-3.8.0/index.php?id=492](http://info.biz.hr/Typo3/typo3_01/dummy-3.8.0/index.php?id=492)]
8. Brand, M. (2006): „RFID“ (пристап 23.11.2012.), [[http://info.biz.hr/Typo3/typo3\\_01/dummy-3.8.0/index.php?id=492](http://info.biz.hr/Typo3/typo3_01/dummy-3.8.0/index.php?id=492)]