

THE MAXIMIZATION OF EFFECTS BY USING STRATEGY OF REVERSE LOGISTICS AND GREEN LOGISTICS

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***Resume:** The condition in which companies run business, impose the proactive approach and inovative solutions, that maintain competition on the world market. Many companies, within their actions, perform the tasks of logistics, have to concider the strategy of reverse logistics. This paper deals with comparison between strategy of reverse and green logistics, as the example of sustainable growth implementation, and the chance for extraprofit. The main goal of this paper means the assignment of determine in which companies can maximize the use of reverse logistics process, as well to enable actions of green logistics to be improved, in accordance with the business goals and principles of the company, without losing on effectivity and efficiency.*

***Keywords:** reverse logistics, sustainable growth, „green“ logistics*

1. INTRODUCTION

The reverse logistics is defined as the group of process which have the goal of receiving raw material, semiproduct and products, in purpose to create extra values, or deposition by the rules. The process of reverse logistic relies on the reverse flow of supply chain, so the main chalenges are refer to facilitacion of reverse flow, parallel with the physical flow of distribution. The costs of the reverse logistics are refer to only 4 percent of the chain cost supply (about 40 billion dollars), while the average percent of return 8% (by the subcategory of production, percent are between 5–15%) [3].

While, other research show that 3–15% of all company costs, refers to revers logistic, but the main benefit from the reverse logistic are:

- savings of 20% in the work costs,
- savings of 80% in the transport costs,
- increase of 40% in the profitability of services and
- increase of 76% satisfaction of consumers [17].

“Green“ logistics represent activities of sustainable transport, with the minimal costs and minimal influence to the life environment. Mutual activities, projects, and strategy of reverse and „green“ logistics are directed to decrease total carbon footprint-a [16]. The key areas of influence are:

- safe and sustainable extraction of raw material;
- decrease of use energy, waste from the production and emission of gas;
- decrease of use of the area;
- shipment of return and waste;
- recycling of the package and
- operations of using the old products, materials and reserve parts [9].

According [3], reverse logistics is focused on those material flow, where is still possible to restore certain value, that is including material flow subject into supply chain. „Green“ logistics deals with the optimum use of energy and minimal emission of hazardous materials, during the process of return.

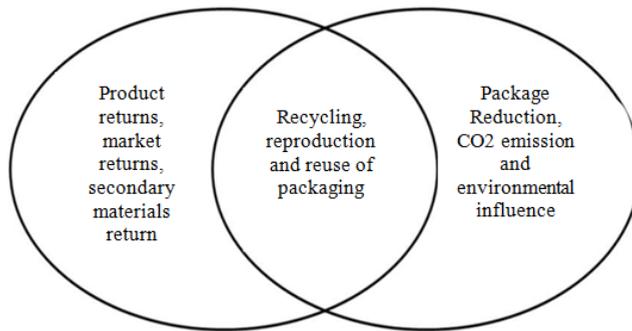
2. THE DIFFERENCE BETWEEN REVERSE AND „GREEN“ LOGISTICS

The most significant difference is that the reverse logistics is concentrated on the save of money and increasing of values by using of material to regain lost profit and for the operative costs. In the green logistics it is about using “friendly” material for the transport and saving the money, but with the accent on the image of a company. [5].

“Green” logistics is concentrated on the questions of transport, recycling and repeted use. In [2] is discussed about that the “green” logistics is focussed on the beginning of process, on the other way on the reverse logistics it is observed like sustainable development of the supply chain. “The main ecological questions in “green” logistics is the consumption of expendable natural resources and, so dangerous, and dangerless waste” [2]. For “green” logistics is often used and the term “ecological” logistics and is defined like “total understanding and minimization of influence logistics to the ecology [8].

These activities are based to measure influence on the life environment, by the decreasing of saving energy and material during the transport.

Recycling, repeted production and recycle packaging is the area where the reverse logistic and green logistic are intersected [7]. While the reverse logistics presents the examination of the waste deposition with the saving of space and the costs of rent (buying) deposition sight. Driver of decrease waste in reverse logistics, are linked with the increased costs of land, complicated regulative, and the economic benefits from the use of raw material in production [8]. Picture 1. is clear illustration of functions and how they treat strategy of reverse and green logistics.



Picture 1: The comparison of reverse logistics and “green” logistics [8]

The company Aberdeen Group conducted the research (2010) which proves that the focus of reverse logistics on the improvement of the last phase of production. This study displayed how is possible to short the deadlines of the operations of recovery and returns, with average seventeen days to the only 4 days. The effects of shorting the operations deadlines would be reflected in the decrease of the costs of repair for the 10%, so in the increasing of pleasure of buyers from the 81% to 93% [3].

Mutual characteristics of companies, which have revealed the most significant improvements, displayed through developed process of recovery and standardized waste material. Recycling and repeated use are the most significant area where the green and reverse logistic are agreed, and one of the most challenging for the many companies. Some companies choose to keep the old product lines in hope that the consumer will show in the chase for the old parts and products, while some else have politics to product which don't sell in the frame of time deadline – to send on the market of secondary material or mark for postponement [9]. Developed countries by recycling the traffic of 160 million dollars and they hire 1,5 million people throughout the world [1].

Case study “Estee Lauder” reveals balanced approach to green and reverse logistics by implementing and mixing the strategy in both way, reverse and direct products. Companies had problems with the products which are excess. The company wanted to decrease waste, also they wanted to decrease costs linked with the space which that wast occupies. The company invested 1.3 million dollars into systems for inventory management which gather and group information. The company succeed to save 500.000 dollars tied for the labour cost which are based on the product strategy designed to limit surplus in product and also to keep open communication channels with the consumers for getting significant backup information. Information are used to establish possibility to develop new product line from the returned cosmetic product, worth about 250 million dollars [6].

For the company which desires to be successful in „the green initiative” would be desirable to leave the trace in the preserve environmental preservation and also to decrease the expenses.

Phillips produces wide assortment electronics for the massive use. Many of their product lines, such as electrical tooth brush, rasers, and bottles for babies must deposit according to strict ecological guidelines which are established for the returned goods. Phillips concluded partnership with Ryder hat, that helped them to attain 80% reuse of materials. In

the Ryder's estimated why the product is returned for reason is the product to put on sale or it is decided to prepare it or deposit. If the product can't be sold again, it is deployed, and the other rest useful pieces are sorted and recycled according the ecological procedures. Ryder's assignment is to improve the largest possible price of returned products, but keeping the green logistic initiative. Some of variables are used to balance strategy reverse and „green“ logistics based on decision making process on the value of the product. The product which is sold for the less 100 dollars in retail, isn't worth fixing". Partnership with the Ryder's, is qualified one object for the management of all returned product lines eliminating the multiple deliveries. Package from all product lines are produced from the recycled paper and card.

3. BALANCE BETWEEN REVERSE AND GREEN LOGISTICS

With the increasing of consciousness of consumers about the effects of green house which contributes climate changes, consumers on the global level demand social responsible and sustainable models of business which can slow down the climate changes. Consumers also want excellent service and the support after purchase. These two areas are often in conflict because demand can influence on the other demand. Nylund's research (2012) compares equipments for the sea – Wartsila's, and producer of furniture – IKEA-u, through their green and reverse logistic initiative. The most significant factor for the company Wartsila is time. The company gives to buyer the possibility of delivery, based on the deadlines which arrange the process of distribution in company. If there is adequate disposal time company will consolidated the shipments and choose “green” transport when it is necessary. If the consumers need reserve parts in curtly time, messenger are accustomed to deliver commodities from the central location, in the shortest possible deadline. In Wartsila's make an effort to use „green“ initiative, important component in the decision making process is tied with the deadline of the product delivery, as much fast and cheap possible. IKEA is managing with the luxury of time, so, the company is dedicated to „green“ transport, which often delays shipments and stops the full capacity of transporter. In the IKEA-i are inventive to design the new pallettes, so as the new containers, which will increase the efficiency of delivery [5].

From Wartsila's reported in their research for the parts for the 30 years for the costs of the warehouse. In reverse logistic there is no process that would be return the value. If the buyer announces that the wrong part is sent, product returns on the shelves, without the evaluation of the product. In Wartsil's are recognized their fight with the reverse logistic management [5].

IKEA has the program for the management of the returned commodity that evaluates the damage and decides i to give back the product on sale, to put in the part for the commodity with the reduced price, or to send on the waste. The IKEA-s model is designed to move products very quickly and to send them from warehouse within six weeks [5].

Wartsila and IKEA both are dedicated to the improvement of their green logistics, but the both have different limitation, organizational goals and expectations of the buyers which are managed by the green strategy launching. In Wartsila's didn't have the formal program of the reverse logistics, but they pointed out to fix this area of business. IKEA has the formal program of the reverse logistics that examines the organizational and ecological influence choosing optimal and feasible to focus the green initiative [5].

The organization must have the real understanding of their product line, from one part to another, during the direct and reverse cycle of product. The understanding of the difference between management of the reverse logistic and the management of the green logistic, will help the organization to visualise how did the decision will impact on the whole organization, also on the consumers. The organizations that develop the sustainable models of profit making can develop score chart variables that affect on the life environment and cost efficiency. The influence on the business must examine from all aspects to avoid bad financial decisions. The transformation from „green“ into „gold“ will only happen in the organizations which have the sophisticated management and experience to develop the new vision, which can find the way to collect the facts and the details which are necessary to start the efficient initiative [9].

4. THE EXEMPLES OF THE SYMBIOSIS OF THE REVERSE AND „GREEN“ LOGISTICS IN THE COMPANIES

In the company „McDonald’s” activities of covectio deposit waste – empty package and bottle – called „garbage control”. Every employee from this company each day collects empty and used packages, which are thrown or dropped in the area of a restaurant. The staff of the company’s restaurant organizes competitions „Litter patrols”. In those actions participate young people that live nearby to protect the environment. This company This company outlines the organization of a competition at shool’s in collecting of thrown bottles under the name „With respect to the environment”. The millions of people took part in this actions. The newest shares of the british franchise “Mcdonalds” company, in this area of waste treatment, signifies the following:

- Designing smarter – The size has been reduced on the plates for the 10 centimetres, that gave the results of by saving of the 84 tons of paper;
- The system of delivery Soca-Sole” in the polietilen ambalage – „Bag in Box” system, and delivery of ketchup in the plastic bottles of 5 litres, that reduces waste for the 25 percent;
- The use of straw for the soda, that contains 20percent less plastic mass, that enables their faster demolishing and easier recycling;
- Department for the our fleet of vehicles – Biodizel is made with the help of used cooking oil, serves as fuel tour fleet of trucks. The savings in the emission of CO2 will be equal to the removal of the 2424 automobils from roads and
- Creating the energy from waste. „McDonald’s“ restaurants in Sheffield moves their waste to the facility for the waste treatment, rather than landfill sight. The energy that is produced in the landfill, warms the local buildings, including the building of the commune Šefild [10].

These are not the unique examples in the large world company’s. Moreover, the good examples of the treatment waste can find in the:

- Burger King – In the U Burger King restaurants, acquires over 32.000 tons of the recycled paper annually. The all napkins are used in these restaurants, across the whole USA, made from 100 percent recycled material. [11];
- PepsiCo- During the last five years, they reduced packages of their products for over 158.900 tons, on that way they overcome preliminary goals for the 20 percent.

Reducing the weight of the package, which is accomplished in PepsiCo company, is equal to the removing over the 95 tons of material for packages every day, during the period of the five years [12] and

- Walmart – company Walmart reduced the waste in the USA, for over than 80 percent, causing the return over 231 million dollars last year. This reduction enclosed Walmart to a goal „zero waste“ –, which has the potential to force 11.8 million metric tones of CO₂ emission per year [13].

5. CONCLUSION

Consideration of activities reverse and „green“ logistic, on the strategic level, remarks the longterm effects of the business decisions on the right way. In [8] are identified the main ways of using the strategy of reverse and „green“ logistics, over the:

- Decrease of the influence of competition;
- Effective channels of distribution;
- Solving the problem of waste deposition and
- New added value.

In this work is presented a few examples of the successful maximization of using the strategy of reverse logistic and „green“ logistics. As the key characteristic of these strategies is the proactivity in approach, but the identification of new chances for development in the area of reverse and „green“ logistic povratne i „zelene“ logistike se, as the products of the zero value, is removing slowly from use, because companies perceive large reserves in waste that they dispose everyday. This also the main goal of this work, to find out ways for the exploiting of these reserves. „Green“ logistics promotes the insurance of safe future of the company and life environment, with aspiration for the elimination of the waste, as with full lean management concept [14].

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