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## **HOW NETWORKS MODERATE RETURN ON SALES IN A LOGISTICS ENTERPRISE - CASE STUDY OF UPS**

### **Abstract:**

The paper addresses the problem of the moderation role of networks in the area of return on sales, indicating its impact on effectiveness of the process of management in a logistics enterprise. The whole discussion presented in the paper was divided into two main parts. The first part of the paper presents planes of profitability of an enterprise operating in a network. The next, second part of the paper is a result of empirical studies providing the answer to the research question. The aim of the paper is to identify and assess the relationships between the moderation role of networks and return on sales in a logistics enterprise. In order to answer the research question, the results of empirical studies based on a case study were presented. The conclusions from the studies suggest that an enterprise cooperating in a network moderates return on sales of the different products and services provided by network participants. Through this paper we would like to contribute to discussion on the extent to which network enterprises should moderate return on sales in order to stay on saturated markets. The research methods applied to achieve the aim are literature studies, case study, trend analysis and analysis of return on sales. The issues of the moderation role of networks in the area of return on sales are important and topical due to their impact on effectiveness of management of network enterprises.

### **Keywords:**

management, network enterprises, logistics

**JEL Classification:** M21

## Introduction

Diversity of views regarding the phenomenon of business networks is a result of different interpretations in literature sources (Czakon, Klimas, 2014, p. 133-158, Dhanaraj, Parkhe, 2006, p. 659 - 669). In scientific literature, business networks are interpreted on the one hand as "long-term, intentional arrangements between separate but related profit-oriented organisations which allow the companies in the network to achieve or maintain competitive advantage over competitors outside of the network" (Jarillo, 1988, p. 32). On the other hand, business networks are self-organising structures without objectives and clear borders, which evolve in a dynamic way and are regarded as open systems of business and social relations or as closed systems of companies and relations between them (Niemczyk, 2013, p. 35).

A business network consists of independent, but related, members e.g. enterprises forming the network (Czakon, 2014, 135-148). Network participants can possess their own or common business models within the network and make their own decisions. At the level of a network, there is not a single centralised mechanism for control or change that is used to achieve a specific behaviour. Interdependence between participants, direct or indirect one, impacts the development of relationships in a network (Lachiewicz, Zakrzewska-Bielawska, 2012 p. 37).

The most important position in a network is held by the central enterprise, which is stronger than the cooperating enterprises. In practice, it is business needs of the customers of enterprises cooperating in a network that impact the decision made by network members to start business cooperation (Niemczyk, Stańczyk-Hugiet, Jasiński, 2012, p. 27). These needs are based on previous experience of network participants, interpretation of the current business situation and vision of the future (Sałek, 2014, p. 244). Over time, network participants, operating collaterally, find out, through mutual interactions, behaviour and motivation of the other members, adjusting appropriately their conduct and developing a network approach (Ciesielski, 2013, p. 7). The process of the development of a business network may support its renewal and create new objectives or functions for the network.

Piloting the development of business networks is a challenge for management (Skowron-Grabowska, 2015. p. 361). This means that an immanent characteristic of management is implementation of objectives and achievement of planned effects (Krupski, Niemczyk, Stańczyk-Hugiet, 2009, p. 167; Romanowska 2004, p. 30; Griffin, 2012, p. 244; Obłój 2007, pp. 60-123; Nogalski, 2009, p. 7). The paper highlights in the counterpoint that achievement of target effectiveness requires taking a range of managerial decisions using reliable information (Akerlof, 1970, pp. 488-500), based on which the course of economic processes can be evaluated (Sudoł, 2011, p. 112; Koźmiński, 2011, pp. 123-124). Financial reports are a source of information about the results of business activity of economic entities. An important instrument for processing information from financial reports are relative numbers referred to in literature as "indicators" (Borowiecki, 1989, p. 60) that enable interpretation of specific

economic values at the different levels of an enterprise's functioning. Therefore, the key research question is: do business networks moderate return on sales in an enterprise? As a consequence of this question, the aim of the paper is to identify and assess the relationships between the moderation role of networks and return on sales in a logistics enterprise. The research methods applied to achieve the aim are: mainly literature studies, case study, trend analysis and return on sales. The choice of profitability indicators for presentation of management effectiveness was based on information capacity of these parameters (Stachowicz and others 2002, pp. 289-290). Profitability indicators (Kościelniak, 2008., p. 46; Bednarski, 2005, p. 72) characterise organisational and financial phenomena in analysed enterprises and represent an effective research tool that enables parametrisation of information channels. Literature distinguishes a number of profitability indicators that provide various information on profitability of an enterprise (Czubakowska, Gabrusewicz, Nowak, 2006, p. 227). Taking into account the information capacity and decision-making aspect of profitability indicators, the paper will focus only on Return On Sales (RoS) indicator.

### **Areas of profitability of an enterprise cooperating in a network**

Literature distinguishes two main levels of the modern financial analysis: temporal and subject-related ones (Wojas, 2005, p. 263). The temporal level can be both retrospective (*ex post*) and prospective (*ex ante*) in nature. Retrospective analysis is based on information from the past, enabling evaluation of the situation of an entity and its financial results obtained as a result of these events. Prospective analysis allows future events to be forecast within the area of the business conducted, is a basis for taking decisions regarding future events and makes it possible to draw conclusions to improve future activity of an enterprise (Kadłubek., Kott, Skibińska, Szczepanik, 2016, p. 7). The subject-related level of financial analysis focuses on the assets, financial result and financial liquidity. It refers to interpretation of obtained information created as part of accounting, which as a result leads to evaluation of the scope of the activity of an enterprise. The temporal and subject scopes enable distinction of current, problem and periodical analyses. Current analysis involves examination of current records and short term reports. By means of current analysis, it is possible to systematically eliminate irregularities in the activity of an enterprise as they arise and react to them, taking corrective measures. Problem analysis refers to specific issues that arise during activity (Skowron-Grabowska, Sukiennik, Grondys, Jasiński, 2016, p. 20). It is conducted at any time depending on the situation that requires conducting the analysis. Periodical analysis focuses on examination of annual reports drawn up at the end of every financial year. It is conducted to evaluate the activity of a company and effectiveness of the management system in the context of a financial year.

For evaluation of business activity carried out by enterprises, indicators-based analysis is used apart from analysis of financial reports (Cebrowska, 2006, pp. 690-

693). Indicators-based analysis is an extension of the preliminary analysis of financial reports. An instrument for this analysis are indicators, which express relations of appropriate values contained in a balance sheet, profit and loss account, cash flow statement and a statement of changes in equity (Bednarski, 2007, p. 77). Financial indicators are a parameter of the flow of values in an enterprise and a medium of information for various groups of recipients (Kowalczyk, Kusak, 2006, p. 1).

An important indicator from the perspective of the aim of this paper is Return on Sales (ROS) (Sierpinska, Jachna, 2005, p. 197) *which informs how much* net profit is per one zloty of completed sales. The higher the value of the indicator, the more profitable the sales. The upward trend of a profitability indicator in an enterprise indicates an increase in generated financial surplus. Proper interpretation of obtained results makes it possible to solve practical problems that occur in an enterprise (Nowak 2003, p. 82). The fast pace and quality of obtained information determines effectiveness of management of an enterprise and allows it to make proper managerial decisions.

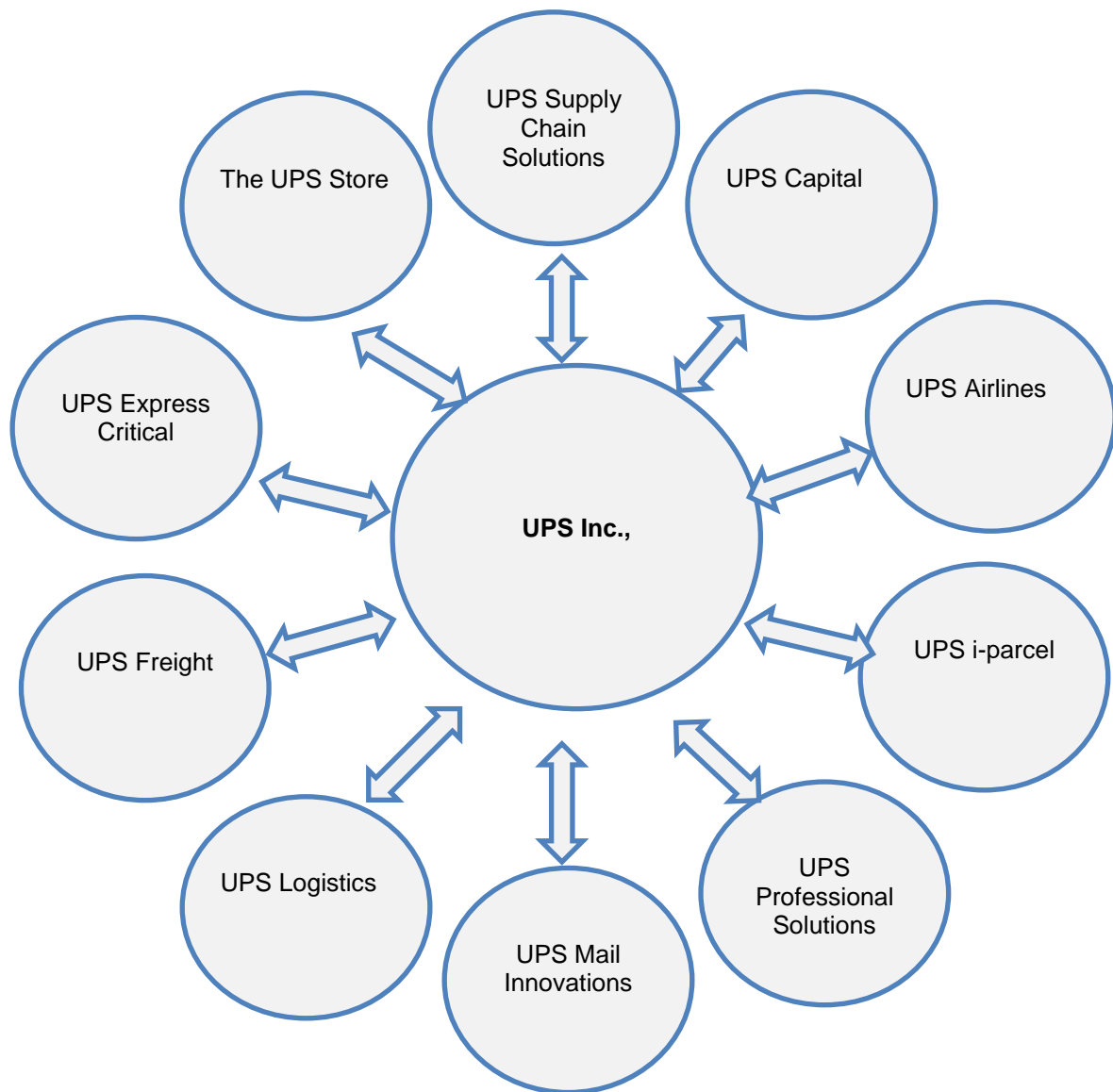
In this context, the strategic aim of an enterprise cooperating in a business network, i.e. maintaining its position on a competitive market, and maximisation of profit define the directions of its future activity as well as the need for joint developmental activities of a network at the strategic, tactical and operational levels (Magretta, 2002, p. 92). On the other hand, common strategic objectives of enterprises cooperating in a business network create a social context that shapes values, behavioural norms and expectations of a network's participants (Amit, Zott, 2012, pp. 40-50).

### **Evaluation of sales profitability of an enterprise cooperating in a network - results of empirical studies**

Empirical studies were conducted based on purposive sampling using financial information of the enterprise United Parcel Service Inc., (UPS) published on websites NASDAQ of the logistics sector in the USA (<http://www.nasdaq.com/symbol/ups>). United Parcel Service Inc. is a global logistics services network dealing with transportation of shipments, with the most recognised brand worldwide. UPS Inc., provides logistics, transportation and financial services in over 200 countries worldwide. UPS Inc. has a fleet of a hundred thousand vehicles for transportation of packages and a fleet of jet and charter planes serving key hub airports worldwide. Figure 1 presents subsidiaries of United Parcel Service, Inc.

The enterprise UPS Inc., (fig. 1) provides logistics and distribution services of transport and freight by air, sea, rail and road to 195 countries worldwide. UPS Inc., also provides specialised services in logistics of service parts, technical repairs, supply chain design and planning as well as return management; it also offers less-than-truckload logistics services delivered across the USA. United Parcel Service, Inc., has a global telecommunications network with three thousand websites, visited daily by over 29 million users. UPS Inc. also offers a service of daily on-line monitoring of supply chain to specific customers.

**Fig. 1. Subsidiaries of United Parcel Service, Inc.**



Source: own work based on data: [www.nasdaq.com/symbol/ups](http://www.nasdaq.com/symbol/ups)

The latest business solution implemented by UPS Inc., is delivery of shipments taking into account the natural environment. UPS Inc., delivers shipments following the principles of sustainable development. Another business trend implemented currently by UPS Inc., is digital access to resources via a website for mobile devices (such as smartphones) available from any place. This service is available to all customers of UPS Inc., who possess a data transmission service. UPS Inc., also delivers return shipments.

In the conditions of strong competition on the market of logistics services, UPS Inc., by creating a global supply chain, focuses on implementation of innovative technological solutions to meet individual needs of its customers. The enterprise analysed uses an extensive network of cooperators. In order to maintain a favourable market position,

UPS Inc., uses branding, as a valued brand not only attracts customers but also makes them more loyal to the company, which is conducive to long-term cooperation.

For identification and assessment of the relationships between the moderation role of a network and sales profitability in UPS Inc., a trend line of revenue, operational costs and operating profits over the years 2007-2015 were analysed. Examination of the level of operating revenue in United Parcel Service, Inc., reveals a 3% increase in the level of operating revenue in 2008. In 2009 United Parcel Service, Inc., felt the effects of the crisis manifested in the decreased level of operating revenue by 12%. Between 2010 and 2015, UPS Inc. made a decision to gradually rebuild its market position, which was reflected in an increase in the level of operating revenue in this period by 17%.

Analysis of operational costs in United Parcel Service, Inc. shows that the trend of operational costs is comparable to the trend of operating revenue. It can be concluded that UPS Inc. predicted the crisis phenomena, as the years 2007-2009 saw a systematic decrease in the level of costs. In the following years of the period analysed United Parcel Service, Inc. increased the level of incurred operational costs. However, in 2012 the level of operational costs was only 2% lower than generated revenue, which had a significant impact on the financial result in this period. In 2013, the company applied a strict control of operational costs, reducing their level by 9%, and in 2014 (in a better economic situation) the level of operational costs was equal to that in 2012. In 2015, the level of operational costs was again significantly reduced. Level of revenue, operational costs and operating profit of UPS Inc. has been presented in table 1.

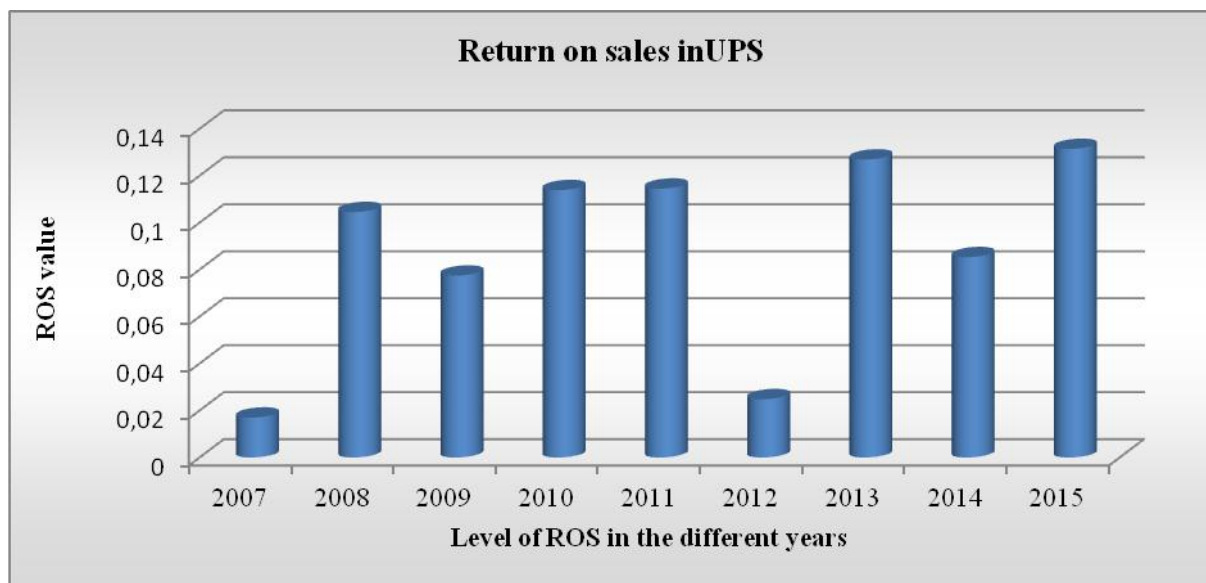
Table 1. Level of revenue, operational costs and operating profit of UPS Inc. between 2007 and 2014

<b>United Parcel Service, Inc.,</b>	Total revenue (in mln \$)	Operational costs (in mln \$)	Operating profit (in mln \$)
<b>2007</b>	49962	49114	<b>848</b>
<b>2008</b>	51486	46104	<b>5382</b>
<b>2009</b>	45297	41789	<b>3508</b>
<b>2010</b>	49545	43904	<b>5641</b>
<b>2011</b>	53105	47205	<b>6080</b>
<b>2012</b>	54127	52784	<b>1343</b>
<b>2013</b>	55438	48404	<b>7034</b>
<b>2014</b>	58232	53264	<b>4968</b>
<b>2015</b>	58363	50695	<b>7668</b>

Source: own work based on data: [www.nasdaq.com/symbol/ups](http://www.nasdaq.com/symbol/ups)

Analysis of the level of operating profit in the enterprise United Parcel Service, Inc. shows an interesting tendency. The level of operating profit over the years 2007-2008 shows an increase caused by both increased sales and reduction of operational costs. The year 2009 saw a decrease in the level of operating profit. What's interesting, there was a slowdown in the sales in the period analysed, therefore UPS Inc. applied a strict control of costs reducing their level by 10% compared to 2008. In the following years (2009-2011) United Parcel Service, Inc. increased the level of generated operating profit. In 2012, there was a significant decrease in the level of operating profit caused by 12% growth of operational costs with 2% increase in sales. The year 2013 brought improvement in the level of operating profit thanks to another reduction of operational costs. The year 2014 saw a decrease in the level of operating profit caused by a faster increase in costs than revenue, but in 2015 there was another significant increase in operating profit. The return on sales from operational activity in United Parcel Service, Inc. over the years 2007-2015 has been illustrated in diagram 1.

Diagram 1. Level of return on sales from the operational activity in the enterprise United Parcel Service over the years 2007-2015.



Source: own work based on the data: [www.nasdaq.com/symbol/ups](http://www.nasdaq.com/symbol/ups)

In the second stage, the empirical studies of the moderation role of a network in the area of sales profitability focus on analysis using the ROS indicator in the enterprise United Parcel Service, Inc. ROS indicators provided information about retrospective decision-making processes, being at the same time a basis for forecasting the level of revenue and future directions of development. The studies show that the basic decision-making parameter impacting the level of sales profitability in the enterprise United Parcel Service, Inc. is the level of operating revenue and strict cost discipline.

In order to assess the business network of United Parcel Service, Inc., which is

functioning in a global network of logistics services, based on results of Pearson linear correlation, the main components of the decision-making process can be distinguished. Analysis of the business model presented by UPS Inc. shows that the priority is to build the leader position in the market segment analysed, which is confirmed by the line trend of operating revenue. The business network of UPS Inc. is proactive; it is characterised by strict control of operational costs and implementation of activities aimed at adaptation to phenomena occurring in the external environment, which leads to increased competitiveness in a given market segment. The studies show that an important decision-making area in UPS Inc. is sales policy, which is based both on quality and the number of sold services, which should ensure maintenance of competitive advantage. UPS Inc. represents a proactive model of a business network focused on forecasting market trends and creation of a special value for the customer achieved through the quality of offered products.

## Summary

The basic dimension of the effectiveness of managing a network enterprise is profitability determined by means of profitability indicators. Studies of profitability provide information about retrospective decision making processes, and at the same time they are a basis for conscious planning of the volume of production and sales as well as future directions of the development. The aim of the paper was to identify and assess the relationships between the moderation role of networks and return on sales in a logistics enterprise. The research methods used for the implementation of the aim were literature studies, trend analysis, return on sales indicators and a case study. Although a research process conducted using a case study is limited by small representativeness of results, it enables presentation of an in-depth picture of examined phenomena and relations (Czakon 2015, pp. 189–209).

Studies show that RoS provides a wide range of information that can be used to analyse decision making processes in a network enterprise. A clear implication from the theoretical and empirical assumptions of the case study presented in the paper is that strong competition on the market of logistics services and technological progress increase the importance of measurement at the different levels of profitability. The main contribution of the paper is insight into the business model of a logistics enterprise cooperating in a network, with a particular emphasis on qualitative conditions of the information about the network environment and the pace and accuracy of decisions made. The study supports the current view that maintenance of the leader position on the market of logistics services by UPS requires choosing appropriate instruments of modern management. Moreover, decisions made both at the strategic and operational levels are reflected in the financial results of the enterprise analysed. The following conclusions result from the studies:

- examination of the revenue trend line and operational costs over the years 2007-2014 showed that there were feedbacks between these parameters in the



- enterprise analysed. UPC highlights the goal of maintaining a long-term position of a market leader, not focusing on profit maximisation,
- an important parameter impacting the model of a business network in the enterprise analysed is return on sales, as it implicates effectiveness of the whole network and enables development of decision-making variants necessary for effective management of enterprises within the UPS network.

A recommendation for the enterprise analysed is to implement innovative solutions and products that will allow effective decisions to be made in order to improve effectiveness of the cooperation in the network. Due to the multiple aspects of the issues of the business model of a network enterprise, part of the discussion in the paper was presented in a general way, which on the one hand made it possible to show the complexity of the issues addressed while on the other hand - it inspires further studies and exploration.

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