

# OUTSOURCING AS AN INNOVATIVE APPROACH TO LOGISTICS SERVICES OF WAREHOUSING: A CASE STUDY

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## Abstract

Outsourcing is all over the world mainly used as a tool of strategic management, namely as a tool for optimizing enterprise resource consumption during orientation on basic strategic objectives of the company. Logistics services especially warehousing are among the most outsourced field in the last few decades. The use of outsourcing in the automotive industry will be presented on the real case study which is the method of the qualitative research based on the study of one or a small amount of situations for application of the findings for the similar cases. The case study is focused on logistic outsourcing between the logistics service provider and producer of automotive seats. This article deals with the detailed layout analysis of integrating the logistics service providers to the warehousing, material manipulation and material checking and moreover integrating the providers to pre-fabricated operations of sticking the car seats heating systems. The article is based on the research of world literature, interviews with managers and analyses of internal data of the companies. Using the outsourcing for logistics operations and pre-fabricated operations of car seats heaters the costs will be reduced.

**Key words:** logistic outsourcing, logistics services, warehousing, cost calculation

**JEL Code:** M11, M21, L23

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## Introduction

Outsourcing is used worldwide mainly as one of the tools for strategic company management, particularly as a tool for an optimization of enterprise resources consumption while focusing on basic strategic aims of the enterprise.

Logistics outsourcing represents entrusting control over warehousing and shipping services to a specialized enterprise. The specialized enterprise provides the logistics processes with a higher value by the long-term evolution of know-how and technologies whereas arranging services from the own resources is time-consuming and it draws financial means and human capacity.

Arranging services with the use of outsourcing is a trend becoming more popular all over the world. Using the outsourcing mostly ensures the lower costs of arranging the specialized process. Within the standard outsourcing operations there should be regular milestones included in the operating plan which serve as an evaluation of the current outsourcing. Within those milestones a decision should be made whether it is suitable and profitable to continue in using the outsourcing method. Outsourcing itself is a relatively complex operation for which it is necessary to be prepared.

Fully integrated logistics systems including the product distribution, production planning and support and raw materials purchase are currently developing. The business practices are becoming increasingly interested in the processing the long-term logistic concept and it is mainly caused by the sustained growth of complexity of logistics operations to which the workforce is exposed.

In the last decades the enterprises have been trying to reduce the logistics costs. The term warehousing is closely related to the logistics and distribution. Regarding the logistics chain the warehousing is one of the most important and hardly omitted operations.

This article deals with the detailed layout analysis of integrating the logistics service providers to the warehousing, material manipulation and material checking and moreover integrating the providers to pre-fabricated operations of sticking the car seats heating systems. By that it is possible to create synergic effects in the entire production-logistic chain. The paper also shows the advantages and disadvantages of outsourcing logistics services of warehousing between the logistics enterprise and the manufacturer of automotive parts.

## **1 Theoretical background and methodology**

Dolgui & Proth (2013) defined outsourcing as the act of obtaining semi-finished products, finished products or services from an outside company if these activities were traditionally performed internally. The expression "product" may be replaced by "service".

The application of the outsourcing especially in the logistic chain has these pros according to Armalyte, Subramanian & Gunasekaran (2013), Dolgui & Proth (2013) and Vaxevanou & Konstantopoulos (2015): cost saving, which requires choosing a vendor that performs the outsourced function more efficiently than a buyer could; staff reducing or minimise the fluctuations in staffing due to changes in demands; employees can concentrate on core activities; companies gain a benefit by taking the advantage of outsourcing non-core activities; the companies achieve a greater financial flexibility by selling assets that were

formerly used in the outsourced activity in order to improve company's cash flow; the companies gain the access to external skills and technologies etc.

Lacity, Solomon, Yan, & Willcocks (2011) stated based on own research that the main reasons for using of outsourcing strategy there are: costs reducing, focusing on core capabilities and injecting client firms with supplier resources such as skills and expertise to improve client's business process performance, scalability and delivery speed. This information is in accordance with finding of Qiuping, Cunzhi & Zhixiang (2013) but they emphasized the needed high level of collaboration between participating partners.

Dolgui & Proth (2013, p. 6774) presented these cons of using an outsourcing strategy: a dilemma of the competition, a loss of initiative by the buyer, a migration of production and services to the vendor's country and the possibility of the harmful aspect of the offshore outsourcing strategy. The most mentioned is the dilemma of the competition that is based on the assumption that the buyer has to provide the internal information, know-how and data to the vendor. This problem described Dolgui & Proth (2013); Chen, Dubey & Sen (2011); Rieple & Helm (2008) and Choi & Choi (2013). If the buyer does not provide any necessary information the collaboration between the buyer and the vendor will not be successful. From the other perspective there is a very big risk for the buyer if the vendor takes an advantage for themselves or for other competitors on the market. Vaxevanou & Konstantopoulos (2015) add that both cooperating sides may have conflicting interests because the external vendor may have another aims for example maximising own benefits and profitability.

Elmuti, Kathawala & Monippallil (1998) defined the basic idea of outsourcing which must be respected by both cooperation sides. If this basic assumption is not followed there is a very big risk of this cooperation. The key of successful outsourcing is the philosophy that the buyer (company) is a partner with the supplier (vendor). This relation can operate only in compliance with the high level of cooperation, collaboration and exchanging of information. Both cooperation partners must trust to each other. Otherwise this relation cannot work and both cooperation partners will not use any advantages from the synergistic effect.

Tusa, Eikelmann & Stomberg (2004) and Gürler & Büyükkaramikli (2014) reported that the major operations of the supply chains are the inventory and warehouse management and the transportation. The most outsourced activities are freight forwarding, the warehouse management, consolidation centres, direct transportation services, the inventory management, in-store logistics, delivery services and reverse logistics. The current trend in outsourcing is exclusion not only the logistics production activities but companies detach preproduction and postproduction activities, too.

The quantitative comparative analysis will be used for comparison between the present situation and proposal solution. Beerepoot & Lambregts (2015) have used this scientific method for example for research of the outsourcing services in online job marketplaces. A quantitative comparative analysis is based on the comparison between at least two states and it uses some quantitative indexes most often key performance indicators. The use of outsourcing in the automotive industry will be presented on the real case study which is the method of the qualitative research based on the study of one or a small amount of situations for application of the findings for the similar cases according to Nielsen, Mitchell, and Nørreklit (2015).

## **2 Case Study**

The case study is focused on logistic outsourcing between the logistics service provider (Ewals Cargo Care, hereinafter ECC) and producer of automotive seats (Johnson Controls Automotive Parts, hereinafter JCA). ECC is a transport-logistic company which has been on the market for more than 100 years. It provides services mainly for its customers from the field of the car, electro-technical, paper and packaging industry or for the producers and distributors of consumer electronics. Except for the transport services, ECC offers its customers also subsequent services in the field of logistics. The term "logistics with the added value" represents operations related to the management of logistics processes with the method of outsourcing. In this case the logistics services provider arranges all processes from the material flow into the manufacturing plant to the expedition of finished products.

ECC workplaces located in the residences of the most prominent partners function as the components allowing an immediate reaction on the customer needs. Those workplaces closely cooperate with the central dispatching department and apart from other operations they secure the delivery coordination with suppliers or the packaging management. The advantage of this type of outsourcing consists in the connection of three components: purchase, production and logistics. This is the reason for increasing improvement of the quality of customer service and efficiency of logistics services. The system is striving for closer connections of suppliers and customers.

The second subject involved is the enterprise, which is concerned with car seats manufacturing for a few of the most prominent car producers, called Johnson Controls Automotive Parts hereinafter JCA.

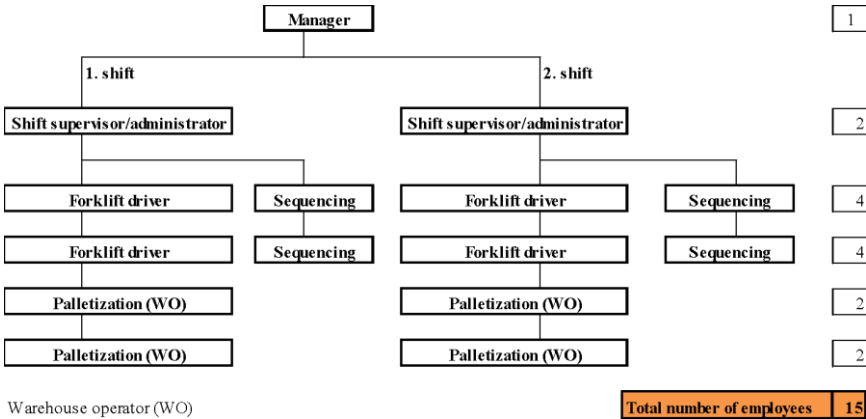
The ECC enterprise was made a demand on a potential cooperation and outsourcing not only the logistic services but also outsourcing the pre-fabricated operations of sticking the car seats heaters. The JCA enterprise expects the outsourcing to ensure closer attaching the logistics services provider and by that the creation of a synergic effect would be enabled. It is mainly about reducing the administrative demands, more efficient information and material flow in the entire logistics chain and lastly cutting the costs.

For the purpose of collecting and evaluating data and with regard to the pre-fabricated operations of sticking the car seats heaters, a visit of another JCA plant was realized. The article is focused on assessing several possible models of cooperation between logistics services providers and automotive manufacturers.

**2.1 Labour force requirements in the case of the existing level of outsourcing**

According to the hitherto used cooperation model of involved subjects, ECC enterprise provides outsourcing to ensure the warehouse functioning without any problems. The number of operators necessary and the entire organizational chart is depicted in the figure 1. The total number of employees was calculated to 15 persons in the two-shift operation.

**Fig. 1: Labour force requirements – logistics service provider ECC**



Source: Authors

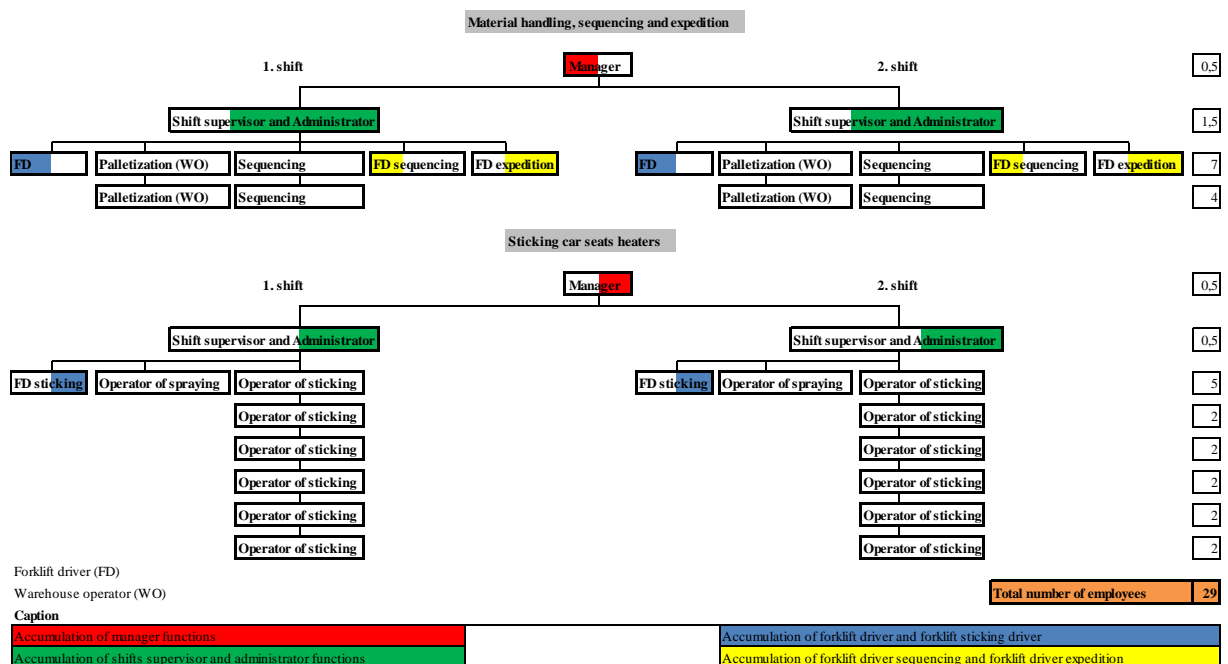
On the basis of collecting data and information from another JCA plant the number of operators in the workplace for sticking the car seats heaters was determined. The clearly demonstrated organization chart of work positions in JCA is depicted in the figure 2. The total number of employees needed for the position of sticking the car seats heaters was calculated to 20 persons in the two-shift operation.



## 2.2 Labour force requirements in the case of ECC involvement into pre-fabricated operations of sticking the car seats heaters

The article deals with the outsourcing not only the warehousing in logistics services but also pre-fabricated operations of sticking the car seats heaters. On the basis of the previous visit and monitoring the operators in another JCA plant, the accumulation of the individual work positions is proposed: manager, forklift drivers and administrators. Thus conceived outsourcing brings the final synergic effect. The figure 4 demonstrates the new organization chart of personnel filling the logistics operations and filling the workplaces of sticking the car seats heaters. The number of operators necessary for the processes can be reduced from 35 to 29 workers due to the outsourcing of logistics services and pre-fabricated operations of sticking the car seats heaters. The required handling technology will be also reduced, more precisely a change in the structure of vehicle fleet of forklift trucks will be done.

**Fig. 4: Labour force requirements – ECC involvement into JCA pre-fabricated operations**



Source: Authors

The figure 5 depicts calculations of logistics warehousing costs and costs of operations of sticking the car seats heaters. Using the outsourcing method for logistics operations and pre-fabricated operations of car seats heaters the costs will be reduced. Personnel costs, costs of the structure of forklift trucks and management costs will also be reduced. Involving the ECC into the outsourcing, the total costs saving will be CZK 2.9 million a year.

**Fig. 5: Comparison of the two models of outsourcing – total costs**

Costs according to the standard model of cooperation				Costs for participation ECC in the pre-fabricated operations			
<b>Material handling, sequencing, expedition ECC</b>				<b>Material handling, sequencing, expedition ECC</b>			
			Total / month				Total / month
1. Forklift	Total forklift day/month	3 31	58,590 CZK	1. Forklift	Total forklift day/month	4 31	70,590 CZK
2. Staff	Number of employees	15	478,205 CZK	2. Staff	Number of employees	13	393,666 CZK
3. Other costs				3. Other costs			
Management fee			5,000 CZK	Management fee			5,000 CZK
Telecommunications			1,000 CZK	Telecommunications			1,000 CZK
Warehousing costs			270,045 CZK	Warehousing costs			270,045 CZK
Energy (without profit)			29,813 CZK	Energy (without profit)			29,813 CZK
Operating costs			5,000 CZK	Operating costs			5,000 CZK
Labels			2,000 CZK	Labels			2,000 CZK
Start - up costs 1/2			8,000 CZK	Start - up costs 1/2			8,000 CZK
Total costs + profit			<b>857,653 CZK</b>	Total costs + profit			<b>785,114 CZK</b>
<b>Sticking car seats heaters - JCA</b>				<b>Sticking car seats heaters - ECC</b>			
			Total / month				Total / month
1. Forklift	Total forklift day/month	2 31	34,348 CZK	1. Forklift	Total forklift day/month	1 31	10,106 CZK
2. Staff	Number of employees	20	730,766 CZK	2. Staff	Number of employees	16	580,680 CZK
3. Other costs				3. Other costs			
Management fee			0 CZK	Management fee			5,000 CZK
Telecommunications			1,000 CZK	Telecommunications			1,000 CZK
Protective devices			14,000 CZK	Protective devices			14,000 CZK
Operating costs			10,000 CZK	Operating costs			10,000 CZK
Postage			0 CZK	Postage			0 CZK
Start - up costs 1/2			8,000 CZK	Start - up costs 1/2			8,000 CZK
Total costs + profit			<b>798,114 CZK</b>	Total costs + profit			<b>628,786 CZK</b>
Total costs based on the standard model (per month)			<b>1,655,768 CZK</b>	Total costs based on the new model (per month)			<b>1,413,900 CZK</b>

Source: Authors

## Conclusion

One of the main advantages of outsourcing is the potential costs reduction in both cooperating enterprises. The next advantages of outsourcing the logistics services but also other subsequent services are reducing the administrative complexity, accelerating the information and material flow in the entire logistics chain and lastly reducing management costs. However, outsourcing can bring also some disadvantages like excessive attachment of the logistic services provider to a manufacturing company, loss of know-how, risk of confidential information leakage or the loss of control over the entire manufacturing process of car seats. Thus the long-term cooperation and trust is important for both subjects.

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