

*Robert Rogaczewski**
*Mariusz Wojciechowski***

AUDIT OF LOGISTIC PROCESSES AS AN ELEMENT OF BUSINESS COOPERATION OF AUTOMOTIVE INDUSTRY ENTERPRISES

A b s t r a c t: The audit of logistic processes is an important element of modern management of international enterprises. It is a mechanism that verifies the quality of processes carried out in an enterprise. The audit is a kind of confirmation of the requirements that business partners expect and which must be met in order to be able to establish business cooperation. The article has a theoretical and empirical character and is an introduction to the presented problem, requiring further in-depth research. The article is a case study analysing a logistics audit that was carried out in an automotive industry enterprise.

K e y w o r d s: logistic audit, business cooperation, automotive industry enterprise.

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INTRODUCTION

Modern enterprises compete with one another with modern logistics in order to be able to achieve a competitive advantage. A particularly important role in the cooperation of enterprises, suppliers and recipients in the automotive industry is played by audits of logistic processes, which constitute an important element of business cooperation. Logistic audit is undoubtedly a systematic and independent control enabling the diagnosis of the enterprise's logistics system. The aim of these considerations is to indicate the importance and the essence of the logistics audit as an element of proper implementation of logistics processes

* Adres do korespondencji: Robert Rogaczewski, Państwowa Wyższa Szkoła Zawodowa w Koninie, Wydział Nauk Ekonomicznych i Technicznych, ul. Kardynała Stefana Wyszyńskiego 35, 62-510 Konin, e-mail: r.rogaczewski@gmail.com

** AMZ-KUTNO S.A.

on the example of the automotive industry. The article has a theoretical and empirical character and is an introduction to the presented problem, requiring further in-depth research.

1. SYNERGISTIC EFFECT IN THE COOPERATION OF THE AUTOMOTIVE INDUSTRY ENTERPRISES

In today's business, one of the key factors that affect the shaping of competitive advantage is to acquire the ability to interact with enterprises operating on markets within international supply chains. Focusing on significant business areas and establishing or developing existing relationships with suppliers or customers is an important aspect in today's economy. More and more often, enterprises compete with one another using modern methods (lean and agile management) and enter into numerous interactions with other business entities.

The concept of cooperation and collaboration (often referred to as a synergy effect) between suppliers and clients is particularly important, which results in a better cooperation and achieving a competitive advantage in individual areas of business operations. This cooperation usually leads to the formation of logistic partnership which results in better "movement" of enterprises on the markets and meeting needs.

Building and maintaining business relationships that connect independent enterprises is an important research area these days. The integration and internationalization of enterprises has become the reason for more frequent reflection on this subject. Detailed components of business ties, which include, for instance trust or commitment, improve the effectiveness of cooperation and affect the reduction of transaction costs [Małys and others, 2016, p. 125].

The cooperation of enterprises in the automotive industry plays a particularly important role. In order this cooperation could be executed on the basis of the close cooperation, logistic audits are usually carried out to confirm the effectiveness of logistic management in the enterprise, by verifying the current situation in the enterprise and, if significant deviations are detected, making appropriate changes to improve the current situation and to meet the expectations of the auditing company.

2. LOGISTICS AUDIT AS PART OF THE PROPER IMPLEMENTATION OF LOGISTICS PROCESSES

Independent (external) adjudication concerning meeting of the internal quality requirements is possible due to different standards and concepts and is called certification. The preconditions in this respect are quality management,

quality book, specialized employees' trainings and external control of the quality management system referred to as an audit.

In addition to standard procedures to confirm that the company meets certain quality and environmental requirements, logistic audits are required to determine the collaboration between the parties. This allows a thorough analysis of the situation and identification of key problems in a given area and indicate possible corrective actions. The audit performs a kind of function supporting the activities of organizational units of the company and is an independent and objective activity, which is aimed at assessing a given area of the company's operations [Pająk, 2008, p. 70]. The undertaken audit objectives are related to the expectations of the audited client and depend on the feasibility of the research project. The purpose of the audit may be to verify whether there are unusual phenomena in the area of a given problem, while if the audit is to illustrate a complete and comprehensive diagnosis of the situation, the purpose of the audit is to detect errors, assess their relevance and formulate improvement hypotheses [Pająk, 2008, p. 70-71].

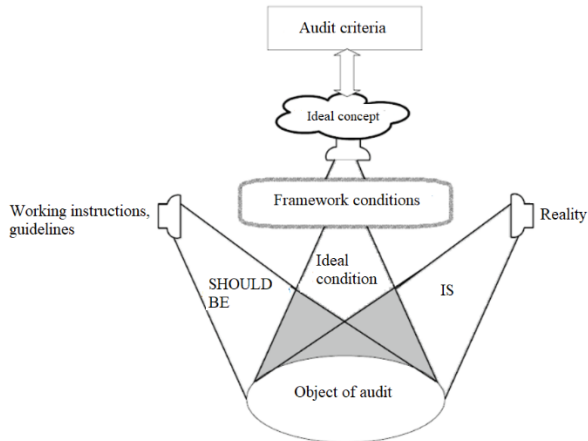
One of the most important areas that is subject to the audit process is logistics. Logistic audit should therefore be seen as a verification of the logistics management status in a given enterprise or its separate area, depending on the nature of the enterprise. Logistic audit is a systematic and independent control, diagnosing the logistics system of suppliers or business partners [Klug, 2018]. Possible audit objects are the entire logistics system, logistics subsystems (warehouse area), logistics processes or technical methods in the area of logistics (eg packaging methods) [Pfohl, 2004, p. 266]. The logistics audit analyses logistic systems and processes in terms of efficiency and performance and weaknesses, with the auditor introducing remedial measures if necessary [Stölzle, 2008, p. 1109]. In order to provide basic logistic capabilities in accordance with the auditing requirements, a systematic comparative analysis is conducted "should be - is" based on a standardized checklist with suppliers at their premises [Pohl, 2004, p. 262].

The logistics audit is carried out by a group of people who have experience in such areas as purchasing, development, logistics and quality assurance to take into account all requirements and to provide a comprehensive assessment [Eckselser, 1999, p. 159]. Audit results will enable the grouping and classification of suppliers. Typically, such a division of suppliers is based on groups A, B and C.

Proper implementation of logistics processes determines the effective operation of the enterprise. Therefore, an audit should be perceived as consulting in the field of assessing the logistics status in the enterprise. It is usually implemented in such areas as storage, transport, inventory management, order processing, production or distribution. Logistic audit can be seen as a method of

verifying discrepancies between the declared and real state and the assessment of the effectiveness of logistic systems [Twaróg, 1998, p. 154].

Fig. 1. Perspectives of the audited object



Source: (Pfohl 1999, p. 8)

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It should be underlined that the logistic audit allows first of all to diagnose the present state and to identify the main problems. The assessment of the logistics condition with the use of various indicators (in the area of storage, transport, customer service or management with suppliers) is particularly important. These activities are complemented by the identification of areas where improvement is possible and it is important to indicate the estimated expenditure and effects related to the implementation of these improvements. Therefore three stages of the audit should be distinguished [www.staworzynski.com, 12.08.2018]:

- Stage I - Analysis and diagnosis of the current state (during this stage observations and analyses of the current state of logistics management will be carried out, including issues related to the way work is organized):
 - verification of the organizational and financial structure of the company,
 - planning,
 - preparation of resources,
 - quality management,

- technical development,
- technical maintenance,
- logistics and material management,
- sale and shopping.
- Stage II – Verification of employees' competences.
- Stage III – Employment.

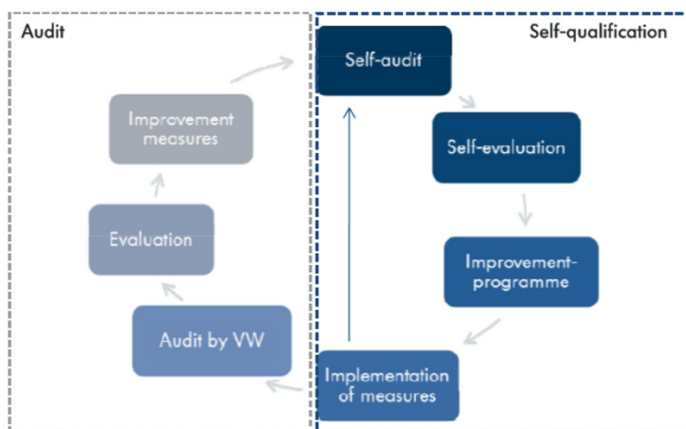
The above steps can certainly be implemented in the context of logistic audits. A particularly important example is an audit carried out in the automotive industry, for which more important issues will be addressed in the course of further considerations.

3. AUDIT AND CORRECTIVE ACTIONS IN IMPROVING THE QUALITY MANAGEMENT SYSTEM BASED ON THE EXAMPLE OF AUTOMOTIVE INDUSTRY

More and more often the factor which influences a closer cooperation amongst the companies are the logistics audits. A good example is the company of the automotive industry, which to become the elite of body converters underwent the process of auditing. The purpose of this audit was to verify the current status based on specific criteria and, in case of slight discrepancies, to introduce appropriate remedies.

Due to the fact that the activity of the audited company covers all areas of the supply chain, i.e. supply, production, distribution and waste management process, this process was quite complex. First, an internal audit was carried out by the audited company on its own, the next was an audit carried out by the auditing company.

Fig. 2. Diagram of the audit process in the analysed enterprise



Source: materials of the enterprise

Generally such an audit can be divided into the following stages:

Fig. 3. Important areas of the logistics audit in the enterprise



Source: own materials

The above stages relate to the requirements in the scope of: a) sales and marketing (regarding primarily requirements concerning entering into sales contracts and guidance on applicable guidelines in the field of marketing and the brand use; b) development and planning (referring to all the important points that should be followed when planning processes and products); c) supply and acceptance of goods (these are matters related to the management of suppliers and deliveries; d) production (concerns production requirements) and e) logistic customer service. The last stage concerns quality management (meeting quality requirements), which is confirmed by the ISO 9001 certificate.

Each stage describes what standards should be created for individual processes. This is complemented by meeting certain requirements and applicable auditing standards and guidelines. The fulfillment of the requirements described in points a - f are the basis for cooperation based on partnership and can be verified at any time in terms of their fulfillment and implementation.

It is worth mentioning that a comprehensive assessment of individual areas is carried out based on the colours of the “*traffic lights*”, where the company’s goal should be to obtain “*green light*”.

Table 1. Evaluation of the audit process - matrix

Result	Condition for the assessment of individual requirements	Corrective actions
„green”	70% of individual questions were rated as satisfactory (marked in green)	Optimization of selected areas should be self-performed
„yellow”	At least 50% of individual questions were rated as satisfactory (marked in yellow). None of the questions were assessed as unsatisfactory (marked in red)	Deviations or corrective actions will be described in the corrective action program
„red”	At least 50% of individual questions were rated as satisfactory (marked in yellow) and / or at least one question was assessed as not satisfactory (marked in red).	Corrective actions are not sufficiently formulated.

Source: materials of the enterprise

A detailed analysis of particular areas of auditing, which the enterprise has been subjected to is presented below:

In the area of “entering into contracts/ sales” a verification of completeness of related documents to pre-trade and transactions was performed. This verification is carried out based on a checklist by qualified employees of an external company. Scheduling of terms should also be taken into account, technical specifications, experience in the area of current projects and sales training.

In the area of “planning of product and process development” requirements of clients or partners need to be taken into consideration, issues related to the projects’ management and process planning as well, which of course has also been verified. The construction and technological documentation was also checked, which is an indispensable element of newly created products.

In the scope of “supplier and supply management” an analysis was made in terms of quality requirements, supplier selection criteria, the process of accepting goods and storage, and the process of accepting vehicles. The quality requirements should be determined based on technical specification (drawings, material specification, standards). In contrast, delivery times depend on the wishes of the customer, including, of course, the time necessary to produce. Furthermore an analysis of the process of deliveries of parts took place and recording/ reporting about possible nonconformities. Possible shifts of delivery dates, which would affect the date of order completion, should be communicated to the client. The auditing process was also subject to meeting the quality requirements for services provided by external companies. The verification was performed in terms of the purchase of goods and provision of services, which resulted in checking technical documentation provided to external entities for the purpose of carrying out specific services and their verification at the registered office of the supplier or the audited company. Another area subject to the audit process was the verification of suppliers based on the quality management system. Appropriate planning and selection of new suppliers should be based on the criteria for the selection of suppliers, while in the event of deviation from them, appropriate measures should be taken. Delivered materials and semi-finished products as well as unused components returned from production should be stored in accordance with the accepted rules. Stocks level must be in accordance with the condition visible in the warehouse program. Products delivered by the auditing company should be stored in a way that prevents their damage.

In the area of “process and production analysis”, among others, verification of the production process in accordance with the documentation took place, paying special attention to the requirements set by the auditing firm.

In the area of “logistic customer service” attention was paid to pre-trade, transactional and post-trade elements. Particular emphasis was placed on the

course of the sales process of offered products (including issues of offerings, conclusion of a contract, coordination of the production process (verification of the production process in terms of compliance of the designed product with its physical implementation during the manufacturing process), final sale including training in the use of the product and warranty and post-warranty issues).

In the area of “quality management system”, the minimum requirement in the auditing process is to certify the quality management system according to ISO 9001. In case the enterprise does not have the above-mentioned certificate, an extra audit must be performed concerning meeting the requirements set out in the ISO standard. This case did not concern the audited company, because the company already has a quality management system in accordance with ISO standards.

The audited company has been positively verified, both in the area of internal and external audit, which confirmed its acceptance as close business partners, which results, among others, in access to technical drawings, permission to use the logo, presentation to potential clients or other materials supporting the sales process.

As a result of the audit, minor corrective actions were recommended. The audited company was required to implement agreed corrective actions and to pass on the relevant effects to the auditing company, which will decide whether it is necessary to re-verify the areas requiring correction or not. Requirements and recommendations for the analyzed company were implemented and the company obtained a certificate confirming cooperation with the auditing company.

SUMMARY

The audit is an important factor that determines the quality of executed logistic processes. On the one hand, it confirms the expectations of a business partner, and on the other hand, it is a way to verify the correctness of logistics management and possible deviations and it provides an excellent basis for improvements. The aim of the considerations was the audit of logistic processes, which is an element of business cooperation of enterprises of the automotive industry and the analysis of the synergy effect of cooperation between them.

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Own materials of the auditing company and the auditor.

AUDYT PROCESÓW LOGISTYCZNYCH JAKO ELEMENT WSPÓŁPRACY BIZNESOWEJ PRZEDSIĘBIORSTW BRANŻY MOTORYZACYJNEJ

Streszczenie: Audyt procesów logistycznych to ważny element współczesnego zarządzania przedsiębiorstwami międzynarodowymi. To mechanizm weryfikujący jakość realizowanych procesów w przedsiębiorstwie. Audyt jest swoistego rodzaju potwierdzeniem wymagań, jakie oczekują partnerzy biznesowi i które należy spełnić, aby móc nawiązać współpracę biznesową. Artykuł posiada charakter teoretyczno-empiryczny i stanowi wprowadzenie do przedstawionej problematyki, wymagającej dalszych pogłębionych badań. Artykuł to studium przypadku analizujący audyt logistyczny, który został przeprowadzony w przedsiębiorstwie branży motoryzacyjnej.

Słowa kluczowe: audyt logistyczny, współpraca biznesowa, przedsiębiorstwo branży motoryzacyjnej.

