TELEOLOGICAL ASSUMPTIONS IN THE PROCESS OF IDENTIFICATION AND EVALUATION OF BEST LOGISTICS PRACTICES

Abstract

Problem of identification and evaluation of best logistics practices is not a new one, however it still causes a controversy on the methods of logistics practices assessment. Thus, the authors, based on the literature review, case study and their long experience at the area of logistics research decided to put under the readers critique their conception of teleological assumptions, based on 5R logistics aims (objectives, purposes) criteria, which can be used for the process of identification and evaluation of best logistics practices. The added value of this conception is expressed at a thesis (and developed at this paper) that the set of logistics aims can be understood, specified, or even parameterized, only in relation to the primary process (production, trade, service), which determines the right resource, the right quantity, the right location, the right time and the right cost (5R) towards its logistics support process.

Keywords: logistics, best practices

Introduction

The problem of identification and evaluation of best logistics practices is both of practical and theoretical meaning. Practical, because logistics managers should know and promote to their staff the most economical way of performing logistics works to save time money and other engaged resources. From theoretical point of view, the methodology for identification and evaluation of logistics best practices is also much needed, because the analysis of many cases allows building a set of models of the best logistics practices, which in turn can be implemented
into practice. There are some literature items, which touch the above mentioned problem, however the standard evaluation method have not been created yet, and there is still a place for conceptions at this research area.

Thus, the purpose of this article is to formulate a conception of identification and evaluation of best logistics practices based on theological criteria, especially 5R logistics aims. To meet this purpose, the literature study is used as a first research method, and for verification of the obtained theoretical results, the case study method at the form of an analysis of procedures and documents used by logistics operators and authors own experience are applied. Therefore, this methodology falls into the system research approach in logistics (Gammelgaard, 2004, p. 481). The final results are presented at two chapters. First one is focused on identification of managerial problems with the assessment of the logistics practices to find the best one, and the second chapter includes the authors’ response to these problems. This proposition covers the teleological approach, which is based on 5R logistics aims (objectives) conception, for identification and evaluation of best logistics practices.

1. The problem of evaluation of best logistics practices

Every day a lot of logistics practices are performed. They are taking place at many areas of supply chains, for instance at procurement, transportation, warehousing or distribution. Some of them are routine, while the others are creative, some of them are relatively simply, while the others are rather complex, some of them are automated, while the others require staff to be carried out. However, despite logistics practices have been called in practice or at literature, each of them can be evaluated better or worse than the other one. What, then, is it that makes one practice better than another? Finding the answer to this question would enhance the theory of management science, especially in reference to logistics sub-discipline, with the knowledge on best logistics practices, which in turn could be applied to logistical practice to change bad or good practices for better.

From the theoretical and practical point of view, four main problems regarding the evaluation of best logistics practices can be formulated. First of them is of epistemology aspect, which regards the essence of best logistics practice, and which can be expressed at the questions: what is the best logistics practice? The second one concerns the ontology problem on the elements structure of the research object, and can be formulated as: what elements/components do the best practices consist of? The third one regards axiology question: what values do decide the logistics practice is the best? And last but not least, the fourth, methodological problem can be formulated as: what methods to use to identify the best logistics practice and evaluate it if it is still the best?

First, the literature review has been conducted to get answers to the above mentioned questions. The obtained results show that there is a lot of books and articles on logistics, which do not mention logistics best practices at all. There is also a large group of literature (Gattorna, 2009, pp. 134–138; Pagell, Wu, 2009, pp. 40–51), which includes a description of logistics practices, which are treated
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by Authors as the best, but without a course of reasoning, which explains why they are called the best. Some of the literature titles include the expression of “best logistics practice” (Mejías et al., 2016; Zao et al., 2016), however, it does not explain the essence of the title category, neither what its main components are, nor why these and not the other assessment criteria were identified. It looks like the term “best logistics practice” have been treated as an ordinary and obvious logistics category, which does not require to be defined. There are only few literature items, which try to define the term and describe its attributes. A representative state of art at this area of research is reflected by the idea included at the following paragraph: “It is worth nothing that ‘best’ practices are both relative and transitory. They are neither ‘best’ in every way, nor ‘best’ for all time. They are the best practice within the specific context at that moment in time. Hence, the case studies do not attempt to provide universal best practices, but instead provide specific examples of best practice, which universally might be considered good, successful or improved approaches to the case in point. (...) Today, supply chains know no boundaries and learning from other people’s successful practices form other companies, supply chains, industries and countries is hugely valuable” (Cetinkaya et al., 2011, p. 4). Even at this paragraph, there is no explicit definition of best logistics practice, what indicates on the problem with interpretation of the category. However, there are mentioned some attributes of best logistics practice as good, successful, improved, and able to learn as the main driver, reason and value finally, which can turn into an improved practice if applied successfully. Because of their broad meaning, these attributes can appear very helpful, when looking for the theoretical and practical assumptions of the best logistics practices.

A lot of literature presents examples of methods of best logistics practices and their applications. For instance, Svensson (2010, p. 17) proposes three teleological approaches: formative, rationalist, transformative, which can be used for planning, implementation and evaluation of supply chains, however this research is highly theoretical and require applications. Another example comes from Zao et al. (2016, pp. 475–476), who have constructed the best supply chain process model of logistics for Free Trade Port Zone, which is based on the method of pairwise comparisons. According to other researchers, a SCOR model should be preferred as a tool for identification of the best logistics practices. They claim that “The SCOR-model is a reference model. It does not provide any optimization methods, but aims at providing a standardized terminology for the description of supply chains. This standardization allows benchmarking of processes and the extraction of best practices for certain processes” (Stadtler, Kilger, 2008, p. 41). The same authors are also proposing a benchmark method as another tool for identification and evaluation of logistics practices in comparison to the best-practice standards (Stadtler, Kilger, 2008, p. 127).

It should be mentioned that the problem of best logistics practices were noticed by European Commission, because it decided to spend a lot of money (3.05 mln Euro) on the project titled “BestLog” within the 6-th Framework Program (BestLog, 2017). This project, which was run by the consortium of nine institutions of nine European countries and had been carried out for four years between February
2006 and May 2010, resulted at many outcomes. Because authors of the article were engaged at the works of the project personally, we would like to say that the obtained results included especially the identification of thirty and description of twenty cases of best logistics practices, which now are available at the web page of European Logistics Association in brief (Case, 2017) and at the form of book in full (Cetinkaya et al., 2011), while the whole project turned into a subsidiary, known as Elabestlog (2017), of the European Logistics Association in Brussels. In reference to the aim of this article, one of the result of the project was the framework for assessment of the cases, which included partially a set of quantitative metrics and qualitative judgment by experts (Piotrowicz et al., 2017, p. 460). Especially, the professional expertise is the most used method for evaluating logistics processes with the aim to chose the best one if looking at the practice. There exists a large group of professional organizations and consulting companies, which promote best logistics practices through some events, known as awards, prizes, competition, ranking and so on to honor the holders of best logistics solutions. The most know example is the “ELA Award” organised by the European Logistics Association (ELA) every year. The newest award for 2017 was granted to the global agriculture company AGCO, known for instance by its brand – Massey Ferguson tractors, for the project “AGCO Smart Logistics Closes Digital Gap”. A short description of the project is valuable to quote, because among others it covers some elements of assessment method, which is used by the association. “The ELA jury selected (out of 30 award-winning projects from national competitions) the AGCO and 4flow initiative as the best this year. (...) The approach is based upon the principle of combining an intelligent transportation management system, a standardized supplier development process, and risk management into a central cloud-based IT solution. The innovative approach utilizes smart algorithms that dynamically optimize the network requirements holistically, including capacities, supplier shipping requirements, lead-times, as well as monitoring a wide range of geopolitical, weather, and economic factors on a real-time basis in order to optimize the material flow. (...) The solution enabled AGCO to reduce cost of the inbound supply chain by more than 25 percent during the past years. Furthermore, on time delivery performance increased by 10 percent while process conformance has increased by 15 percent. Paired with significant improvements in Supply Chain agility, the company generates a competitive advantage in the marketplace. In addition to the significant improvements in costs, performance and quality, the initiative is reducing the CO₂ footprint through improved capacity utilization and therefore it not only benefits AGCO but the environment as well” (AGCO, 2017). The above description confirms that the main selection method of the best project form the others is a jury judgment based on a selected metrics, both qualitative and quantitative as for instance at this case: cost, time, CO₂ footprint.

Coming to the summaries of this chapter, it should be stated that the problem of best logistics practices has got its importance both at literature and practice. However, the obtained results are not satisfied, because the category “best logistics practice” is still disputable as well as how to identify and evaluate them. Especially, a focus on the problem of evaluation framework for identification of best logistics practices is taken at the next chapter.
2. Teleological 5R evaluation framework for identification of best logistics practices

To deal with the above stated problem two following theses are formulated. First, because value is a core category of axiology, an evaluation framework for best logistics practices should be derived from axiological assumptions for logistics. Speaking more detailed, due to the fact, that logistics practices are purposeful activities, teleological\(^1\) assumptions (a part of axiology), should stand for the right evaluation conception for them. This thesis is related to the second one, because if the results obtained from the verification of the first thesis will appear positive, they can also positively verify the second thesis, namely teleological evaluation framework defines the best logistics practice.

Axiology (Greek: ἄξιος – worth, valuable, precious) is a part of philosophy, which treats about values. Hence, the other name of axiology is a philosophy of value or theory of value and valuation (Hajduk, 2008, pp. 9, 89). The idea of axiology conception is expressed at the following paragraph. “The concept of value permeates our life at every step. We prefer one thing to another, we shift our attention from one event to another, we praise one behavior and condemn another, we like and dislike, and whenever we do it we value. Behind our passions, interests, purposive actions is the belief that they are worthwhile. We attach to them different degrees of importance or value. (...) In fact, we not only value, but are always conscious of a scale of values, which scale relates to a degree and quality of satisfactions” (Hart, 1971, p. 29). It means that axiology is present at every area of human activity, thus it can be applied also for logistics purposes.

At the field of logistics, the importance of axiology assumptions had been already noticed (Mankowski, 2016, p. 33). This author proposed a system of axiological categories in logistics, which can be applied for the purpose of logistics value identification. The result of works on this issue is illustrated at the Figure 1.

\[\text{Figure 1. Logistics value at the axiology system}\]
\[\text{Source: (own elaboration)}\]

\(^{1}\) Greek τέλος, telos means end, purpose.
The broadest axiological category, which decides about the logistics value is a rationality (Turek, 2004, pp. 77–94). Due to the fact that rationality is treated as a property of a human being, and especially its consciousness and purposefulness, and that “The essence of human activity is to cause intentional (conscious) changes aiming for a particular purpose (...)“ (Łskiewicz, 1994, p. 22), the more detailed axiology categories are teleological ones. They stand for a set of logistics approaches, purposes, aims or targets, which, if met, decide on logistics values of logistics support system or its elements, for instance they decide if the actually used logistics practice on delivering goods to a customer was the best one or not.

If the teleological categories decide on logistics value, they should be taken as the main evaluation criteria for logistics practices. Teleology (form Greek: telos = achieving an aim + logos = word, science) is understood as a “philosophical view proclaiming that developmental processes in nature or society are going to an ultimate aim; finalism” (Tokarski, 1980, p. 751). At the area of logistics, three teleological approaches can be identified. First of them is quoted as 5R (Chaberek, 2002, p. 11), with a comment that the aim of the right quality and the aim of the right resource are redundant (a repetition of the same information), thus in practice it is not possible to describe the right resource without the required quality level. The second one is described as 3A: agility, adaptability, alignment (Lee, 2004, pp. 102–112), and the third one stands for a set of supply chain or logistics performance measures (Piotrowicz et al., 2007, pp. 463–465). The teleological approach based on 5R conception maintains that every human activities, individual or in group, need to be supported by a lot of other activities. The first kind of activities can be covered under so called primary processes, while the others at the supporting ones, including logistics process if resources are required. Thus the primary process determines the kinds of resources, their amount, the place and time for the delivery of goods, and at what cost, finally. In result, these five requirements stand for the 5R logistics aims to support the primary process at the right resources, with the right quantity, time, place, and cost. It can be added that the category “right” should not be identified by the maximum or minimum criteria, because for instance it is not good if three pallets were delivered instead of two, required by a customer, or one hour before the agreed time. The above mentioned conception of the logistics support function (not to be confused with the service function of the third party logistics sector) towards another main (or primary) process, combined with the need to solve multi-criterion decision problems related to 5R logistics aims, nearly 20 years ago, became a methodological basis for the research and didactic work of the Department of Logistics at the University of Gdańsk. This methodological approach, based on these two fundamental findings: the logistics support function and logistics optimization according to 5R objectives, was very often named as the Sopot School of Logistics by participants of the annual conferences². The first studies systematizing the above concept and expressing it as a model of logistics support system of any purposeful human activity are

included the following works (Chaberek, 2002, pp. 11–13; 2006, pp. 13–20; 2014, pp. 3–10; Chaberek, Karwacka, 2009, pp. 7–16). They have become a methodological foundation for many doctoral and postdoctoral theses, as well as commissioned researches. The logistics support function, raised in the above works, puts logistics (logistics process) on the same level as the primary process. Because both of them are mutually related, none of them can exist independently. Thus, logistics and its objectives (5R) can be analyzed practically only after identifying the main process. Conversely, no main process will occur without logistics support activities. The two next teleological approaches, namely 3A and a set of logistics performance measures, stand for the concretization of the 5R logistics aims, and allow focusing on some characteristics or metrics, which are of particular interest for the final customer or other members of supply chain.

Based on the above course of reasoning the following conception of teleological assumptions for evaluation of best logistics practices based on the 5R logistics aims criteria can be proposed. The core of the conception is expressed by a thesis that the logistics value is a logistics support system, especially the logistics process, which supports the primary process with the right resource or the service, in the right quantity, in the right location, in the right time and with the right cost (5R). So, logistics process can be discussed only at the relation to the primary process, which the logistics one supports at any needed resources or services. The main consequence of this relation is that the primary process demand determines the set of logistics aims by specifying, or even parameterizing the right resource or the service, the right quantity, the right location, the right time and the right cost. However, it is not a one-way relation, because the owner of logistics process also calculates its capabilities, benchmarks with competitors, considers regulations and other determinants, so this relation is rather a continuous multi-faced interaction, which leads to the final formation of 5R aims for logistics practices. This course of reasoning allows to derive a hypothesis that, if a logistics practice meets logistics aims contained at the 5R categories, it can be identified as the best one, and in consequence the 5R set of logistics aims stand for the main evaluations criteria for logistics practices (Figure 2).

Figure 2. Teleological framework for identification of best logistics practice and its evaluation
Source: (own elaboration)
Figure 3. Quote request of American Export Lines
Source: (http://www.shipit.com/request-a-quote [Accessed 12 June 2017])

Figure 4. Quotation of Hargreaves Logistics
The above theoretical considerations are confirmed by a business practice. The main and formal element of the initial transaction between the owner of the prime process, for instance production, and the logistics supporting process, is a request for quotation, or an order if the price is known. An example of the request is presented at the Figure 3. There is included 4R information, which requests for the fifth one – a cost/price for the customer. Thus the information about the cost is covered at the quotation (Figure 4), or at price list, tariff, proforma invoice, and finally confirmed at order confirmation (Figure 5), or agreement/contract between logistics operator and the customer. The above practical examples prove that the logistics 5R aims are fully sufficient criteria to identify best logistics practices and estimate them.
Conclusions

The above presented research results prove that the teleological conception of 5R logistics aims (or objectives, purposes) can be used for identification and evaluation of best logistics practices in theory and in practice. The strong side of this conception is in that it is not much complicated from one side and ensures a relatively high level of reliability and correctness when compared with the other practices on the other side. This conception feature is very important especially from the practical point of view, because the 5R aims can be understood by logistics managers intuitively at the same way, what ensure the same assessment results of the logistics practices. The novelty of this conception is included at the thesis that the set of logistics 5R aims can be understood and identified only in relation to the primary process (production, trade, service), which determines the right resource, the right quantity, the right location, the right time and the right cost towards its logistics support process.

References


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