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PARADOXES AND OPPORTUNITIES IN LOGISTIC OUTSOURCING RESEARCH

ABSTRACT

Historically, very few logistic trends have caught the attention of academics and practitioners to the same extent as outsourcing. A comprehensive literature review reveals two reasons for this continual topicality. The problem complexity and the business environment dynamics – including an interaction with other main trends in logistics and modern supply chains – both led to a permanent literature gap, indicating the need to explore some new aspects of logistics outsourcing (LO). In this paper, a new LO research perspective has been explored by identifying some weaknesses in the main LO research streams and related common viewpoints which led to six 'logistics outsourcing research paradoxes'. Each of these paradoxes is briefly described and their links with research streams and common views on LO discussed. Finally, the nature of some known opportunities for further research is better explained and some overlooked research opportunities are highlighted.

KEYWORDS

logistics outsourcing, research paradoxes, research opportunities

1. INTRODUCTION

Empirical evidence suggests that, during the past several decades, most business enterprises and global companies tended to focus their strategies primarily on the core competency, leaving the issue of logistics to the specialists. However, in mid-1970s, experts in most developed countries started to herald the emerging outsourcing trends, commonly referred to as 'vertical disintegration' [1]. Consequently, as a non-core activity in most enterprises, logistics seemed an ideal candidate for outsourcing. Most logistics outsourcing (LO) definitions point out that LO is an arrangement whereby a logistics provider performs services for a firm that could be, or have previously been provided 'in house' [2, 3]. Thus, enterprises typically buy the logistics services from a third party after the transfer or sale of resources. The level of outsourced logistics varies from simple capacities and assets, to single processes and activities, such as transport or warehousing, to bundled activities, where an intermediate coordinates integrated value-added logistics in the supply chain [4]. Consequently, arrangements with carriers and logistics providers vary from spot contracts to long-term agreements and strategic alliances.

Logistics outsourcing has been widely explored in literature in recent decades. Lynch [2] distinguishes three waves in logistics outsourcing theory and practice. The onset of the first period of outsourcing euphoria dates back to late 70s, followed by the second one that occurred in late 90s – known as the period of recording and openly discussing outsourcing pitfalls. Finally, the third, current, period is characterized by efforts toward sober thinking and real expectations.

Recently, several authors have attempted to classify an extensive number of literature sources focused on logistics outsourcing issues, trying to predict possible future trends and suitable directions in the LO research and practice. The identified gaps in extant knowledge in this field thus offer opportunities for future research, in particular with respect to the environment dynamics, including the relationship between LO and current logistics trends, or the overall problem complexity. Thus, the purpose of this paper is to continue the exploration of the current pertinent literature with the aim to identify additional opportunities for further LO research, from a novel perspective. Accordingly, the main research streams and related widespread opinions on LO reported in the extant body of literature were identified, which highlighted the main research limitations and weaknesses in typical LO perspectives. These weaknesses are referred to as 'the logistics outsourcing paradoxes' in this work for two main reasons. The first is related to their nature, i.e. stems from the gap between current theory and practice. This gap is partly generated by the lack of the comprehensive knowledge required for shaping some

common outsourcing viewpoints (e.g. a comprehensive statistics on logistics in countries and regions). The second relates to some discrepancies between the importance of particular LO topics and the level of attention they are given in current research. Thus, it is argued that, as some aspects of classical perspectives are general, rather theoretical, or based on traditional viewpoints, they should be reconsidered according to current knowledge on LO and be subject to comprehensive research in the future.

The paper is structured as follows. The main LO research opportunities, based on the results of a few recent review articles on LO and impact of other main trends in logistics are briefly presented in Section 2. In Section 3, the main LO research streams and their characteristics are shown. Logistics outsourcing research paradoxes are identified and argued in Section 4, followed by the key findings and opportunities for further research, discussed in Section 5. Section 6 offers final remarks and conclusions of this work.

2. LOGISTICS OUTSOURCING RESEARCH OPPORTUNITIES

2.1 Research opportunities, based on LO literature review and taxonomy

Several prominent papers that review and classify extant logistics outsourcing literature have been written recently. There is a general consensus amongst their authors that most LO research studies are positivistic, explorative, survey-based and discuss the benefits and the risks of such arrangement, especially amongst those focused on the early stages of logistics outsourcing. Maloni and Carter [5] explored 45 survey-based articles and identified many areas in need of further research in the forthcoming period. The scope of studies the authors proposed includes research methodology improvement, development of efficient controlling tools, more sophisticated approach, and differentiation, in terms of geographical scope, industry, level of outsourcing etc. In a similar study, Marasco [6] reviewed the status of third party logistics (3PL) studies, analyzing 132 articles in total and covering the period 1989-2006. The author noted that most of the reviewed articles focused on context (40%) and process (25%), leaving structure (6.6%) and outcomes of 3PL (9.9%) largely unexplored, thus identifying potential areas of future research.

Selviaridis and Spring [7] analysed 114 articles on LO published from 1990 to 2005, in terms of research purpose and nature, method employed, theoretical approach and level of analysis. The authors concur with the above findings in that 3PL research is mostly empirical-descriptive in nature, with surveys and case studies as the dominant methods employed, reflecting "the positivist research tradition within logistics" (p. 125). Regarding the level of analysis reported in the reviewed literature sources, the authors note that most papers focused on an enterprise (67%). Based on these findings, the future research should focus on network, normative and theory-based logistics outsourcing, applying more qualitative method-based analytical techniques. Empirical research also has some suitable niches, e.g. contractual practices and the nature of logistics services – service definition in 3PL relationships.

2.2 Relationship with other global trends

Presently, globalization and information technology (IT) development in logistics are the most important trends that affect LO. They are of particular importance for the LO research streams concerned with logistics provider selection and LO outcomes.

Globalization trends are among the key drivers of global supply chain and logistics outsourcing trends, as new production capacities are increasingly becoming available in lower-cost parts of the world. The large, multinational manufacturers look for their 3PL providers to help them achieve improved cost and service positions. According to Langley [8], 3PL providers with greater solution breadth and geographic coverage are better positioned to respond to globalization trends. Nonetheless, local logistics providers can still maintain their niche in supply chains, albeit mostly within local and regional markets [9].

The role of IT is also becoming increasingly important, as it is currently one of the crucial criteria for logistics providers' selection and performance monitoring [10]. Consequently, the ability to utilize IT has become one of the key determinants of success for these operators (see e.g. [8]). The emerging impact of IT on logistics is evident in all main logistics trends of the 21st century [11]. Among these trends is the collaboration and integration in logistics and a need for integrated management and control.

In many ways, the development of collaborative logistics management (CLM) in supply chains seems to be a trend opposed to logistics outsourcing. The latter has usually started as an arrangement whereby a provider performs services for a firm that were originally performed in-house (that is vertical disintegration) [1]. On the contrary, CLM is perceived as a tool for strengthening the links between logistics providers and their customers to cross the boundaries and thus create new, "extended enterprises" [12]. Therefore, some authors reasonably argue that logistics outsourcing today may be a kind of "round ticket" for firms in a long-term horizon.

3. MAIN STREAMS AND RESULTS IN LOGISTICS OUTSOURCING RESEARCH

The literature review indicates that there are several main topics – research directions – in the field of LO [13]:

I Global trends and perspectives of logistics outsourcing (development);
II Logistics providers and their services – types of providers and services, as well as their usage and related trends and perspectives;
III Logistics outsourcing advantages and disadvantages, i.e. factors influencing LO decision;
IV The relationship between logistics providers and their customers;
V Logistics outsourcing decision-making—procedures, methods and techniques.

A brief overview of all aforementioned research directions will be given below.

3.1 Global trends and perspectives of logistics outsourcing

This LO research stream focuses on the current states and future trends of logistics outsourcing in particular countries [14], regions [3], or globally [8], through reviews of most outsourced logistics activities. Their results are mostly consistent, indicating that the most outsourced activities are operational, transactional and repetitive. In all regions, most outsourced activities are transport, warehousing, customs clearance and brokerage, and freight forwarding [8]. In contrast, services that require higher level of management, as well as those that are customer-facing or IT-intensive are less frequently outsourced.

The first decade of the 21st century brings more academic papers on logistics outsourcing in prestigious journals than ever [6]. It also brings more objective viewpoints on approaching the logistics outsourcing decision [15, 16]. One of the most important conclusions that stems from the latest research may be that the LO trend tends to achieve a kind of saturation point. Further, it should not be viewed as 'all of nothing' decision, because a mixed system, where own-account and outsourced capacities and resources coexist, may often yield the best results [15].

In the third stage of outsourcing research, old 'buzzwords' are also accompanied by some new ones, such as backsourcing, resourcing, smartsourcing, etc. They may indicate a need for more objective approach to LO decision-making (e.g. resourcing), whereby it is recognized that a firm previously using in-house logistics services, may choose to subsequently adopt outsourcing practice and later revert back to the own-account resources for all or some of logistics services (e.g. backsourcing). The reasons for such reverse trend may be different, but they are mostly attributed to the negative experiences and unrealized expectations related to outsourcing contracts.

3.2 Logistics providers and their services – types, trends and perspectives

This research direction focuses on logistics providers and their services, their role in the logistics market and criteria for their selection. Here, the literature also points out three stages, or waves, of logistics service providers (LSPs) development. The first wave, covering the period from mid-70s to mid-80s, records the increased usage of external logistics sources and services, mostly transport and warehousing. The second wave that follows immediately after, lasts approximately until the mid-90s, and is related to the rapidly increasing LO popularity, as well as increasing service diversification and complexity. During this period, many transport and warehousing firms evolved into broadly based logistics service providers [3]. In response to this trend, the first integrators, i.e. DHL, UPS and FedEx, appeared on the market. The third, and current, wave is the period of an increased interest in integrated outsourcing logistics functions. Delfmann et al. [17] propose a model of three types of LSPs – those that provide standardized services (transportation, warehouse), bundled activities, and customized services (offered by only the most advanced LSPs). Consequently, globalization and IT development trends have the strongest impact on LO in the last stage.

As in any other developing field, LO is associated with many new, often confusing terms. For example, the concepts of third and fourth parties "often serve to confuse, rather than enhance the relationships" [2, p. 3]. The term "fourth party in logistics" (4PL) was introduced by Andersen Consulting in 1996, and denotes an integrator that "assembles the resources, capabilities and technology of its own organization and other organizations to design, build and run comprehensive supply chain solutions." Such integrators mostly provide services to the customers in the form of responsibility and knowledge, without owning the assets [4, p. 80-81]. In literature, even the term '7PL' is used, implying a combination of 3PLs and 4PLs. Still, these concepts are generic and they are more a matter of academic interpretations rather than having any practical implications.

3.3 Factors influencing logistics outsourcing decision-making

An extensive part of literature is dedicated to identifying the key motivators and barriers for logistics outsourcing decision. Indeed, it is hard to find an article on logistics outsourcing where LO advantages are not

highlighted. This research stream covers mostly empirical studies, e.g. surveys and case studies, especially in earlier phases of LO development [3, 8, 18]. Studies related to later LO stages have more focus on risks and obstacles, thus often aiming to contribute to the more normative research [e.g. 19].

One of the key motivators for outsourcing is the need for companies to focus on their core businesses. Wilding and Juriado [15] provided a literature review of empirical studies on outsourcing, in an attempt to identify the most frequently outsourced activities and the key reasons behind that decision. Their findings indicate that LO decision was mainly driven by the need for cost reduction, service improvement, operational flexibility, or business focus. On the other hand, a loss of control over the third-party provider(s) has been and still remains the most commonly cited reason that inhibits firms from outsourcing logistics [8, 20].

3.4 Logistics services providers-clients relationships

In this research stream, a wide variety of approaches is identified, depending on the authors' academic backgrounds which affect the choice among applied social-economic theories. The focus of analyses are arrangements characteristics and the level of integration between logistics service providers and clients from the economic, organizational, managerial, marketing or mixed viewpoints.

Bolumole et al. [21] argue that the usage of different social science theories and their perspectives in exploring and managing affect the outsourcing contracts in term of the resulting relationship (e.g. transaction-based vs. strategic contracts and integration) and the role of LSPs (e.g. operational vs. strategic services outsourcing).

More recent business practices have resulted in a shift in research focus from spot contracting to strategic, long-term outsourcing arrangements, which, implicitly, expand their scope and complexity [22]. Similar shift has occurred from market-oriented approach towards more rigorous selection of LSPs, and contractors number reduction [3]. In the extensive literature on this issue, different approaches are used to explore types of contracts (arm-length vs. collaboration and vertical integration), or focal units (enterprise, logistics dyads, triads, or network) of logistics outsourcing. However, the body of literature generally supports the idea that there is no ideal partnership type, only the most appropriate one for the given business conditions. Despite abundance of research studies in this area, the focus remains on an enterprise, while complex arrangements (triads, network), which are usually related to more sophisticated and customized service levels, remain largely unexplored.

Globalization and IT development impact on expansion of more sophisticated LO relationships and, consequently, on their research. The topicality of this stream is continuously confirmed in the literature by the most prominent logistics and supply chain experts [23]. Nonetheless, this body of literature still lacks more practical directions [24].

3.5 Logistics outsourcing decision-making

The last, but not the least important stream in LO research explores methods, techniques and procedures used in LO decision-making. The body of literature offers a variety of models that support managers in shaping an outsourcing decision. However, there is evident paucity of models that specifically address logistics outsourcing decision-making process [25].

LO decision-making can be viewed as a two-step procedure [26]. In the first step, managers have to decide whether it is more cost-effective and efficient to develop facilities, resources and capabilities 'in house', or outsource the same to the third parties. In the second step, if outsourcing is selected, provider selection, as well as provider(s) contract arrangement characteristics specifications must be made. These main steps can be split into further sub-stages, depending on the granularity required.

Overall, there is an evident literature gap in the field of LO decision-making, in particular, especially on higher levels of decision-making [7]. Probert [27] points to a small number of practical directions in methodological approach to "make or buy" decision-making, despite the long tradition of discussion on factors that affect this decision (p. 45).

Regarding the methods and techniques most frequently applied in the decision-making process, according to extant literature, qualitative methods and techniques, if used, are typically implemented in the first stages of outsourcing decision-making process, whereas problems and criteria have to be formulated [25]. Conversely, the quantitative methods and techniques are more suitable for latter stages of an outsourcing decision-making procedure. Most extant literature sources on LO decision-making are focused on the later stages of decision-making and operational problems, with very few devoted to the former [28]. Thus, probably the most popular and comprehensive subset in this LO research stream comprises works related to carrier selection. De Boer et al. [25] also highlight the gap between theoretical procedures in academic papers and the empirical ones, as well as the lack of formal, prescriptive models and formal directions for guiding managers through the process of LO decision-making.

Finally, the research focus is usually tapered on 'or-or' (make or buy) decision-making. Consequently, mixed or dynamic solutions lack in the normative research.

4. LOGISTICS OUTSOURCING PARADOXES

In the view of the above presented findings, LO phenomenon is analysed from two additional viewpoints in this section – the relationship between widely accepted opinions on LO and the comprehensiveness of related knowledge, and the correspondence between the importance of particular LO topics and an amount of related research. The main findings of the research reported here can be formulated as *six paradoxes of logistics outsourcing*.

The first paradox: Lack of comprehensive database that provides real insight into the logistics and, more specifically, road transport outsourcing trends.

In the recent decades, a great number of empirical studies, some of which were very comprehensive and long-lasting have been conducted to explore the logistics outsourcing trends. Reports on LO from all available sources are congruent in terms of its evident expansion. There is, indeed, evidence of rapid increase in the number of companies using external logistics sources. Further, LO expansion is also expressed as the increasing revenue of logistics industry, which indirectly indicates an increase of logistics outsourcing. However, the extensive literature search performed in this study yielded very few reports that reveal, monitor and explore the comparable and comprehensive business indicators on both external and internal logistics sources in a particular geographic area or country. For example, some authors point out that, typically, official statistical databases do not allow such comprehensive analysis in the field of road freight transport [13].

As popularity of LO steadily increases, it would be logical that own-account resources and activities should become redundant over time. However, deeper analysis reveals the weaknesses of such approach and lack of comprehensive data to measure the real relationship between own-account and outsourced, e.g. road transport [13]. Therefore, although widely accepted logistics outsourcing trend indicators are valuable and useful, they should be interpreted in conjunction with their limitations. Only then, a real role and significance of logistics outsourcing could be measured and evaluated.

The second paradox: Simplified approach to the problem whose significance and complexity are consistently recognized by the experts.

Presently, almost all widely accepted views and approaches to LO management are more or less related to a kind of LO problems simplification. The primary simplification may be explained by the name itself - 'make *or* buy', which indicates a binary type of decision-making: own-account transport *or* not, 'in-house' facility management *or* not, etc. In the recent decade, only a few authors posited that LO should not be treated as "all or nothing" decision and that hybrid solutions might yield the best outcomes [15, 29]. For example, the empirical research in China reveals that their manufacturers often used a mixed strategy (i.e. both proprietary capacities and external resources) to reduce risks during the period of transition [14]. The practical value of such approach is also confirmed in some Balkan countries [13, 30].

Another simplification is related to the widespread research focus on an enterprise – service user or provider, as noted in the third Section. A need for more focus on dyads, triads and networks is pointed out in some recent LO literature review studies [4, 7].

The third paradox: The gap between research focus and practice regarding outsourced logistics services

In the extant literature, surveys consistently highlight the domination of operational LO practice. The gap between the level of outsourced logistics and related expenditure discussed in Section 3.1 is probably its best indicator. Thus, while the reported complexity of services and the requirements from providers are increasing, most outsourced LO services on the market are still operational, most likely due to the associated risks, higher profit and more in-house control related with operational outsourcing. Moreover, lower level of outsourcing implies less complex relationships with providers and less potential dependency on them, which also contribute to popularity of such approach in practice.

At the same time, the research focus has shifted toward the relationships not frequently observed in practice, whereby the related discussions and findings are often theoretical and rarely applicable (e.g. discussions on 4PL, 7PL, etc.). At least, the amount of research efforts does not correspond to the LO practical needs. Consequently, due to the research focus on new, less explored LO areas, the gap between the research efforts and the prevailing practice has appeared and widened. For example, integrators are relatively new entrants to the logistics market; and, as their business rapidly grows, the services are increasingly bundled and more complex. Their growth is related to globalization and increased reliance on information and communication technologies, which contribute to increasing revenues. Therefore, these business entities are, from many aspects, more interesting for both explorative and explanatory research than e.g. small carriers.

The fourth paradox: Outsourcing of non-core competency areas further decreases their competency and, consequently, the ability to control related processes, activities and resources.

Pertinent literature identifies better focus on core competency as one of the key reasons for outsourcing, whereby activities not recognized as the core ones for company are typically outsourced [2]. However, the practical experience has shown that it is very important for enterprises to keep in-house expertise and control of outsourced activities [8, 15, 16]. Companies increasingly recognise the need to make efficient and effective outsourcing arrangements and properly monitor the execution of the activities. Thus, an obvious contradiction emerges – logistics outsourcing due to lack of competency leads to a lack of control, as managers still need comprehensive process knowledge and high level of competency, regardless of whether it is outsourced or not. Although logistics may not be the core business in manufacturing or trade enterprises, such enterprises have to be able to evaluate the value of logistics and logistics performances, and hedge all logistics challenges. A reasonable question is thus—how can companies retain control, if they do not possess at least the same level of competencies, knowledge and experiences in logistics as specialists who perform the operations? Further, how can any third party provider know more about logistics processes and supply chains than primary parties,[1] especially at the beginning of an arrangement? The case whereby the specialists represent just outsourced resources from the enterprise could be an exception; however, such solutions have historically been limited in practice, in particular in the last decade. Therefore, to outsource due to lack of competence is an imprudent outsourcing reason, as it could be a double-edged sword. Again, the problem is complex and its potential solution should include different levels of outsourcing, which leads to the next paradox.

The fifth paradox: Lack of literature sources on logistics outsourcing decision-making at strategic levels of management

In Section 3, it is argued that a small number of authors developed models, algorithms and procedures that could support outsourcing decision-making. As a rule, research in this area tends to focus on operational problems, particularly on carrier selection. Consequently, earlier stages of outsourcing decision-making process are typically neglected. The paradox here is that the research focus is mainly on operational problems, although the logistics outsourcing has been unanimously qualified as a strategic decision in the literature. However, even though the first stages of decision-making are strategic, long-term oriented and, consequently, more important for enterprises, they are less explored in research.

This discrepancy most likely stems from the assumption that LO is a current state in the enterprise and therefore, focus is shifted from the question of 'why', or 'whether' (to outsource) to 'how' and 'who'. Therefore, much more research attention should be given to the former in the future. Such approach also assumes the development of permanent planning, evaluation and control mechanisms. Finally, the lack of related normative models is also linked to the last identified paradox.

The sixth paradox: The outsourcing decision-making is usually treated as a problem within known and unchangeable conditions

In the root of all outsourcing decisions is the classical economic 'make or buy' dilemma. The classical economic 'make or buy' model assumes that the firm should procure product or service, e.g. transport service, until it reaches a critical number of transactions – that is, transport volume. Subsequently, it would be cheaper to internalize the transport service, instead of relying on a third party. However, the basic economic 'make or buy' model is limited in the dynamic decision-making context. The novel approach to supply chain management implies decision-making driven by its dynamic characteristics. However, there is evident paucity of decision-making procedures or models related to, e.g., transport outsourcing, which consider a supply chain context [13]. Such model or procedure should include in the analysis temporal characteristics of supply chain in a dynamic environment, e.g. the factors of uncertainty and risks. It should be also incorporated into the strategic level of management, and used to dynamically evaluate internal and external business characteristics and their fit to outsourcing concept over time.

5. DISCUSSION

In the light of the extant literature, the logistics outsourcing research opportunities are reviewed here from two main perspectives – the findings of a few review articles dedicated to this topic, and the impact of the main global trends on LO. Within the here presented research, the efforts in exploring the LO research opportunities were continued, with respect to the main results and opinions prevalent in LO research streams, presented in Section 3. Thus, the six 'LO research paradoxes' have been identified, which can be linked to the main research streams and some related widespread views on this phenomenon (*Figure 1*). Their relationships are mostly explained in the previous Section, where the nature and genesis of paradoxes are briefly presented. Thus, in order to avoid repetition, only additional comments will be given here.

At a glance, almost all LO paradoxes could be explained by the complexity of the explored phenomena, yielding limitations in attempts to explore the same or, in certain cases, give the formal directions. An overall complexity regarding the LO research has been identified in recent literature and it affects the sources of LO paradoxes – the gap between identified prevalent views on LO and practice, and the discrepancy between the amount of researchers' interest and practical value of the same topic.

Maybe the most interesting finding is the lack of comprehensive data about in-house operations, despite long tradition of empirical surveys in the field of LO. This discrepancy could be explained by evident lack of national statistical data on in-house logistics operations as well as initial research focus on outsourced, rather than own-account activities in outsourcing literature. Further issues in this area may be related either to the lack of data consistency in long-term LO surveys, or with noted inertia, whereby research is conducted in the known, well-established directions.

With the exception of problem simplification, which is related to most of LO opinions shown in *Figure 1*, two common perspectives are related to more than one paradox, and they mostly imply the same paradoxes (*Figure 1*). One half of identified paradoxes is related to a lack of normative models and practical directions at a higher level of management, as well as linked to the focus on later stages of LO decision-making. The reasons for this literature gap are discussed in detail in the preceding Sections. However, it seems that logistics experts, e.g. de Boer et al. [25], have started to point out this gap and make efforts to bridge it. They stress the importance of qualitative techniques, prescriptive models and practical directions in LO decision-making, as well as the need to focus research on its earlier stages and higher management levels. Similarly, prevalent views regarding the recorded increased complexity of LO contracts are also linked to two paradoxes.

Further, two paradoxes are related to more than one research perspective – common simplification of complex problems and solving problems within the unchangeable conditions. Although simplification and setting boundaries are the necessary steps in research, given the extensive amount of long-term research, it would be expected that evident research gaps in the field of LO would be almost covered by now. However, more complex problems, especially those related to normative research, are clearly still insufficiently explored.

The identification of LO paradoxes has both theoretical and practical implications. Practical implications are related to a managerial need to better analyze the conditions for particular LO decision, as well as related arrangement(s). Thus, a more critical approach to LO,

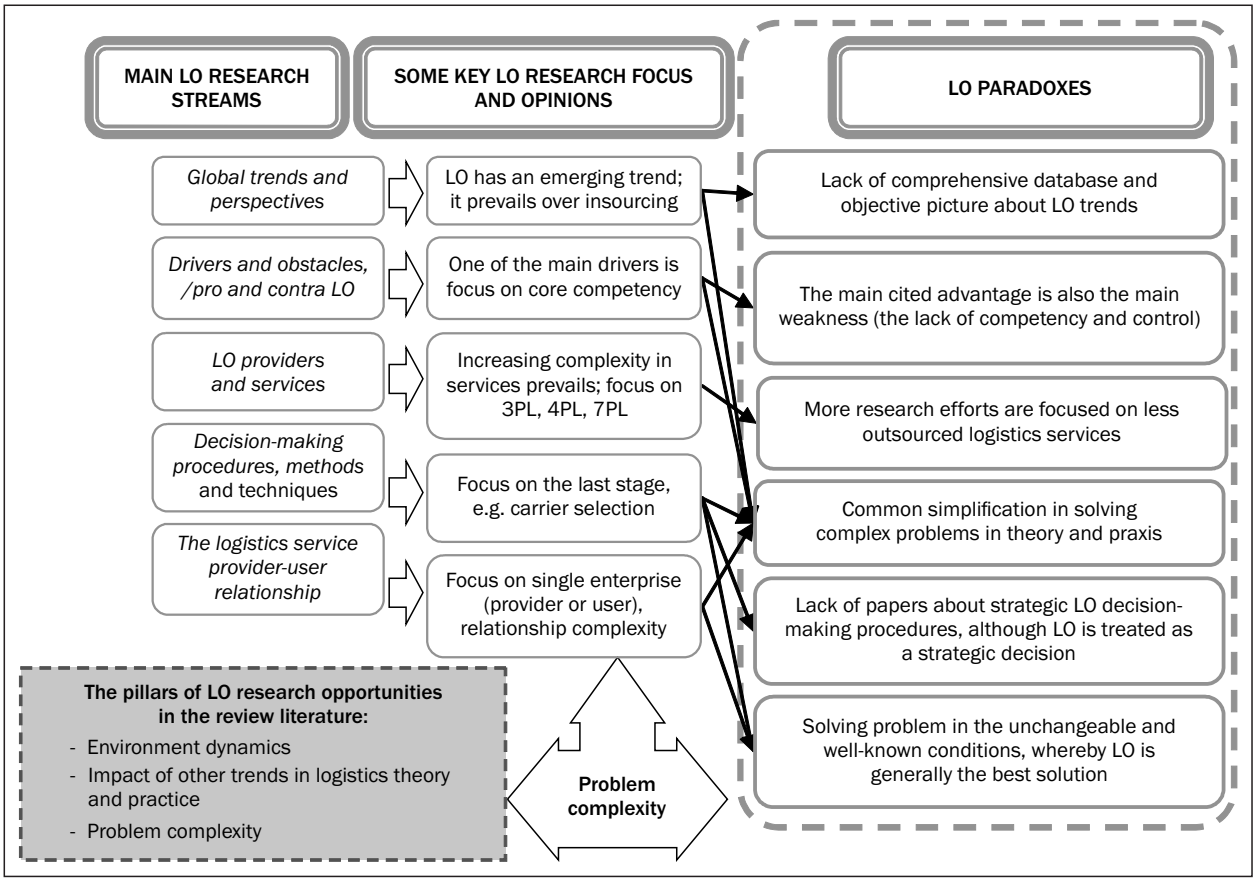

Figure 1 - Relationships between main LO research streams and paradoxes

which includes decision-making procedure and controlling mechanisms, is necessary.

Theoretical implications arise from the obvious discrepancies between LO theory and practice (the first, second, fourth and sixth identified paradoxes), as well as those related to the level of exploring particular topics and their practical value (the third and fifth identified paradoxes). The gap between the theory and practice has been confirmed by some other authors, too, as indicated by Maloni and Carter [5], who noted "Research in 3PL should ultimately support current and future professional practice" (p. 30). Future LO research should continue to bridge this gap, and be better aligned with practitioners' needs. As there is a notable tendency to conduct general surveys, rather than region or industry focused, confident planning and controlling tools, mechanisms and variables that may affect 3PL relationships in a specific context currently cannot be identified.

Moreover, the LO paradoxes, recognized and described above, confirm the sources of research opportunities identified in a few recent review articles. They also indicate that some widespread views and research streams should be reconsidered after their long-term domination.

As a rule, as the outsourcing decision is not considered critically, the importance of outsourcing decision-making procedures tends to be underestimated. Focus on less complex problems, such as single enterprise, last stages of LO decision-making (e.g. provider selection), lack of normative models, decision-making procedures, and practical directions, are also confirmed in the review articles. Within the outsourcing literature, outsourcing is rarely considered as a process, which ultimately leads to problem simplification and disregard for decision-making mechanisms. Therefore, related models and procedures should consider, as much as it is feasible, a real, dynamic environment.

Further research could also focus on more complex relationships and networks, as well as on mixed solutions. For example, logistics provider who offers the integrated services could also have own providers and providers of own providers. The nature of arrangements in such complex network, particular reasons for outsourcing, and even the impact of such relationships on an overall LO statistics, are rarely discussed in the extant literature. Finally, LO should not be treated as an 'all or nothing' decision, as mixed systems may often yield the best results. The value of such approach is confirmed in practice, in particular in countries that have experienced a period of economic transition.

Additionally, here the need for more comprehensive database about LO trend and its relationship with other global trends in logistics has been highlighted. Further research on increasingly globalized logistics outsourcing industry should put more effort on the relationship between outsourced and in-house logistics.

6. CONCLUSION

The research presented in this paper represents an attempt to reconsider some common LO opinions and approaches and thus contribute to exploring further research opportunities. As some recent review articles indicate the opportunities for further research in LO, the findings of the present study clarify why such opportunities exist, through identified research weaknesses, here referred to as 'LO paradoxes'. They are based on the obvious discrepancies between LO theory and practice, as well as between the research efforts on exploring particular topics and the practical value of these topics. Finally, some literature gaps which can be more explored in the future have also been identified.

The nature of logistics outsourcing paradoxes assures that the logistics outsourcing will not be an obsolete topic in the imminent period, for at least three reasons: firstly, some classical widespread views and approaches should be reconsidered in the light of new empirical research, with more comprehensive data; secondly, other global trends, such as globalization and IT development, affect business environment dynamics, increase the problem complexity and permanently impact on its topicality; thirdly, there is evident lack of both prescriptive research regarding the LO decision-making and practical directions, which includes planning and controlling instruments and more complex relationships in a dynamic environment.

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SAŽETAK

PARADOKSI I POGODNOSTI U ISTRAŽIVANJU LOGISTIČKOG AUTSORSINGA

Malo logističkih trendova je do sada zaokupljivalo pažnju stručnjaka u tolikoj meri kao autsorsing. Pregled obimne literature ukazuje na dva razloga za ovu neprekidnu aktuelnost: kompleksnost problema i dinamika poslovnog okruženja, uključujući i interakciju sa drugim glavnim trendovima u logistici i modernim lancima snabdevanja. Oba razloga iniciraju potrebu da se stalno istražuju neki novi aspekti logističkog autsorsinga (LA). U ovom radu, LA je je istraživan sa novog aspekta. Naime, identifikovane su neke slabosti u glavnim istraživačkim pravcima i povezanim uobičajenim razmišljanjima, koji nas vode do "paradoksa u istraživanju

logističkog autsorsinga". Svaki od ovih paradoksa je kratko opisan i diskutovane su njihove veze sa istraživačkim pravcima i povezanim uobičajenim razmišljanjima. Nakon toga, priroda nekih već utvrđenih oblasti pogodnih za istraživanje je bolje objašnjena, a na neke zanemarene oblasti istraživanja je skrenuta pažnja.

KLJUČNE REČI

logistički autsorsing, paradoksi u istraživanju, pogodnosti u istraživanju

REFERENCES

1. Primary parties in supply chain are seller and buyer.

LITERATURE

[1] **Harland, C.**, **Knight, L.**, and **Lamming, R.**: *Outsourcing: assessing the risks and benefits for organisations, sectors and nations*, International Journal of Operations &Production Management, Vol. 25, No. 9, 2005, pp. 831-850

[2] **Lynch, C.F.**: *Logistics outsourcing*, Council of Logistics Management, 2000

[3] **McKinnon, A.**: *Outsourcing the logistics function*, in Waters, D. (ed.), Global Logistics and Distribution Planning, Kogan Page, London, 2003

[4] **Stefansson, G.**: *Collaborative logistics management and the role of third-party service providers*, International Journal of Physical Distribution & Logistics Management, Vol. 36, No. 2, 2006, pp.76-92

[5] **Maloni, M.J.**, **Carter, C.R.**: *Opportunities for Research in Third-Party Logistics*, Transportation Journal, Spring, 2006, pp. 23-38

[6] **Marasco, A.**: *Third-party logistics: A literature review*, International Journal of Production Economics, Vol. 113, 2008,pp. 127–147

[7] **Selviaridis, K.**, **Spring, M.**: *Third party logistics: a literature review and research agenda*, The international Journal of Logistics Management, Vol. 18, No. 1, 2007, pp. 125-150

[8] **Langley, J. Jr.**: *Third-Party Logistics—Results and Findings of the 15th Annual Study*, Georgia Institute of Technology, Atlanta, US, 2010

[9] **Hong, J.**, **Chin, A.T.H.**: *Firm-Specific Characteristics and Logistics Outsourcing by Chinese Manufacturers*, Asia Pacific Journal of Marketing and Logistics, Vol. 16, 2004, pp. 23-36

[10] **Jayaram, J.**, **Tan, K.-C.**: *Supply chain integration with third-party logistics providers*, International Journal of Production Economics, Vol. 125, 2010, pp. 262-271

[11] **Jagdev, H.S.**, **Thobern, K. D.**: *Anatomy of enterprise collaborations*, Production planning & control, Vol. 12, No. 5, 2001, pp. 437-451

[12] **Bowersox, D.J.**, **Closs, D.J.**, and **Stank, T.P.**: *Ten megatrends that will revolutionize supply chain logistics*, Journal of Business Logistics, Vol. 21, No. 2, 2000, pp. 1-16

[13] **Cakić, Đ**: *Oblikovanje transportnih resursa u lancima snabdevanja*, Ph.D. thesis, Faculty of Technical Sciences, University of Novi Sad, Novi Sad, Serbia, 2009

[14] **Hong, J.**, **Chin, A.T.H.**, and **Binglian, L.**: *Logistics outsourcing by manufacturers in China: A survey of the industry*, Transportation journal, Winter, 2004, pp. 17-25

[15] **Wilding, R.**, **Juriado, R.**: *Customer perceptions on logistics outsourcing in the European consumer goods industry*, International Journal of Physical Distribution & Logistics Management,Vol.34, No. 7/8, 2004, pp. 628-644

[16] **Aas, B.**, **Buvik, A.**, and **Cakic, Đ**: *Outsourcing of logistics activities in a complex supply chain: a case study from the Norwegian oil and gas industry*, International Journal of Procurement Management, Vol. 1, No. 3, 2008, pp. 280-296

[17] **Delfmann, W.**, **Albers, S.**, and **Gehring, M.**: *The impact of electronic commerce on logistics service providers*, International Journal of Physical Distribution & Logistics Management, Vol. 32, No. 3, 2002, pp. 203-222

[18] **van Laarhoven, P.** , **Berglund, M.** and **Peters, M.**: *Third-party logistics in Europe – five years later*, International Journal of Physical Distribution and Logistics Management, Vol. 30, No. 5, 2000, pp. 425-442

[19] **Wang, C.**, **Regan, A.C.**: *Risks and Reduction Measures in Logistics Outsourcing*, TRB Annual Meeting, 2003. CD-ROM, available at: http://www.ltrc.lsu.edu/TRB_82/TRB2003-001333.pdf (last accessed March, 2011).

[20] **Razzaque, M.A.**, **Sheng, C.C.**: *Outsourcing of logistics functions: a literature survey*, International Journal of Physical Distribution & Logistics Management, Vol. 28, No. 2, 1998, pp. 89-107

[21] **Bolumole, Y.A.**, **Frankel, R.**, and **Naslund, D.**: *Developing a Theoretical Framework for Logistics Outsourcing*, Transportation Journal, Vol. 46, No. 2, Spring, 2007, pp. 35-54

[22] **Holecomb, T.R.**, **Hitt, M.A.**: *Toward a model of strategic outsourcing*, Journal of Operations Management, No. 25, 2007, pp. 464–481

[23] **Daugherty, P.J.**: *Review of logistics and supply chain relationship literature and suggested research agenda*, International Journal of Physical Distribution & Logistics Management, Vol. 41, No. 1, 2011, pp. 16-31

[24] **Deepen, J.M.**: *Logistics Outsourcing Relationships*, Springer, Heidelberg-New York, 2007

[25] **de Boer, L.**, **Gaytan, J.**, and **Arroyo, P.**: *A satisfying model of outsourcing*, Supply Chain Management: An International Journal, Vol. 11, No. 5, 2006, pp. 444–455

[26] **Croucher, P.**: *Insourcing*, Logistics Focus, March, 1998, pp. 3-8

[27] **Probert, D.R.**: *The practical development of a make-or-buy strategy: the issue of process positioning*, Integrated Manufacturing Systems, Vol. 7, No. 2, 1996, pp. 44-51

[28] **Mangan, J.**, **Lalwani, C.**, and **Gardner, B.**: *Combining qualitative and quantitative methodologies in logistics research*, International Journal of Physical Distribution and Logistics Management, Vol. 34, No. 7, 2004, pp. 565-578

[29] **Chopra, S.**, **Meindl, P.**: *Supply Chain Management, Strategy, Planning and Operations*, 2nd edition, Pearson Prentice Hall, 2004

[30] **Stojanović, Đ.**, **Nikoličić, S.**, and **Miličić, M.**: *Transport fleet sizing by using make and buy decision-making*, Economic Annals, Vol. LVI, No. 190, 2011, pp. 25-50