

HUMANITARIAN SUPPLY CHAIN IN THE VIEW OF NEW INSTITUTIONAL ECONOMICS: TRANSACTION COSTS

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Abstract

The problems of humanitarian logistics from the perspective of new institutional economics are not widely analyzed in the world literature. The effectiveness of logistics processes is determined by both internal and external aspects. The article refers to the institutional, economical, informational, social and infrastructural determinants of humanitarian logistics development and their links to the transaction costs theory. The Author tries to identify a transaction concept within the humanitarian supply chains as well as the governance structure in order to find main criteria of efficiency. The scientific considerations are based on the three types of logistics convergence in humanitarian supply chain in ASEAN Community. Therefore, the research problem consists of two questions. The first one is: how can a transaction concept be understood in the view of the humanitarian logistics theory? The second question is: what are the core criteria of efficiency in humanitarian supply chain on the basis of transaction costs theory? The methodology of the article consists of critical analysis of the subject literature and complex analysis of statistical data. The results underline the structure of the humanitarian supply chain in the view of new institutional economics.

Keywords: Transaction cost, humanitarian logistics, new institutional economics, humanitarian supply chain

1. INTRODUCTION

The purpose of this paper is to present aid transaction costs within humanitarian supply chain. The objects of analysis are ten countries that are members of ASEAN Community. The methodology of the article consists of critical analysis of the subject literature and complex analysis of statistical data for the period of 2007-2016. First of all, the problems of humanitarian logistics from the perspective of new institutional economics are not widely analyzed in the world literature. Acharya et al. [1] informed that transactions costs in aid have never been measured.

Considering the above facts, the author formulated the research problem: how can a transaction concept are understood in the view of the humanitarian logistics theory? Furthermore, what are the core criteria of efficiency in humanitarian supply chain on the basis of transaction costs theory?

The new aid paradigm is supposed to reduce the costs [8] that mostly refer to the transaction costs. The goal is to enhance aid effectiveness. Acharya et al. [1] pointed out that aid underperforms due to the too many institutional channels in flows. These flows shall be understood in the view of the new institutional economics. An increased number of above mentioned channels generates high transaction costs within nations that receive such aid. Therefore, it reduces the value of that aid.

High transaction costs are supposed to cause Official Development Assistance that may underperform in few areas [10][11]:

- the volume of aid is being influenced by the discouraging activities in the field of agreements entering and disbursement rates reducing,

- aid efficiency is being reduced through government and donor resources that are consumed; otherwise they could be made available under aid agreements,
- aid effectiveness is being reduced by ineffective government policy in the field of resources allocation; some of them do not address the main priorities and institutional development goals.

The most recent definition of aid transaction costs is prepared by Lawson [3]. They are defined as “the costs necessary for an aid transaction to take place but which add nothing to the actual value of that transaction”. Furthermore, the three costs categories has been identified [3][11]:

- search costs referring to the identification of partners and potential project or programme,
- bargaining and decision costs that refers to the financial agreements negotiations and expected outcomes identification,
- policing and enforcement costs that are associated with the respect to the monitoring and execution requirements, engaged parties’ commitment monitoring as well as the supervision of the project and programme conditions.

It has to be stated that aid delivery is a transaction *per se*. It means that after the money is transferred to the country, donors expect to obtain some results in the field of poverty reduction, education, vaccination, etc. [11]. The idea of transaction costs refers to find the best solution for transaction organization between two economic agents [14].

Three types of characteristics are distinguished due to the various structures of governance that are preferred [11]:

- asset specificity that informs about the issue of non-standard goods. They usually require specific activities in order to reuse them for other transactions. Therefore, the higher asset specificity, the higher expectations to lead the transaction to the end. In the view of foreign aid such level is high due to the necessity to invest in the aid-management process. Activities in that process refer to the monitoring, development of reporting and financial procedures, staff training, etc.
- uncertainty that is associated with always-to-be incomplete information that can take the shape of moral hazard or asymmetry. Therefore, transparency is an indispensable aspect to have a wide knowledge regarding the aid allocation and management. Such incompleteness of information creates uncertainty that increases transaction costs. Both donors and recipient countries have to negotiate contracts and complexly control the costs.
- frequency that refers to the amount of transaction costs. Higher the frequency, easier the recovery of the costs of formal governance structures creation.

2. AID TRANSACTION COSTS IN ASEAN COMMUNITY - FINDINGS

The characteristics of search costs, bargaining and decision costs as well as policing and enforcements costs and their importance in ASEAN Community has been presented in the **Table 1**. The identification is based on the trans-national (regional) approach to the logistics processes. It is based on the theory of logistic convergence in the humanitarian supply chain. Hence, humanitarian logistics, within the framework of the advancing convergence, aims at its unification based on logistics processes and activities [7]. Approaching all entities, engaged in providing aid, as equal participants of a humanitarian supply chain and taking their needs and possibilities into account in crisis oriented planning as well as the undertaken activities remain the crucial and indispensable aspects having direct impact on the effectiveness of carried out activities. The institutional, informational and infrastructural convergences are the evidence of an effective trans-national approach to the humanitarian supply chain creation in the ASEAN Community. It can be complexly interpreted in the view of aid transaction costs.



Table 1 Transaction costs in aid processes in ASEAN Community (own study based on [3,9])

Category	Characteristics	ASEAN Community adaptation
Search costs	<ul style="list-style-type: none"> The crucial category for development partners identification in the view of the government. The cost of fund programmes identification as well as of projects selling to the particular funders. 	<ul style="list-style-type: none"> Identification of the needed institutions for humanitarian logistics processes such as: AHA Centre, ASEAN DELSA, ERAT Programme, etc. The idea of the above mentioned institutions prepared by the involved parties.
Bargaining and decision costs	<ul style="list-style-type: none"> The costs of financing agreements in the aspect of its negotiation and the process of decision making for particular activities and projects. The costs of development policy and budget support defining and agreeing. 	The process of ASEAN Community integration in terms of humanitarian logistics. Starting in 1976 through general agreements to AHA Centre and ASEAN DELSA implementation in 2012 and One ASEAN One Response adaptation till 2025.
Policing and enforcement costs	<ul style="list-style-type: none"> The costs of meeting the requirements of agreed activities and projects as well as its monitoring by non-own systems. The recipients costs referring to donors monitoring in the aspect of undertaking activities associated with any disbursements as well as mutual accountability. The donors costs related to the supervision of projects and activities adherence to conditions as well as the application of any corrective actions. 	<ul style="list-style-type: none"> Monitoring of the undertaken activities by institution such as: AHA Centre and ASEAN DELSA. The complex supervising processes through IT systems as ADInet and WebEOC.

Furthermore, there are three types of governance that play a key role in the economy [5][9][13][15]. Taking into account its correlation with the aid processes in the humanitarian supply chain within ASEAN Community they can be characterized as:

- hierarchy, where a main issue for the transaction costs is to decide whether the humanitarian goods should be produced within a humanitarian supply chain or to be outsourced. Therefore, the integrated entities do not have to work under pressure. Such situation takes place during the prevention phase of natural disasters where the local (and mostly) integrated companies are responsible for goods manufacturing. Nevertheless, the level of transaction costs may be increased due to the necessity of aid goods storage in the regional warehouse in Subang, Malaysia. Outsourcing results in the increased level of transaction costs during the reaction and reconstruction phase of natural disasters. The humanitarian supply chain is obliged to negotiate contracts with global manufacturing companies of aid products in order to meet local society's expectations.
- market governance, that informs about non-company (or non-supply chain) source of transaction costs creation [2]. Due to the periodic or repetitive character they are strongly associated with the supply chains [12]. Therefore, the authority is located outside the chain. In ASEAN Community, the logistics operations regarding the relief are coordinated and integrated at the trans-national level by AHA Centre that is a centralized institution. Thereby, the humanitarian services are the crucial components of the supply chains and are not located outside. All the processes are monitored and controlled that result in the lower level of transaction costs from the market governance perspective.
- hybrid governance, that is a combined version of hierarchy and market governance.

The hierarchical type of governance in ASEAN Community implicates a solid framework for defining the transaction costs in regional association. The aid transaction costs vary in the scope of humanitarian supply chain. The classification is presented on the **Figure 1**.

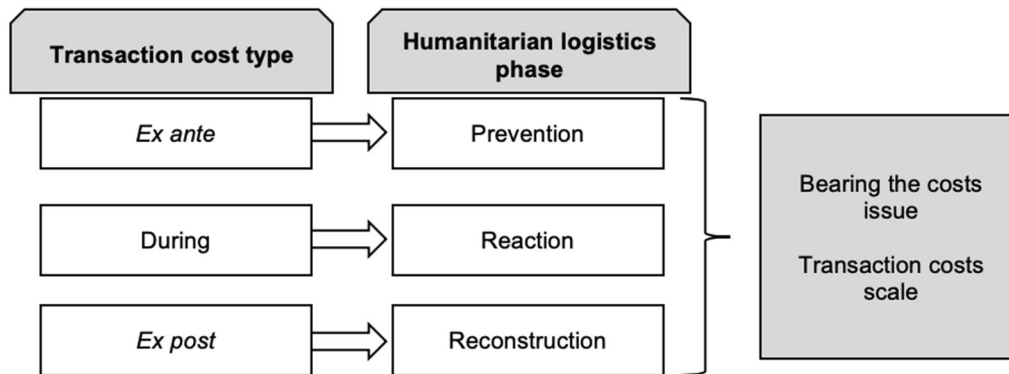


Figure 1 Aid transaction costs in trans-national humanitarian supply chain [own study]

The *ex ante* transaction costs in ASEAN Community refers to the complex identification of aid distribution processes. They are based on the concepts of coordination, integration and internationalization. The humanitarian supply chain processes may be divided into two separate groups: main logistics operations and complementary logistics operations. The first group consists of aid goods acquisition, storage, transport and distribution. The second group includes transmission of information, threat monitoring and financial management. The above mentioned logistics processes had been widely negotiated and programmed within the period of 2008-2012 when the ASEAN DELSA concept were implemented. The ASEAN Community decided to prepare scenarios and solutions for the regional (trans-national) approach to the humanitarian supply chain creation. Therefore, a wide scope of processes and activities had been projected for the all three phases of humanitarian logistics: prevention, reaction and reconstruction. Particular nations of the regional association decided to lose its autonomy in the field of disaster management policies. The negotiations resulted in the trans-national monitoring systems such as WebEOC, ADInet, etc.

The transaction costs during natural disaster (the reaction phase of humanitarian logistics) refers to the source of aid suppliers that has to be found in case of the effective aid distribution. The processes of random suppliers search at the global (or trans-national) level had been replaced by the regional warehouse in Subang, Malaysia where previously purchased relief goods are stored. Therefore, the transaction costs of suppliers search is minimized in that phase of humanitarian logistics. Furthermore, the financial transfer process is institutionalized. The interested nations that want to take part in the relief use the AHA Centre agencies for cash transfers. Such option was widely used during 16 common logistics operation in the period of 2012-2016.

The *ex post* transaction costs that come out into the open during the reconstruction phase of humanitarian logistics refers to the widely understood evaluation. The main goal of a trans-national approach to the humanitarian logistics issues in that phase is to efficiently prepare local communities to rebuild the destroyed areas. Such reconstruction should widely use the local suppliers instead of the global ones. However, it depends on the scale of the area destruction. The investment costs have a positive impact on the future transactions. The evaluation processes has to minimize the final cost of the natural disaster occurrence through the proper preventive actions. Therefore, evaluation refers to the cost of the policies and activities update. In ASEAN Community it results in the constant policy making regarding the humanitarian logistics issues at the trans-national level. AHA Centre is expected with reason to implement the One ASEAN, One Response policy within the next years.

The above mentioned aid transaction costs in humanitarian supply chain within ASEAN Community are borne by the entire regional association. Donors and recipients take a smaller part in that participation. It has to be



noticed that aid transaction costs may decrease the amount of resources needed for the affected societies as well as may consume these resources that are valuable for the alternative usage [11]. Implementation of the trans-national approach in ASEAN Community was intended to minimize such costs. Standardization and unification of logistics processes within all ten countries of ASEAN resulted in the more effective aid distribution. The “humanitarian and development assistance” subgroup of composite indicator of humanitarian logistics (see **Figure 2**) proofs that the common approach affects the sustainable development within the region. The above mentioned composite indicator informs about the level of humanitarian logistics development in the particular countries in the ASEAN Community. It consists of five groups: natural disasters (in terms of their intensiveness), demographics (population density, urban population, etc.), institutional and economic determinants, informational and social determinants, infrastructural determinants. All of the ratios had been analyzed through multidimensional scaling which procedure consists of data collection, variable normalization and distance estimation [6]. Due to the length restrictions of the article the entire analysis of composite indicator of humanitarian logistics is not being presented.

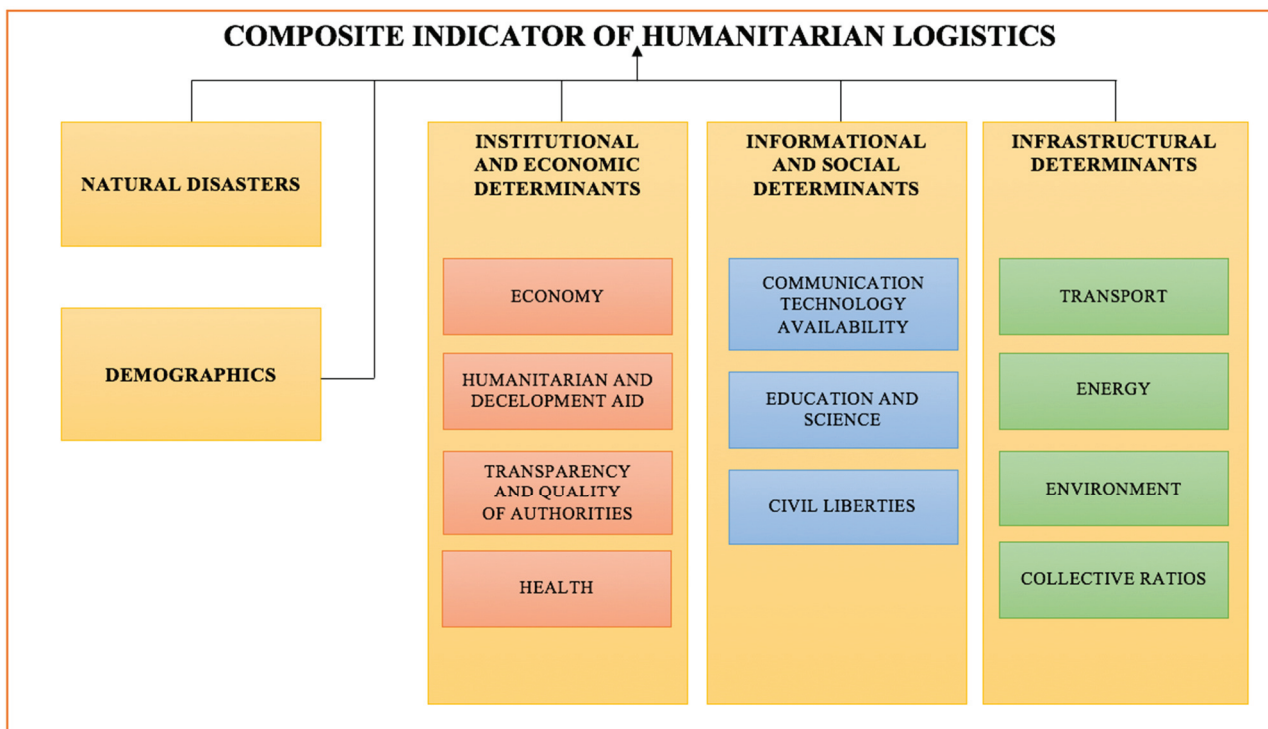


Figure 2 Composite indicator of humanitarian logistics [own study]

However, it is necessary to present two indispensable aspects of the indicator that refers to the transaction costs theory. As it was stated in the previous paragraph, the Official Development Assistance as well as the Humanitarian Assistance may influence the aid transaction costs. Therefore, the **Figure 3** presents those indicators in a variable normalization aspect. The higher level of the indicator, the less connection with the particular assistance by the country. It suggests the less intensiveness of assistance in the country were needed. In the analyzed period the Official Development Assistance in Vietnam caused the biggest influence (~14 points in **Figure 3**). Hence, it was a result of a high level of aid transaction costs that resulted in reduced aid effectiveness, efficiency as well as influenced the volume of aid. The situation in other countries was far more positive. However, Myanmar also had to rely on ODA as well. The rest of the ASEAN nations reached the level between 72 and 88 points in the 0-100 scale. The average level of Official Development Assistance in the entire regional community was ~74 points. It suggests that the transaction costs did not play a crucial role in the ASEAN and reached low levels. When we take into account the Humanitarian Assistance, the levels



of aid transaction costs are higher in Philippines, Myanmar and Indonesia due to the lower levels of indicator. In the other ASEAN countries the Humanitarian Assistance were not as high.

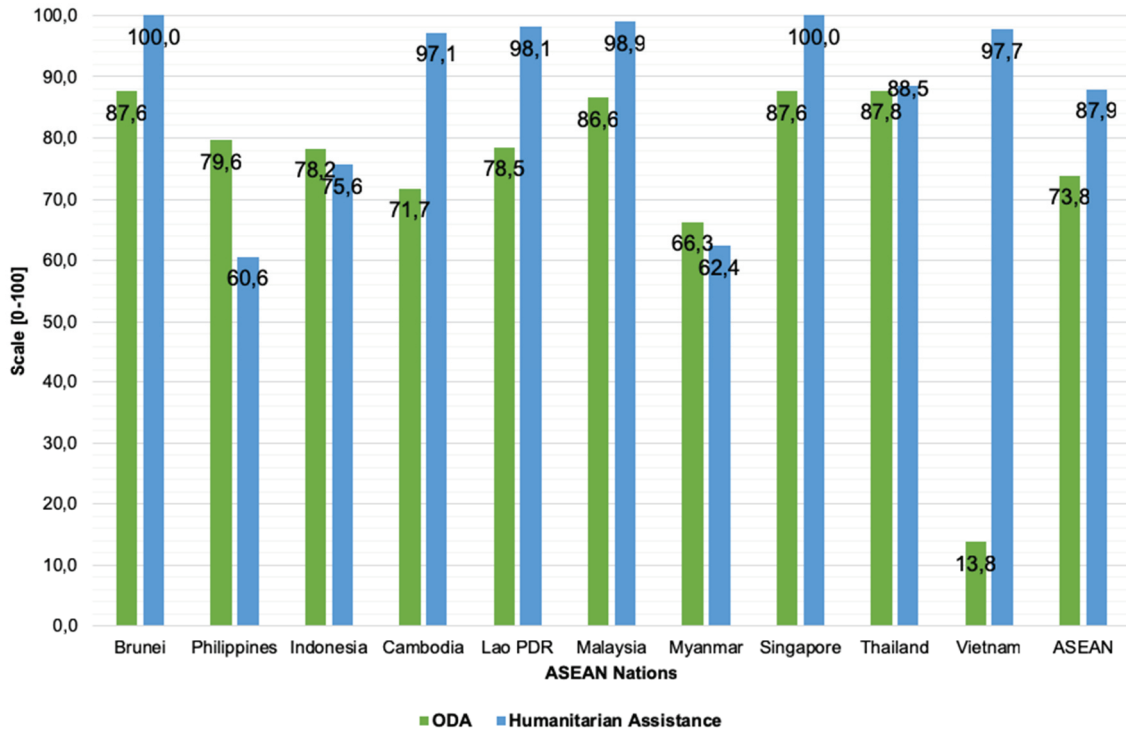


Figure 3 Official Development Assistance (ODA) and Humanitarian Assistance in ASEAN (2007-2016) (own study based on [16])

3. CONCLUSION

Aid transaction costs are the part of aid distribution effectiveness and efficiency. Due to the fact that they are not widely and easily measured it is recommended to prepare a complex analysis within aid logistics operations in particular countries and non-governmental organizations.

Conclusions of the article create more questions than general findings. The answers are expected to be found in the further research:

- may the trans-national disaster response increase effectiveness and efficiency within aid transaction costs?
- how to automatically measure the aid transaction costs?
- how the aid transaction costs may be minimized?
- how to integrate the humanitarian logistics operations in order to effectively manage the aid transaction costs?

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