

**UNDERLYING FACTORS OF COMPETITIVE DISADVANTAGES
BY AN INTEGRATED LOGISTIC NETWORK
A CENTRAL EUROPEAN SAMPLE**

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Abstract

The study investigates the underlying factors of those perceived competition disadvantages in the logistic field which may result from various levels of regulation, and administrative practices respectively. By collecting the experiences of the top leaders of Hungarian companies and analyzing the problems which have arisen, the research project attempts to reflect on those causes and factors in the background from a scientific point of view, which can lead back to these problems, thus aiming to offer a better solution to them.

In this article we show the results of our first study, where the main goal was to disclose and appreciate the extent the main problem issues, and find the connections to theoretical constructs. The research sets out the experiences of international companies' executives. The technique of the research was a written questionnaire, in which the executives of 186 industrial company took part. One obstacle of the progress is the slow development of the regulatory and institutional background, in connection with which the authors raise the problem of path dependency. There are inadequacies in the ability of embeddedness (Mandják and Szántó, 2010), namely in the acquisition of the necessary knowledge and of the ability to cooperate. The authors investigate the problems that contribute to the exploration of the elements of embeddedness and path dependency, and support the understanding of the connection between competitiveness and these two concepts.

Keywords: competitiveness, embeddedness, path dependency, logistics, integrated logistics, network, regulations,

THE PURPOSE OF THE RESEARCH, METHODOLOGY

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The company executives raised the problems that contribute to the exploration of the elements of embeddedness and path dependency, and support the understanding of the connection between competitiveness and these two concepts.

In this article we show the results of our first study, where the main goal was to disclose and appreciate the extent the main problem issues, and find the connections to our theoretical constructs.

The research was realized through the joint co-operation of the lecturers of the Corvinus University of Budapest and several logistics organizations. The Club of the Leaders of Logistics of Large Companies (*in Hungarian*: NLV Klub) The Logistics Department of The Hungarian Economics Company (*in Hungarian*: MKT) have joined forces in order to collect the experiences of top company leaders acting in the international business world, and to expose those competition disadvantages which may result from various levels of regulation policy and administrative practices respectively. In addition to the two initiating organizations the Hungarian-Chinese Chamber of Commerce, The International Co-operation Forum of Freighters, and the Logistics Conciliation Forum have all supported the initiative as well.

The method of research was an online survey, the link containing the invitation to participate and the questionnaire were sent to the leaders of Hungarian companies operating in the field of logistics (October 2010). The responders had the opportunity only to fill out the question groups which were relevant to them, so the number of responses given to particular questions significantly differs. The representatives of 186 companies have taken part in filling out the questionnaire. The most important characteristic of the responders is that the majority of them is in a decision making, or decision influencing position as a mid or top manager. Half of the companies are multinational companies, the Budapest-country partition is also 50-50%. As regards the size of the companies it can be said that 48% of them is a small company, 6% of them is a medium-sized company and 37% of them is a large company. The sample is non-representative as regards the Hungarian companies operating in the field of logistics, but with the help of the sample the research problem can be illustrated well.

THE THEORETICAL BACKGROUND OF THE RESEARCH

Integrated logistic concept in the network

The appearance of logistics in the world of business was in the beginning exclusively connected to transport, it embodied the physical connection to the customers. (Kent-Flint, 1997). The first logistics definition in today's sense appeared in 1927 (Borsodi, 1927).

In the beginning of the 1900's the first ideas surfaced in connection with logistics which went beyond the function of transport. In the past two decades a significant change took place in connection with the logistics procedures, instead of the separate functions the integrated management of the process as a whole became the focal point.

The first article about the integrated logistics concept appeared in 1969 in the Journal of Marketing (Bowersox, 1969).

The classical definition of logistics was defined by the American Council of Logistics as follows: „Logistics serves the description of the integration of several such activities, which serve the planning, realization and control of the efficient flow of raw materials, unfinished production stocks and finished products from the original basic material supplier to the end user, with the aim of meeting the consumers’ needs as completely as possible.” (CLM, 1986 in Bowersox – Closs, 1996).

Let’s compare this definition with Hakansson’s (1982) model, which describes interactive exchange relationships. According to the spirit of what is contained in the model we can define business relations as: „*the interactive exchange relationship of those concerned from two organizations embedded in the business network.*”

The complex process of exchange is actualized as the result of four kinds of exchange episodes. The exchange episodes primarily differ from one another in terms of their subjects. We can talk about product (physical and/or non physical products), information, financial and so-called social exchange episodes (Hakansson, 1982).

While in the beginning the concept of logistics was restricted to the storage and movement of physical products, today’s concept of integrated logistics management may contain all four of the exchange episodes. These exchange episodes build up the market based on the theory of network approach. Every market is made up of networks, and within these networks there exist those types of business relations to which logistics processes are connected, and those types of business relations to which logistics processes are not connected. Companies dealing in logistics are also connected by the various exchange relations, which can be related to a physical activity and/or informational or social exchanges. In the efficient operation of the market both may have an important role.

A business relationship between two partners is not an isolated process (Hakansson and Snehota, 2000), but it may be influenced by other market and non-market actors. In fact, several different actors influence business relationships (Ford 1990, Axelsson and Easton 1992, Anderson et al. 1994). In the simplest cases, a direct relationship between two organisations is influenced by third actors, with whom one or the other partner maintains separate relationships (Michel et al. 2003). Thus the third actors, in an indirect way, influence the business relationship indirectly via the behaviour change of one of the partners in business relation. The multi-layered configuration of direct and indirect relationships that influence direct relationships is called a business network (Axelsson and Easton 1992).

Correspondences of embeddedness and path dependency in the network context

When a new business unit steps on the path of growth, it becomes founded through the kind of resource which is already at its disposal in the form of certain aptitudes, through which are particular products are produced. Thanks to the co-operation with other units, the business unit itself is embedded into the resources of the others. This *embededdness* means the acquisition of the ability to co-operate with others and to be knowledgeable about others. In accordance with this, the characteristics of the business unit go beyond the combination of products and abilities. This means a kind of social unity which possesses the kind of knowledge and ability which is necessary for the co-operation with partners. These particular traits are established over time, and go beyond the borders of the company because they encompass both the abilities, knowledge, as well as the expectations of the partners. One of the important characteristics of the founded resources is that they affect every participating

person, and also the method of connecting other resources: production abilities with the products and the manpower, employee with the knowledge and so on. To sum it up, what we see here is a two-sided process, where one unit is embedded into the other, thus acquiring properties which can also be used in the aspect of new partners (Mandják et al., 2011).

When examining the possibilities of increasing competitiveness, taking Hungarian conditions into account the examination of the concept of *path dependence* arises. According to Arthur (1986) the solutions which are historically embedded into the organizational structure hinder the spread of all those new paths, which pull apart the already existing structure. Path dependence is a good example of how particular problems or solutions are „locked” in historical events. According to the definition of another pioneer of the approach, David (1985): „The path-dependent steps of economic changes is one of those processes, during the course of which the factors which most influence the final outcome, greatly rely on certain events which are distant in time.” According to Dosi (1988) path-dependence in relation to the paradigms in the particular fields can be led back to the common base of knowledge established in these particular fields. However, an essential element of path dependence is not only knowledge, but it is also a part of those technical solutions which have been adapted or developed in relation to each other Hughes (1987). In time these technological innovations become a kind of fuelling force, and the possibility of changing them radically is less and less imaginable. Opinions are divided on whether path dependence is a factor which limits flexibility or whether its recognition and exploitation can even give a boost to development (Bijker, 1997).

A relationship is the total of periodically repeated exchange episodes. A condition for the development of long term business relationships is the frequency of various exchange episodes. Repetition of exchange episodes indicates the stability of company activities and relations (Ford et al. 1998) and, at the same time, it is one of the fundamentals of corporate economy. Frequent exchange episodes may make it possible for the exchange processes in business relationships to become *routine processes*. This may reduce the transaction costs of maintaining business relationships for both partner companies. Since the maintenance of every business relationship entails costs, the reduction of business relationship maintenance costs may improve the general economy of a company. At the same time, if the exchange processes become routine activities, this may result in the “*institutionalisation*” of relations (Hakansson 1982), which means that the partners regard the relationship almost as a natural condition, and do not examine its utility. At the same time, the exchange episodes also mean the history of the relationships. During the course of realised exchange episodes, the stakeholders acquire various types of experience. This experience, on the one hand influences the behaviour of the stakeholders within the relationships, and, on the other hand, the stakeholders’ perceptions concerning the relationships are mostly based on this experience. These individual and group perceptions play an essential role in the management decision concerning the business relationships.

The role of logistics in Hungary’s competitiveness

During the course of the last two decades significant changes have taken place in connection with logistical procedures. Instead of separated functions, the focus has become on the integrated management of the whole procedure (Langley, 1986). The development of logistics procedures in Hungary started with the increasing importance of improving efficiency after the regime transition (1991).

In the 90's the countries of Central-Eastern Europe primarily had to solve the tasks of direct crisis management, re-building, and political stabilization, then these countries had to concentrate on strengthening institutions, economic developments, and regional co-operation. After the change of the political system in Hungary the rapid development of logistics began with the increasing importance of the efficiency factor, then logistics became an ever more important factor of competitiveness. During recent years the political and economic reforms which were carried out provided the basis for the development of the economy and provide a guarantee for international co-operation and competitiveness. Thanks to the conquest of market economy the companies look for the possibilities of increasing and respectively maintaining their competitiveness among an ever more sharp market competition.

While the options of technical, technological developments are becoming ever more depleted, an ever more advancing and coming to the forefront means of increasing company competitiveness are the logistical methods and procedures.

Due to the globalization processes taking place in the world economy the acquisition and sales markets are expanding, the ever increasing extent of international work-share leads to the formation of international production networks.

In Hungary the profitability of enterprises without financial sector was between 3-4 % during the times of the evolving conjuncture in the second half of the Nineties, while in the 1995-96 stabilisation period it was below 1.2 %. This is nearly half of the data of the developed market economy countries. The relatively low Hungarian productiveness was counteracted by the cheap domestic wages (Szabó, 2003). However, the labour force costs becoming more expensive cannot exceed the measure of the increase of productiveness in the long term, so real falling into line is primarily dependent on the falling in line of productiveness (Bakács, 2003)

With the expansion of the European Union the possibility has opened up for our country too, to become the new logistics provider centre of the region (Gelei-Halászné, 2006). This possibility is also strengthened by Hungary's geographical position and the directives marked as developmental priorities by The Trans-European Traffic Network. One possible way of achieving the logistical centre status of the country is the increase and intensive development of logistical centers.

In case Hungary would like to become the central role player in the region for logistics the emphasis will have to be placed on companies able to provide service packages which meet customers' demands (Chikán, 2003).

The companies operating on the local market have to be provided with services which ensure that these services are worthy of being made use of in Hungary by the procurer. Two of the customer value creating service provision package's main characteristics has to be taken into account; these are level of the provided service and the logistics expenses which are needed for its provision. The role of the price has remained unchanged in the past years, whilst the demands regarding the level of service have increased. The basis of long-term competitiveness is that the company understands the problem of the customer and flexibly participates in creating a service package which is suited to fulfil the customer's demands.

In addition to competitive price an increasing role is played by the dimensions connected to time and the value increasing service elements. These expectations can only be met, if the well-operating logistics cluster of the region is established (Chikán, 2003).

THE PRESENTATION OF THE RESULTS OF THE RESEARCH

The questionnaire contained seven question groups, which's contextual build-up was as follows:

Content of question group	
1.	<i>Competitiveness disadvantage resulting from a regulation existing only in Hungary</i>
2.	<i>Competitiveness disadvantage resulting from the excessive strictness of a Hungarian regulation</i>
3.	<i>Hungarian authority practice resulting in competitiveness disadvantage</i>
4.	<i>Regulation existing elsewhere, but missing in Hungary</i>
5.	<i>Foreign authority practice existing abroad, resulting in competition disadvantage for Hungarian companies located abroad</i>
6.	<i>New regulation proposal causing potential competitiveness advantage</i>
7.	<i>Characteristics pertaining to the company and the questioned person</i>

Within the particular question groups in every case at first we had to ask a to be decided question regarding whether the responder has already encountered the particular problem, then we asked the responder to elaborate on the problem in more detail, and then to estimate the severity of the problem and the extent of the damage caused by it. Finally we asked him to make a proposition for the solution of the problem.

The responses given to the open question provided the possibility of analyzing the content, and a deeper understanding of the problem.

The analysis of the effects of national regulations

The responding logistics managers unanimously regard Hungarian regulations as more strict than EU regulations. Through this local entrepreneurs can in many cases, get into competitiveness disadvantage, mainly because of the burdens of excess administration and expenses respectively. According to which areas of the company's life the arisen regulation affects, we have defined three main circles of themes:

1. Regulations defining encompassing competitiveness environment in general

Hungarian regulations need to be *harmonized* with the regulations of the other EU member states. Hungarian regulations are more strict than those of the other EU member states in general. This has a significantly hindering effect on growth and it also causes administrative burdens. In addition there is no civil law regulation pertaining to domestic transport and storage, and the *liability regulations* also have shortcomings.

2. Problems connected to commerce

In connection *with the excise regulation*, Hungarian regulation is also considered to be way too strict when compared to the regulations passed in the EU, and responders champion the uniform EU regulation. The non EU conform application of the regulation causes excess costs due to the increase of the administrative burden, since surplus manpower and IT investments are necessary for its fulfilment.

Due to the *levied customs regulations* its not worth for the importers to have customs clearance done domestically. In addition according to the respondents the Hungarian

regulations are contrary to EU governing principles as well. On a yearly level customs clearance causes enterprises a damage of 5 million. The problem primarily means financial, growth and geographical limits.

The *difficultness of the regulation of Hungarian VAT return* was also raised in the questionnaire. It causes a significant, approx. 15 million HUF (55 thousand EUR) per year disadvantage to the questioned responders.

The *environmental product charge regulation* does not present a burden to the responders from a financial point of view, it much rather puts them under an administrative burden. The wording of the regulation is not unambiguous, it is not adequately defined which circle of products it affects, and its taxation base is also difficult to calculate. So even unwittingly the regulation is easy to break.

The *difficultness of the permission procedures* also arose with the responders. Due to the various no-entry regulations the transport companies have to acquire permits in a complicated and costly manner. This makes the planning of the transport routes difficult, or at times even impossible, and may even cause surplus runs. They increase the projects' input costs and the lead-times." We see the solution in more flexible regulations and in the application of competitiveness approach. This topic also arose among authority practices, where the lack of competitiveness approach was also emphasized in national practice. From an administrative and flexibility aspect the situation is seen as very grave. The sum of the damage caused in 2010 is estimated to be 20-25 million HUF (70-90 thousand EUR).

3. Occupational safety regulations

The main critic of the regulations mentioned here was that compared to the general EU regulations companies have to meet and comply with stricter national regulations in connection with occupational safety and environmental safety regulations.

The regulation primarily means increased administration. In connection with the environmental safety regulations the subsidy of the combined transport which works in the EU, but which is not as favourable in our country than in other member countries. This led the responder to estimate the damage caused at 120 million HUF (440 thousand EUR).

The *regulations concerning the employees, emphatically* compulsory training of the drivers every five years and the regulation of the working hours of the employees puts an especially difficult burden on the entrepreneurs.

Due to national regulations the *development and sale of storages* is also more expensive than in other EU countries. This too, is caused by the regulations which are believed to be more strict, for example as is the case with the smaller storage fire section limit, and the strict fire safety regulations. The existing regulation provides no room for the introduction of up to date technologies, through this the efficiency of the companies may decrease and their costs may also increase.

These would require more flexible approach possibilities, which do not endanger the applicability of modern technologies, and the taking over of the European Union regulations. (responder: high level manager of a Hungarian owned small company who has decision making capacity). One responder also found the traffic ways and areas' the regulations pertaining to their in-buildability worrisome as it increases administration, and also makes flexibility of the company more difficult.

This was evaluated as a significant damage mainly from a financial point of view, besides having a role in the decrease of the flexibility of the company. On an annual level a damage of 20-50 million HUF (70-90 thousand EUR) can be connected with the shortcomings of storage regulations.

The regulation of the transport of hazardous goods is not uniform even within the EU. So it the fact that hazardous goods have to be separately labelled in Hungary for example, when the cargo comes from Belgium, as this is not a requirement there.

The analysis of the effects of foreign regulations

Responders have picked out seven countries against which national logistics companies have found themselves to be in competitiveness disadvantage.

According to the AETR agreement between two 4.30 hour drives the taking of a one hour break is compulsory in Germany. The existence of the regulation may cause a severe financial damage, it decreases flexibility and limits market presence.

In contrast to Germany, Holland and Belgium in Hungary the Civil Code does not define receipt charge, so the question of liability is unclear as well.

Austria and Germany offer their conveyors subventions through giving part of the highway levy on vehicles back to conveyors from their country, along with other subsidies. This causes a severe financial damage to companies, limits their possibilities of growth, and strongly restricts their presence on the market.

In Switzerland trucks are detoured onto the railroad, but this differing regulation does not cause severe damages according to the responder.

An English regulation increases administrative burden because „the invoice or receipt filled out in accordance with strict regulations for absorbed costs is not acceptable. This costs money, energy and time.”

Proposed new regulations

Between the regulation proposals encompassing ideas arose, which generally were connected to the amendment of the problematic regulations, but a new circle of topics have also surfaced in the responders.

A fundamental question is where the creators of the state strategy position the branch, so more attention should be payed to this. Hungarian enterprises also would request state subsidies. A concrete example of this could be the introduction of the conveyors' gas oil, and the availability of tax allowance for logistics investments.

Responders have proposed the transformation of customs regulations in the interest of quick and flexible data processing and decreasing customs costs.

These proposed the termination of the institution of VAT return, respectively its transformation was considered to be important, because in addition to excluding tax fraud, a significant liquidation improvement may also be achievable according to the respondents.

Based on the example of the Swiss standards of Spedlogswiss responders also recommend the establishment of professional risk management and liability standards. The road fee in ratio to the road usage works in Switzerland, which if introduced in Hungary too, the pay principle would be actualized along with the subsidy with a quota of those transport systems which emit less hazardous substances.

For the purpose of sustainability and employment creation the establishment of producer and distributor coordination was considered as important.

Finally the necessity of the settling of the legal relationship between the multinational stores and their Hungarian suppliers also arose, because the present practice causes severe competitiveness disadvantage to the suppliers.

The analysis of the effects of national authority practices

During the course of answering the questions about authority practices, a similar circle of topics were mentioned, only with a different approach as was in the case with the regulations. We can highlight several recurring circle of problems, such as customs regulations, excise act, and permission procedures.

Most answers on the authorities expressed an opinion *about comprehensive administration*. Excessive bureaucracy and the application of regulations disregarding professional aspects were regarded as the biggest mistakes in authority practices.

The administrative practices of local authorities and other state institutions are slow, and unduly strict. During the course of the handling of administration emotional connection is also higher, despite the fact that it does not cause an outstandingly high damage to the companies, the responders estimated the damage at 2-20 million HUF (7-70 thousand EUR).

The responders have also criticized in the case of particular authorities the *fairness* of their operation. The high value of *local business tax* was also mentioned, as well as the high costs of establishing and reforming a company. As a solution, the responder simply recommends the cancellation of the local business tax.

The National Tax and Customs Bureau (in Hungarian: NAV) strictly adheres to customs regulations, more strictly than it is done in Western Europe so foreign business partners allow themselves more uncarefulness during filling out customs papers, which is bothersome for national companies. This primarily causes excess administrative work, but in some cases fines also cause actual financial damage. In addition the slowness of customs administration, which according to their recommendations could be handled more quickly and flexibly electronically. As a good example of this customs administration In Holland was mentioned. Another problem connected to NAV is that in the case of taxed goods the storage regulations are unduly strict. The responder also regards the problem as severe, it primarily makes the flexible reaction of the company more difficult, as well as putting further administrative burden on it.

In case of authority practices the slowness and complexity of the permissions pertaining to premises arose. The responders would like to see the permission procedure completed within 30 days. They regarded the current regulation as damaging primarily from the point of view of growth and market presence, which expressed in a sum of money approximately, means a yearly damage of 300.000 HUF (1,1 thousand EUR).

From the aspect of competition it's also damaging that *the fines given to by the national transport vehicles* are collected in every case, while in international practice this ratio is now low. More precise and well thought out action plan would be expected from authorities.

The analysis of the practices of foreign authority practices

In the case of German, French and English customs authorities Hungarians sense the application of a positive discrimination against Hungarian companies.

Against German and Austrian authorities questions also arose which suggest similar negative discrimination. „In some cases the nit-picking control of the international conveyor, and the meted out fine is not in proportion with the conclusions of the examination.” It is typical of France Germany and Austria that the control is more strict on motorways, and offending trucks are also filtered out.

FIRST CONCLUSIONS

Examining the concept of embeddedness in the theme proved to be relevant on multiple levels from the aspect of competitiveness. Hungary regarded as a country (macro) the logistics sector (micro) the situation of particular companies (micro). From the point of the country geographical traits are very defining, so are the environment, and the infrastructural systems also defined by neighbouring countries. The development in the country did not occur in proportion, the development of the Western region currently precedes East Hungary.

From the point of view of the sector the most significant thing is the *relationship* to EU regulations and tax relations. With the particular companies it is also important to examine embeddedness on the level of interactions, which may have a significant effect on the efficiency of operation.

The examination of the path dependence phenomenon is also interesting from several aspects. On the one part political aspects may be important, which manifest themselves in the remnants of socialism and bureaucratic regulation systems. Primarily the „impotence” of the system and the lack of trust caused problems. The remnants of these can very markedly be felt in the background of the problems.

The Hungarian system is basically over-regulated, its basis is characterized by mistrust towards the competition sphere.

Another important aspect from the point of logistics is the technical relation which means the establishment of the infrastructural system. This is a long and expensive process, its development is significantly influenced by historical aspects (e.g.: the shift in country borders). Thus the established infrastructural system may significantly hinder development and flexibility. With the establishment of the new systems it can be seen well that the work of the role players taking part in the developmental work is not only a technical, but is also a political, economic a social process in one, combining the existing and new resources.

The results of the research support that the particular branches and their companies respectively are not truly competitive by themselves alone, but by connecting with one another. Thus those connecting sectors, respectively economic regulations play a great role which supports the central players of the branch with their own products or services. Outstandingly important are customs regulations and respectively the establishment of a EU conform and competitive customs practice, the tailoring of the tax system and the transformation and development of the education system which provided emphasized human resources according to the demands of the market.

LIMITATION, NEXT STEPS IN THE RESEARCH PROCESS

The research is not representative so the results cannot be generalized in regards to the Hungarian logistics companies. The applied methodology and the sample size gave us the possibility to pinpoint the perceived effect of regulations and authority practices on competitiveness, and to highlight the existence of the problems connected herewith.

In this research we managed to identify the companies who should participate in the next qualitative part of the research, where we plan to make personal interviews to *understand the roots of the problem issues in more depth, and refine the connection to the theoretical constructs embeddedness and path dependency.*

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