FACTORS AFFECTING THE WAREHOUSES LOCATION WITH ACCENT ON COMMUNICATION WITH THE EXTERN ENTITIES

Jan CHOCHOLAC, David HRDY, Anastasiia KUPTCOVA, Petr PRUSA

1 Introduction

This paper deals with the factors influencing the new warehouse location with accent on necessary communication with the external entities. The objective is to perform, based on the statistics of the World Bank, the comprehensive comparison of this indicator in terms of individual countries and to declare where is what level of administrative burden and necessary communications with the external entities. This indicator may be one of the key factors in the matter of new warehouse location, by which the prospective investor will decide where its business plan will be implemented.

2 Factors affecting the warehouse location

There is a large amount of factors that affect the location of the warehouse. To name at least the following basic ones [1,2]:

- the price of industrial land,
- quality of industrial land,
- price of workforce (labor cost),
- quality of workforce,
- availability of workforce,
- availability of transport infrastructure,
- cost on transport infrastructure,
- construction cost,
- quality of carriers,
- selection of carriers,
- tax structure,
- potential for further expansion,
- ecological aspects,
- impact on economic situation of the region,

- impact on traffic situation of the region,
- administrative complexity of the project.

Nowadays, the administrative complexity of the project, which may be expressed in terms of the interaction of managers with the external entities, which include notaries, cadastral offices, architects and other entities that are necessary for the successful implementation of the whole project, is very important.

The extent of necessary interaction of managers with the external entities regularly has been monitored by the World Bank and it has been processing the global statistics since 2005 [1].

3 Statistics of the World Bank

Since 2005, the World Bank has annually monitored the indicator of number of procedures required to build a new warehouse. In fact, it represents the number of interactions between the company employees or managers with all the external entities, like the employees of state administration and local governments, public inspectors, notaries, cadastral offices and employees of cadastral offices, technical experts, architects and engineers [1].

The World Bank has been collecting the data based on a standardized research in order to ensure the comparability across the economies and also in terms of time. The research itself has been carried out almost by 9,000 of local experts including lawyers, business consultants, freight forwarders, government officials, etc. [1].

3.1 The indicator development in the Czech Republic and neighboring countries

The development of indicator of the number of procedures required to build a new warehouse in terms of number of actions in relation to the external entities has had constant trend in the Czech Republic. The statistics of the World Bank states that in period 2005 to 2014 it was necessary to perform 24 interactions with the external entities in order to build a new warehouse.

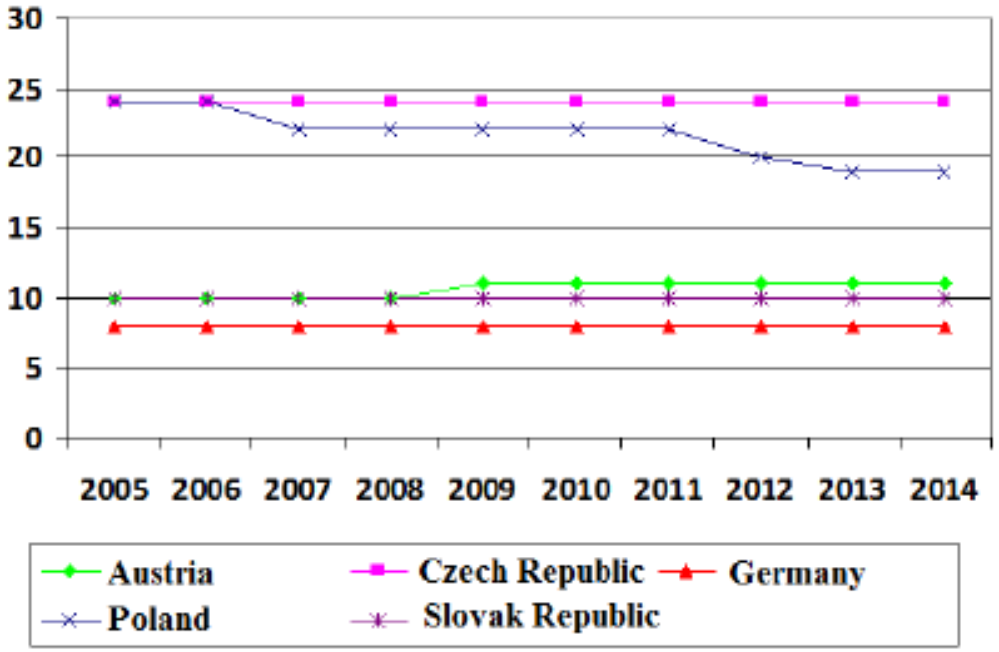
Even Poland (24 necessary interactions) showed the same administrative burden in 2005 and 2006, however, between 2007-2014, it was reduced this burden for businesses on the current value of 19 interactions.

Between 2005 and 2008, Austria and Slovak Republic had the same values of this indicator (10 necessary interactions), however, since 2009 until now, in Austria, one interaction has been added within the administrative complexity. Therefore, it can be stated that the number of required interactions in relation to the external entities in Austria is equal to 11, while in the Slovak Republic, it has been remained, throughout

the whole time period of this indicator monitoring, at its constant value of 10 required interactions.

From the perspective of the Czech Republic and its neighboring countries, in terms of the number of necessary interactions, Germany has the most appropriate situation. From 2005 to 2014, Germany kept the value of this indicator at the constant level at 8 necessary interactions, which is also declared in Fig. 1. Conversely, the greatest extent of interaction, when building a new warehouse, must be carried out by employees and managers of the investor just in the Czech Republic. There are 24 interactions [1-4].

Fig. 1 *The development of indicator of the number of required interactions with the external entities when building a new warehouse for the Czech Republic and the neighboring countries in years 2005 - 2014*



Source: [1]

3.2 Countries with the highest value of indicator of necessary degree of interaction with the external entities

Based on the statistics of the World Bank, it can be stated that the highest necessary degree (extent) of interaction in 2014 was registered in Moldova (up to 27 of required interactions); further in Guinea (26 of required interactions); India, Kazakhstan and El Salvador (25 of required interactions), Czech Republic, the Philippines and Tajikistan (24 of required interactions), see Table 1.

From these statistics, thus, it can be concluded that in terms of this indicator, the Czech Republic is one of the countries where is the high administrative complexity and communication with the external entities, because the Czech Republic, in terms of 210 compared countries, ranked at the 6. - 8. place by the number of necessary (required) interactions, together with the Philippines and Tajikistan.

Tab. 1 Countries with the highest value of indicator of necessary degree of interaction with the external entities in 2014

The number of required interactions	**27**	**26**	**25**	**24**
Country	Moldova	Guinea	India	Czech Republic
			El Salvador	Philippines
			Kazakhstan	Tajikistan

Source: [1]

3.3 Countries with the lowest value of indicator of necessary degree of interaction with the external entities

The lowest value of necessary degree of interaction with the external entities is specific for a special administrative region of the People's Republic of China - Hong Kong, where the employees and managers, during the construction of a new warehouse, must perform only 5 interactions with the external entities.

Very low values of necessary interactions are specific even for Denmark, Spain, Ethiopia, Guyana, Jamaica, Sweden, and Thailand (only 7 necessary interactions. Only one extra interaction (it means 8 interactions) is specific for the investors in Cyprus, Germany, France, Georgia, Haiti, Ukraine, Iraq, Kenya, Congo and Montenegro.

Nine necessary interactions with the external entities must be ensured by Barbados, United Kingdom of Great Britain and Northern Ireland (GB), Venezuela and Maldives.

An overview of countries with the lowest values of indicator of necessary degree of interaction with the external entities, during the project of new warehouse implementation, is shown in Table. 2 [1-4].

Tab. 2 Countries with the lowest value of indicator of necessary degree of interaction with the external entities in 2014

The number of required interactions	**5**	**7**	**8**	**9**

Country	Hong Kong	Denmark	Cyprus	Barbados
		Spain	Germany	GB
		Ethiopia	France	Maldives
		Guyana	Georgia	Venezuela
		Jamaica	Haiti	
		Sweden	Ukraine	
		Thailand	Iraq	
			Kenya	
			Congo	
			Montenegro	

Source: [1]

3.4 Countries with the significant development of indicator of necessary degree of interaction with the external entities

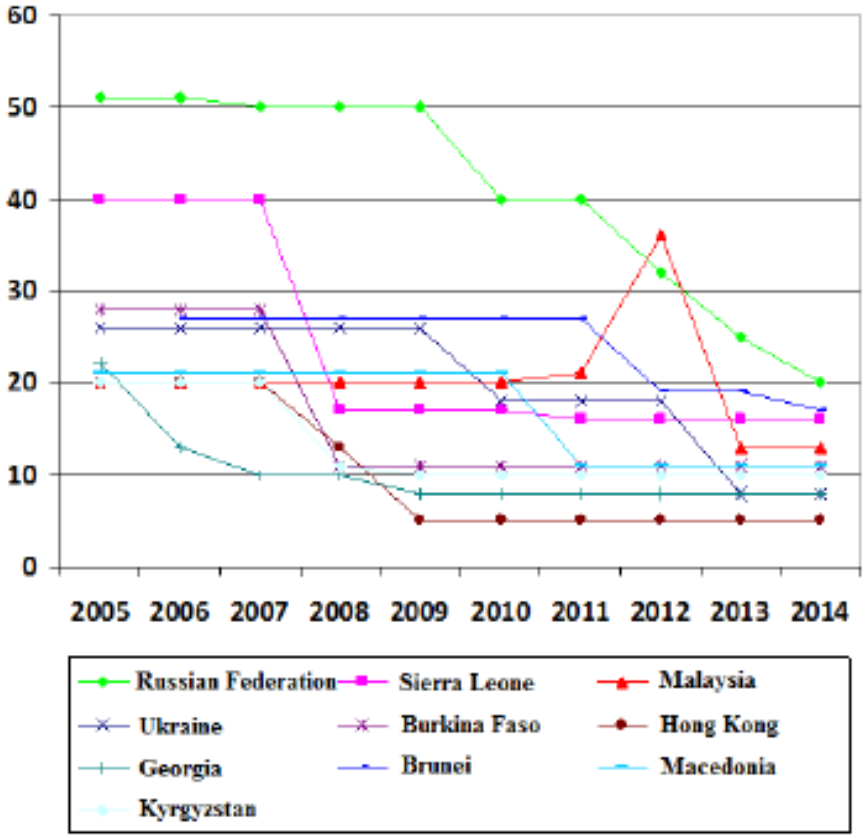
The most significant development has been registered in the Russian Federation, where in 2005, it was necessary, for building a new warehouse, to perform up to 51 of interactions with the external entities. Within 10 years, however, there has been a massive reduction, only at the level of 20 interactions. Therefore, it can be stated that this number has been reduced by 31 interactions, which corresponds to about 61%.

The significant development was also observed in Sierra Leone, where a decline of 24 interactions was registered, or in Malaysia, where the number of interactions was reduced by 23 of interactions.

In any of the analyzed countries, the increase of administrative burden, or communication with the external entities was not observed. These indicators were compared in years 2005 - 2014, or since the moment when this indicator began to be monitored [1-4].

Fig. 2 shows the development of indicator of necessary degree of interaction with the external entities in countries where the most significant development were registered in years 2005-2014.

Fig. 2 Countries with the significant development of indicator of necessary degree of interaction with the external entities in years 2005 - 2014 according to data availability



Source: [1]

4 Conclusion

This article deals with the factors influencing the location of a new warehouse with an emphasis on the necessary communication with the external entities. Based on the statistics of the World Bank, processing the comprehensive comparison of this indicator from the perspective of individual countries and thus the statement where is what level of administrative burden and necessary communications with the external entities is the main objective of this article. In fact, this indicator may be one of the key factors within the issues of placement of the new warehouse, by which the future investor will decide where its business plan will be implemented [1,5].

In the Czech Republic, the development of indicator of the number of procedures required to build a new warehouse in terms of a number of actions in relation to the external entities has had the constant trend while from 2005 to 2014, including the statistics of the World Bank, it is stated that 24 of interactions with the external entities must be realized in order to build a new warehouse.

After processing a comparison with other countries, it can be stated that the Czech Republic is one of the countries where the high administrative complexity and the necessity of communication with the external entities is required. It can be stated because of the fact that the Czech Republic, in terms of 210 compared countries, ranked at the sixth to eighth place by the number of necessary interactions, together with the Philippines and Tajikistan [1], [5-7].

There are also countries where the value of number of interactions is at the level of 5. The special administrative region of the People's Republic of China - Hong Kong may be considered as an example. The most significant development is characteristic for the Russian Federation, where in 2005, it was necessary to perform up to 51 interactions with the external entities in order to build a new warehouse. Within 10 years, however, there has been a massive reduction regarding the number of interactions - only 20 interactions.

It is very important to realize that so-called the degree (extent) of project administrative complexity, which includes the communication with the external entities as well, can be crucial for newcomers investors, therefore, the reduction of this degree to the lowest possible level is supposed to be the effort and the objective of the local government [6-8].

The article was prepared with the support of Student Grant Competition of the University of Pardubice, project number: 51030/20/SG550001. The authors are grateful for the support.

References

[1] *The World Bank* [online]. © 2015 [cit. 2015-10-27]. Available online: <http://data.worldbank.org/indicator/IC.WRH.PROC/countries?display=default>.

[2] CEMPÍREK, V., R. KAMPF, J. ŠIROKÝ. *Logistické a přepravní technologie.* Pardubice: Institut Jana Pernera, 2009, 198 p. ISBN 978-80-86530-57-4.

[3] KAMPF, R., P. PRŮŠA. Metoda benchmarkingu a možnosti její aplikace v dopravě. In: *Aktuální problémy v dopravě 2009.* Pardubice: Institut Jana Pernera, o.p.s., 2009, pp. 127-131. ISBN 978-80-86530-58-1.

[4] PRŮŠA, P. *Dostupnost dat v logistickém řetězci.* In: LOGI 2006 "Ku konkurencieschopným železničným systémom v Európe". Pardubice: Institut Jana Pernera, 2006, pp. 146-151. ISBN 80-86530-30-2.

[5] SIXTA, J., M. ŽIŽKA. *Logistika: používané metody.* Brno: Computer Press, 2009. ISBN 978-80-251-2563-2.

[6] SIXTA, J., V. MAČÁT. *Logistika: teorie a praxe.* Brno: Computer Press, 2010. ISBN 80-251-0573-3.

[7] VOLEK, J., B. LINDA. *Teorie grafů: aplikace v dopravě a veřejné správě.* Pardubice: Univerzita Pardubice, 2012. ISBN 978-80-7395-225-9.

[8] PERNICA, P. *Logistika pro 21. století: supply chain management.* Praha: Radix, 2005. ISBN 80-86031-59-4.

Resume

The paper deals with the factors affecting the new warehouse location with an accent on necessary communication with the external entities. The objective is to perform, based on the statistics of the World Bank, the comprehensive comparison of this indicator in terms of individual countries and to declare where is what level of administrative burden and necessary communications with the external entities.

Key words

warehouse, logistics communication, warehouse location, external entity

Ing. Jan Chocholac
University of Pardubice
Jan Perner Transport Faculty
Department of Transport Management, Marketing and Logistics
e-mail: jan.chocholac@upce.cz

Ing. David Hrdy
University of Pardubice
Jan Perner Transport Faculty
Department of Transport Management, Marketing and Logistics
e-mail: david.hrdy@student.upce.cz

Mgr. Anastasiia Kuptcova
University of Pardubice
Jan Perner Transport Faculty
Department of Transport Management, Marketing and Logistics
e-mail: anastasiia.kuptcova@student.upce.cz

doc. Ing. Petr Prusa, Ph.D.
University of Pardubice
Jan Perner Transport Faculty
Department of Transport Management, Marketing and Logistics
e-mail: petr.prusa@upce.cz