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**THE USAGE OF BENCHMARKING IN THE LOGISTIC CENTRES**

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The world trade is globalised, so it's necessary to support competitive advantage of the Czech logistic centres as well the whole Czech transport sector. This can be made with help of index benchmarking.

The purpose of the project called "The concept of index benchmarking for logistic centres" is to ensure improvement of critical spheres, which could threat particular companies (logistic centres) and empower spheres in which are the Czech logistic centres above the others.

Benchmark analysis enables comparison of Czech logistic centres with competitive centres in the Czech Republic, in the Europe and in the world.

The contribution is creating ON LINE benchmarking test, which enables gathering objective information on the base quantified indexes. Thanks to accessibility in the web, the benchmark test enables to the company (logistic centre) to gain necessary information for decision making about increasing efficiency, productivity, total economic prosperity etc.

Following paper is one of the outputs within first period of solution project MD CR 1F83A/014/520 The concept of index benchmarking for logistic centres.

**Introduction**

The environment was almost steady in the past, but nowadays the free market economy is characterized as turbulent economic environment. It's necessary to react

quickly on all the time changing opportunities and challenges to achieve success and prosperity. The goal of each company should be keeping customers, achieving prosperity and profitability.

*„The quick changes in the environment cause that particular companies aren't able to develop, test and implement everything in the practice by themselves. Here seems as a good approach the learning from the best companies. It's not only total copy of single processes, but also the ability to apply and adapt the ideas of successful companies, which acquitted well and evolve them further.“* [1] The goal is to be better than successful competition. The benchmarking can be defined as process of identification best methods and learning from them in other organisations. It's useful tool in searching continuous improvement and markedly better results

The final benchmarking effects can lead for example to:

- Better decision making (based on better information),
- Setting more difficult goals,
- Higher customer's satisfaction,
- Acceleration process of change,
- Costs saving etc.

## **1. The Benchmarking Code**

The Czech Society for Quality set out the Benchmarking Leading Code, which concurs on the Benchmarking Code EFQM and APQC. This Code isn't legally binding document, it's only instruction and it's abidance should contribute to efficient, effective and ethic benchmarking. It's in such wording that it take account of the competition law of European Union.

The Code contains nine principles, which are principles of preparation, contact, exchange, confidence, using, legality, fulfilment, understanding and agreement, bechmarking with competitors.

In the Czech republic there is given only slight attention to researching topic logistic centre benchmarking, even though it's system which supports increasing effectiveness and competitive strength of transport sector (e.g. railway traffic, road traffic etc.) and logistic centres. Index benchmarking should help in safeguard improvement of critical spheres which should threat the group (or organization) and empower spheres in which is the group (or organization) above the others. It's highly desirable to support higher competitive strength of the Czech logistic centres and transport sector, because of world trade globalisation. This could be made thanks to index benchmarking.

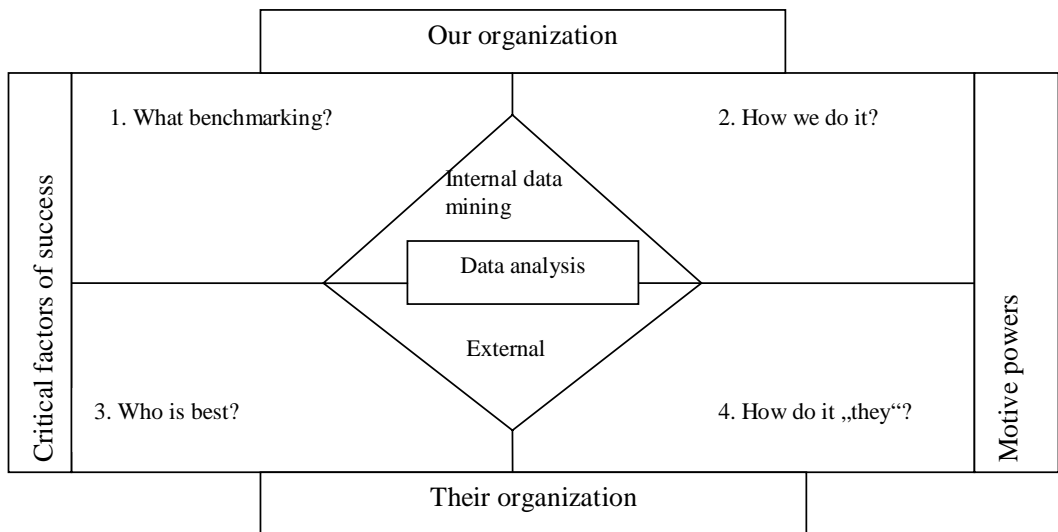
## 2. The Benchmarking Process

Robert C. Camp, one of the leading personalities in benchmarking sphere, defines benchmarking as "... finding best procedures in business, which lead to excellent results". If the benchmarking is understood as comparison it's obvious that it could concern the excellent results (performance benchmarking, i.e. in relationship to competitors) as well as processes and procedures (the best practises), which lead to achieving excellent results (so called process benchmarking).

Till lately the benchmarking went out from so called problem based approach, when organizations reacted on their problems and they tried to solve them with the help of benchmarking.

Strategically oriented organizations have defined their missions and goals. They need tool which ensures that company will improve all the time (in tendencies to achieve their goals). They should concentrate on the main processes which contribute to achieving goals and improve these processes in the future.

### The Benchmarking process patterns (the model with four quadrants)



(Source: [http://www.benchmarking.cz/o\\_benchmarkingu.asp](http://www.benchmarking.cz/o_benchmarkingu.asp))

**Fig. 1** The Benchmarking process patterns

There are several approaches with different number of steps within benchmarking project. It can cause difficulties in communication among organizations. For improving this communication the companies Boeing, Digital Equipment, Motorola a Xerox developed model with four quadrants which defines benchmarking closely. This model

sets general relationships for creating process model. It represents specific steps and activities sequence for applying benchmarking. It's shown more closely in the following figure.

In the process there are used four benchmarking phases, namely::

- planning,
- data collecting,
- analysis,
- improvement thanks to the adaptation.

Single steps in each phase must be understood as a possibility not as a duty.

### 3. The Benchmarking of logistic centres

Each warehouse, distribution or logistic centre is unique. But for each of them is crucial to use sources effectively to provide required services. The question is, if can be improved operating powers in relationship to achievable standards or benchmarks. This enables to particular logistic centre to compare with huge amount other logistic centres. It should also enable to learn which characteristics influence high efforts.

The aim is to find spheres where is logistic centre better (it's its competitive strength) and spheres where is logistic centre vulnerable (his future prosperity is threaten).

Creating ON LINE benchmarking test enables gathering objective information on the base of quantified indicators. Thanks accessibility on the web the benchmarking test enables to the company (logistic centre) gather any time information necessary for decision making about increasing performance, productivity, total economic prosperity etc.

It should be made tool in the form benchmarking test for the possibility comparing. This tool uses a data envelopment analysis to determine a relative efficiency by comparing single logistic centre with the best possible performance estimated from a set of peer logistic centres.

Required data are mainly from two spheres – which are requested resources and final outputs. As regards resources it's necessary to dive the logistic centres according the floor area. The next indicator which is important for comparison is total labour hours (stated in 1000 hours per year) and their relationship to the number of employees. It can be monitored also relationship average labour force to floor area or labour hours to floor area. This is calculated as

$$i_1 = \frac{\sum L_h}{Tf_a} \quad (1)$$

where:

$i_1$  .....the first index evaluated in benchmarking test,  
 $L_h$  .....labour hours,  
 $Tf_a$  .....total floor area of logistic centre.

It's expected the positive correlation between these quantities, so this mean that lager logistic centre expects more activities and this will require more floor area and more labour hours. The equipment belongs to the resources of logistic centre and its calculated total investment.

The next sphere which is evaluated within benchmarking test is logistic centre activity. This topic includes evaluating logistic centre activity, it means how is logistic centre active, if its activity is influenced by seasonal factors, if deals with pallets, broken case lines or full case lines. The important index is average usage of total floor area per year, which is calculated as:

$$A_u = \frac{U_{fa}}{Tf_a} \quad (2)$$

where:

$A_u$  .....average usage,  
 $U_{fa}$  .....used floor area within the year,  
 $Tf_a$  .....total floor area of logistic centre.

In the benchmarking test there are evaluating also the results. To the evaluated results belong total numbers of reams per year, number of pallet lines, broken case lines or full case lines, their relationship to requested labor hours, used floor area etc.

The filled out benchmarks are finally analyzed. The final report describes and is divided into following parts:

- Characteristics of logistic centres,
- Logistic centre activity description,
- Logistic centre operations,
- Performance analysis,
- Conclusions.

## Conclusion

Benchmarking as well as other methodologies doesn't guarantee success. Benchmarking is continuous learning process which must be sensitively adapted to

organization's needs. Its beginning requires management support, participation employees and participation owners of processes. It should be made in following steps. At first it's necessary to understand behaviour by benchmarking and the ethic Benchmarking Code. The next step is planning benchmarking implementation and targeted development of skills which are requested for its fulfilment. This topic is closely beard to the necessity of education employees in skills required for participation on benchmarking studies, for interpretation their meanings and applying results of these studies in the organizational practice. Last but not least is necessary to define clear expectations from provided benchmarking services and set the organization responsibility for the participation. In the application in the logistic centres there is required to set out set of evaluating criteria which describe logistic centre by the best way. This paper originated within solving project MD CR 1F83A/014/520 The concept of index benchmarking for logistic centres.

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#### Resumé

### VYUŽITÍ BENCHMARKINGU PRO LOGISTICKÁ CENTRA

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Tento příspěvek se zabývá problematikou uplatnění metodiky benchmarkingu v prostředí logistických center. V současné době se podniky nachází v rychle se měnícím prostředí, pro zachování konkurenceschopnosti jsou logistická centra nucena na tyto změny rychle reagovat. ON LINE benchmarkingové testy umožňují získání objektivních informací na základě kvantifikovatelných ukazatelů. Díky dostupnosti přes internet umožní benchmarkingový test podniku (logistickému centru) kdykoliv získat potřebné informace pro rozhodování o možnostech zvyšování výkonnosti, produktivity, celkové ekonomické prosperity a podobně.

Rudolf Kampf, Jana Roudná:

**The usage of benchmarking in the logistic centres**

## **Summary**

### **THE USAGE OF BENCHMARKING FOR THE LOGISTIC CENTRES**

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This paper deals with the topic using benchmarking for logistic centers. Nowadays the company's surroundings is changing quickly. The logistic centers are forced to react quickly on these changes for achieving competition advantage. The on line benchmarking tests enables gathering objective information on the base quantified indexes. Thanks accessibility on the web the benchmarking test enables to the company (logistic centre) whenever gain necessary information for decision making about increasing efficiency, productivity, total economic prosperity etc.

## **Zusammenfassung**

### **DIE BENUTZUNG DES BENCHMARKINGS IN DER LOGISTISCHEN ZENTREN**

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Dieser Beitrag befasst sich die Problematik der Verwertung des Benchmarkings in der Umwelt der logistischen Zentren. In der Gegenwart befinden sich die Firmen in schnell veränderter Umwelt, für die Erhaltung der Wettbewerbsfähigkeit müssen die logistischen Zentren auf diese Änderungen schnell reagieren. ON LINE Benchmarkingsteste ermöglichen die Erwerbung der objektiven Informationen auf Grund der quantifizierenden Indexe. Mit Hilfe des Internets ermöglicht der Benchmarkingstest der Firma (das logistische Zentrum), notwendige Informationen für die Entscheidung über die Erhöhung der Leistungsfähigkeit, der Produktivität, der ökonomische Gesamtprosperität usw. zu gewinnen.

