

## Streszczenie w języku angielskim

### *Decision making process modelling for the selection of the telematics system in the management of international road transport companies*

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The main motivation for the study was the willingness to systematize the possibilities offered by the telematics systems and impact of their functioning on management processes implemented in an international road transport company.

The main aim of the thesis is developing a model of the decision-making process for the selection of a telematics system in an international road transport company that includes optimization of management processes.

The theoretical goal of the study is enriching knowledge and systematizing the current scientific achievements in the field of management issues of a road transport companies, with particular emphasis on the process approach, modelling and IT tools.

Another goal is identification of data of telematics systems in the context of their usefulness for decision-making processes in the management of international road transport companies.

The research goal is determination the impact of individual modules and data on the management processes of the international road transport companies.

Based on the above investigations, the main hypothesis of the study is that there is a relationship between the implementation of telematics systems and the efficiency of management processes in international road transport companies.

In the context of verification of the main hypothesis and achievement of the dissertation's goals, the following supporting hypotheses were formulated:

1. The implementation of the telematics system has an impact on the management processes optimisation of international road transport companies.
2. The size of international road transport companies affects the course and results of the telematic system implementation process in these entities.
3. The impact of telematics systems on the management processes of international road transport companies corresponds to the level of their implementation and the level of use of the obtained data.
4. The quality of data on the transport process determines the efficiency of management processes of an international road transport company.

The subject-oriented scope of the empirical layer was focused on the survey using the statistical methodologies, which helped provide the answers to the questions that represented

the main goal of the study and specific goals. The survey was carried out using the research tool of the survey questionnaire. The survey concerned on international road transport companies, which use telematics systems. The interpretation of the results obtained was based on the analysis of the quantitative indicators using the statistical methods.

The thesis has a theoretical and empirical character and is comprised of five chapters. The design of the study was adjusted to the research goals.

The first chapter is devoted to the issue of modelling decision-making processes in modern companies. It presents a process approach as a new concept in the field of management sciences. The tools and methodologies used in process approach, in order to model management processes occurring in the company, were discussed and the structure of the decision making process in managing a modern company was presented.

The second chapter focuses on the management of an international road transport company. The chapter presents the current position of road transport in logistics systems operating in the era of globalization as well as development strategies of companies, developed and implemented in order to constantly strive to increase process optimization. Data and information flow processes were discussed in detail, as well as their significance for implemented management processes in a transport company, also heuristics in transport company management were presented as well.

In the third chapter, telematics systems used by transport companies are widely presented and discussed. Their place in the infrastructure of road transport support systems and management was identified, as well as the importance of their development for the further development of international road transport. In addition, the impact of telematics systems on the functioning of international transport companies was determined.

The fourth chapter contains a description of the research methodology used and in its further part is devoted to the taxonomic classification of telematics systems, and the value of information and data occurring within logistics systems has been identified. The taxonomic division process was carried out for both the telematics systems themselves and their individual modules, and the functions of their impact on the transport enterprise management processes were determined as well.

In the fifth chapter, the concept of the decision process model for the selection and implementation of a telematics system for a transport company was developed. The chapter begins with presenting identified factors determining the implementation of the telematics system by a road transport company. Then an attempt was made to identify the importance of the size of a road transport company in the decision-making process of selecting and implementing a telematics system.

The results of the literature studies, examinations and analyses carried out are the conclusions contained in the summary of the doctoral dissertation.