

TABLE OF CONTENTS

Introduction	7
1. The issue of standardization and certification of products and services	13
1.1. The origin of standardization and certification activities	15
1.2. Standardization and the quality of products and services.....	19
1.3. Certification issues	24
2. Decision-making problems in the evaluation of the quality of transport services	39
2.1. Selected aspects of the quality of transport services	41
2.2. Decision-making problems in the standardized transport quality management systems	47
2.3. The risk and configuration management of transport services.....	56
3. Methods and tools supporting decision-making in the standardization and certification of transport services	65
3.1. Decision-making problems in improving the quality of services.....	67

3.2. Analytical and decision-making tools in the standardization and certification of transport services.....	74
3.3. Review of the decision-making support methods in the standardization and certification of transport services	83
4. Application of the artificial neural networks in the certification of transport services	89
4.1. Specifics of the artificial neural network functioning and modelling the evaluation of the quality of transport services	91
4.2. An example of the practical application of artificial neural networks in the evaluation of transport service certification	97
4.2.1. Expert data analysis	97
4.2.2. Building and teaching a neural network.....	100
4.2.3. Neural network verification	106
5. Quality engineering of the transport services and their standardization and certification	111
5.1. Quality engineering in the decision making.....	113
5.2. An example of the practical application of quality engineering in the certification of transport services	117
5.2.1. Collecting and analysing data on the problems in certification ..	117
5.2.2. Analysis of the causes of problems	121
5.2.3. Analysis of the consequences of problems.....	124
5.2.4. Analysis of the necessary actions improving certification processes.....	127
Conclusion	137
Bibliography	141
List of figures	159
List of tables	163