

## CONTENT

INTRODUCTION .....	5
1 CURRENT STATE OF SCIENTIFIC KNOWLEDGE IN THE RESEARCH AREA .....	6
1.1 Cloud Computing .....	6
1.2 Open (Big) Data .....	7
1.3 Evaluating the Impacts of Open (Big) Data .....	8
1.4 Architecture Frameworks and Architecture in the Organization .....	9
2 AIMS AND METHODS OF THE DISSERTATION THESIS .....	10
3 OPEN (BIG) DATA ECOSYSTEM USING CLOUD COMPUTING .....	11
4 ARCHITECTURAL COMPONENTS FOR CLOUD COMPUTING AND OPEN (BIG) DATA .....	14
5 PROPOSAL OF A NEW ARCHITECTURE FRAMEWORK .....	17
6 VALIDATION AND VERIFICATION OF THE PROPOSED FRAMEWORK .....	21
7 METHODOLOGY FOR THE PROPOSED FRAMEWORK .....	24
8 PROPOSED MODEL ARCHITECTURE .....	26
9 BENEFITS OF THE DISSERTATION THESIS .....	28
9.1 Theoretical Benefits .....	28
9.2 Practical Benefits .....	28
9.3 Pedagogic Benefits .....	29
9.4 Economic Benefits .....	29
CONCLUSION .....	30
REFERENCES .....	31
LIST OF SELECTED AUTHOR'S PUBLICATIONS .....	34

## LIST OF FIGURES

Figure 1: A SEM diagram and related elements for the second model. Source: [5], [33]. .....	9
Figure 2: Open (big) data lifecycle. Source: author. ....	11
Figure 3: Open (big) data ecosystem and related platforms, tools and services. Source: [30]. ....	13
Figure 4: New architecture framework on the first view level. Source: author. ....	18
Figure 5: Weights of the data processing alternatives for each use case. Source: [28]. ....	20
Figure 6: Utility tree for the most important problem areas. Source: author. ....	23
Figure 7: Phases of the new methodology compared to MMDIS phases. Source: author. ....	24
Figure 8: Proposed model architecture according to the defined requirements. Source: author. ....	27

## LIST OF TABLES

Table 1: Comparison of the selected architecture and reference frameworks. Source: author. ....	14
Table 2: Roles of stakeholders for cloud computing and open (big) data. Source: author. ....	15
Table 3: An example of the workflow for the data publication phase. Source: author. ....	25
Table 4: SWOT analysis for the proposed model architecture. Source: author. ....	26