

# Table of Contents

<b>List of Figures</b> .....	XV
------------------------------	----

<b>List of Tables</b> .....	XVII
-----------------------------	------

<b>1. Introduction</b> .....	1
1.1 Statement of the Problem.....	1
1.2 State of Research.....	4
1.3 Terminological Clarification.....	6
1.4 Objective of the Thesis.....	6
<b>2. Theoretical Framework</b> .....	9
2.1 Big Data.....	9
2.1.1 Etymological Origin.....	9
2.1.2 Epistemological Conceptualization and Hermeneutical Observations.....	12
2.1.3 Delimitation from Related Terms.....	20
2.1.3.1 Data Mining.....	20
2.1.3.2 Algorithms and Machine Learning.....	21
2.1.3.3 Artificial Intelligence.....	23
2.1.4 Big Data Pitfalls.....	25
2.1.4.1 Big Data Change the Definition of Knowledge.....	26
2.1.4.2 Claims of Objectivity and Accuracy Are Misleading....	28
2.1.4.3 Bigger Data Are Not Always Better Data.....	32
2.1.4.4 Taken out of Context, Big Data Lose Their Meaning....	34
2.1.4.5 Accessibility Does Not Make Them Ethical.....	35
2.1.4.6 Limited Access to Big Data Creates New Digital Divides.....	36
2.1.5 May Big Data Be with You.....	37

2.2	Big Data at the Socio-Technological Level .....	40
2.2.1	Technology and Society .....	40
2.2.2	Technological Determinism .....	41
2.2.3	Social Determinism .....	44
2.2.4	Socio-Technological Concurrence .....	47
2.3	Big Data at the Organizational Level.....	49
2.3.1	Epistemological Framing .....	49
2.3.2	Organizations as Open Systems.....	53
2.3.2.1	Big Data in Cybernetics .....	54
2.3.2.2	Big Data in Systems Theory .....	59
2.3.2.3	Big Data in Population Ecology Theory .....	61
2.3.2.4	Big Data in Complex Systems Theory .....	64
2.4	Big Data at the Human (Resource) Level .....	73
2.4.1	Current Status of Big Data in Human Resource Management .....	73
2.4.2	Classification of Views .....	79
2.4.3	Augmentation as an Alternative Path .....	80
<b>3.</b>	<b>Research Framework .....</b>	<b>83</b>
3.1	Mental Model.....	83
3.2	Methodology.....	86
<b>4.</b>	<b>Analytical Implementation.....</b>	<b>91</b>
4.1	Core Assumptions of Big Data within Organizations .....	91
4.1.1	Temporal Dimensionality .....	92
4.1.2	Factual Dimensionality .....	95
4.1.3	Social Dimensionality.....	98
4.1.4	Cross-Sectional Dimensionality.....	101
4.2	Homeodynamic Organization .....	104
4.2.1	Characterizing Homeodynamic Organization.....	104
4.2.2	New Roles of the Human Resource Department .....	109
4.2.2.1	Big Data Specific Roles.....	110

4.2.2.2	Big Data Watchdog as Cross-Sectional Role .....	115
4.2.3	Human Resource Daemon.....	118
4.2.3.1	Data Farm.....	120
4.2.3.2	Fog of Big Data.....	123
4.2.3.2.1	Big Data Baloney Detection .....	124
4.2.3.2.2	Big Data Tinkering.....	128
4.2.3.3	Big Data Risk Governance.....	131
4.2.3.4	Big Data Immersion .....	139
4.2.3.4.1	Big Data Authorship .....	139
4.2.3.4.2	Big Data Curation.....	143
4.2.3.4.3	Big Data Literacy .....	147
4.2.4	Human Resource Centaur .....	151
4.2.5	Big Data Membrane .....	154
4.3	Homeodynamic Goldilocks Zone .....	157
<b>5.</b>	<b>Results</b> .....	<b>161</b>
5.1	Summary .....	161
5.2	Limitations .....	166
5.3	Implications for Human Resource Management.....	168
5.4	Implications for Research.....	171
5.5	Implications for Teaching.....	173
5.6	Outlook.....	175
	<b>References</b> .....	<b>177</b>

