

CONTENTS

Acknowledgements.....	vi
About Author	vii
Preface.....	viii
Introduction.....	10
1 Issue Definition and Research Aim	13
2 Research Design.....	18
2.1 Methodical Background	19
2.2 Measurement in Soft Systems.....	23
2.3 Innovation Performance Measurement Levels.....	25
2.4 Project Schedule.....	28
2.5 Applied Research Methods.....	29
2.6 Data and Methods for Data Analysis	33
2.7 Primary Research Procedure.....	39
2.8 Methodology of the Innovation Scorecard Design.....	43
3 Understanding Innovation.....	49
3.1 Definition of Innovation.....	53
3.2 Innovation versus Invention.....	59
3.3 Degree of Innovation	60
3.4 Innovative Companies.....	63
3.5 Innovative Potential	64
3.6 Economic Benefits from Innovations	65
4 The Innovation Imperative: State of the Art.....	67
4.1 Innovation: Key Process of Company	68
4.2 History of Innovation Process.....	75
4.3 Research in the Field of Innovation Critical Success Factors	82
4.3.1 Marketing.....	85
4.3.2 Product Innovativeness.....	87
4.3.3 Company Size.....	90
4.3.4 Innovation Potential: An Internal Look at a Company	94

4.4 Innovation Excellence	95
4.5 Effects of Innovation	98
5 Performance Measurement of Innovations Matters	103
5.1 Case study from European manufacturing industry	106
5.1.1 Current Situation in European Manufacturing Industry	108
5.1.2 Regression Model Set-up.....	113
5.1.3 Theoretical Values of ROA: Maximizing R&D Expenditures.....	115
5.1.4 Assessment of the Current Situation and Possible Development Trends.....	116
5.2 Case Study from Czech Manufacturing Industry	119
5.2.1 Case Study Background	119
5.2.2 Current Situation in Czech Manufacturing Industry.....	121
6 Data Collection and Research Results	133
6.1 Determining Sample Size	134
6.2 Research Results	135
6.2.1 General Characteristics	137
6.2.2 Performance Measurement of Innovation.....	147
6.3 Research Results Discussion.....	156
7 Broad Discussion.....	161
7.1 Measure or Not to Measure?	162
7.2 Project Management Approach	164
7.3 Financial Metrics.....	168
7.4 Non-financial Metrics.....	170
7.5 Net Present Value Based Approach	173
7.6 On Some Shortcomings in the Measurement of Performance of the Innovation Process.....	179
7.7 From Traditional Accounting Control Systems to the Balanced Scorecard	183
7.7.1 The Balanced Scorecard Model.....	185
7.7.2 The Balanced Scorecard Model & Innovation.....	191
7.7.3 The BSC Model & Innovative Potential Development.....	193

8 Innovation Scorecard.....	195
8.1 Innovation Scorecard Core.....	203
8.2 Innovation Scorecard Perspectives.....	207
8.3 Defining Innovation Strategy.....	211
8.4 Setting Performance Goals and Fine-Tuning the Balance	214
8.5 Innovation Business Model.....	217
8.6 Inputs, processes, outputs and outcomes model.....	219
8.7 From the Innovation Business Model to the Measurement System.....	224
8.8 Design of Evaluation System: Putting the Tools Together	226
8.8.1 Innovation Metrics.....	231
8.8.2 Gate 1: Initiation Phase – Measures for Ideation	234
8.8.3 Gate 2: Development Phase Measures for Applied R&D	239
8.8.4 Gate 3: Production phase – Measures for Realization.....	243
8.8.5 Gate 4: Commercialization phase – Measures for Innovation Execution (Short-term Assessment)	246
8.8.6 Gate 5: Post-implementation Review (Long-term Assessment)	249
8.9 Innovation Scorecard Data Sheet	252
Conclusion.....	257
References	261
Appendixes	293