Corporate Collaboration 2.0 Maturity Model

D I S S E R T A T I O N
of the University of St. Gallen,
School of Management,
Economics, Law, Social Sciences
and International Affairs
to obtain the title of
Doctor of Philosophy in Management

submitted by

Stefanie Jansz

from

Germany

Approved on the application of

Prof. Dr. Robert Winter
and
Prof. Dr. Franz Lehner

Dissertation no. 4277

Shaker, Aachen, Germany, 2016

The University of St. Gallen, School of Management, Economics, Law, Social Sciences and International Affairs hereby consents to the printing of the present dissertation, without hereby expressing any opinion on the views herein expressed.

St. Gallen, May 19, 2014

The President:

Prof. Dr. Thomas Bieger

Berichte aus der Wirtschaftsinformatik

Stefanie Jansz

Corporate Collaboration 2.0 Maturity Model

Shaker Verlag
Aachen 2016

Bibliographic information published by the Deutsche Nationalbibliothek
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at http://dnb.d-nb.de.

Zugl.: St.Gallen, Univ., Diss., 2014

Copyright Shaker Verlag 2016
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publishers.

Printed in Germany.

ISBN 978-3-8440-4437-9
ISSN 1438-8081

Shaker Verlag GmbH • P.O. BOX 101818 • D-52018 Aachen
Phone: 0049/2407/9596-0 • Telefax: 0049/2407/9596-9
Internet: www.shaker.de • e-mail: info@shaker.de

Mahalo to my loved ones

Overview of Contents

Abstract ..... **xiii**
Zusammenfassung ..... **xv**
List of Figures ..... **xvii**
List of Tables ..... **xxi**
List of Abbreviations ..... **xxvii**
1 Introduction **1**
2 Scientific Foundations **17**
3 Related Research and Existing Approaches **75**
4 Objectives and Methodology of the Maturity Model Construction **93**
5 State of Practice **113**
6 Construction of the Situational Adaptable Maturity Model **133**
7 Evaluation of the Maturity Model **273**
8 Conclusion **287**
Appendix **293**
References **397**

Table of Contents

Abstract ..... **xiii**
Zusammenfassung ..... **xv**
List of Figures ..... **xvii**
List of Tables ..... **xxi**
List of Abbreviations ..... **xxvii**
1 Introduction **1**
1.1 Motivation and Problem Description 1
1.2 Research Questions and Objectives 5
1.3 Research Scope 8
1.4 Research Strategy 10
1.5 Relevance of the Intended Research 13
1.6 Structure of the Dissertation 14
2 Scientific Foundations **17**
2.1 Web 2.0, Enterprise 2.0, and Collaboration 2.0 – Terminologies and Concepts 17
2.1.1 Web 2.0 and Social Software 21
2.1.2 Enterprise 2.0 and Enterprise Social Software 34
2.1.3 Collaboration 2.0 and Knowledge Management 2.0 38
2.1.4 Conclusion and Contribution for the Intended Research 43
2.2 Organizational Design and Engineering 44
2.2.1 Business Engineering 45
2.2.2 Methods and Method Engineering 50
2.2.2.1 Situational Method Engineering 52
2.2.2.2 Reuse and Adaptation Mechanisms in Situational Method Engineering 56
2.2.2.3 Construction Process for Situational Adaptable Methods 59
2.2.3 (Reference) Models and Reference Modeling 60
2.2.3.1 Situational (Reference) Modeling 63
2.2.3.2 Reuse and Adaptation Mechanisms in Reference Modeling 64
2.2.3.3 Construction Process for Situational Adaptable Reference Models 67
2.2.4 Conclusion and Contribution for the Intended Research 68
2.2.4.1 Toward a Convergence of Methods and Models and Their Related Research Disciplines 69
2.2.4.2 Relevance for the Intended Research 73

3 Related Research and Existing Approaches 75
3.1 Related Research 75
3.1.1 Approaches for Measuring Organizational Adoption of Collaboration 2.0 75
3.1.2 Related Research on Collaboration 2.0 Maturity Models 78
3.2 Basics of Maturity Models 80
3.2.1 Terminology 80
3.2.2 Roots of Maturity Models 81
3.2.3 Capability Maturity Model Integration (CMMI) 83
3.2.3.1 The CMMI Model 84
3.2.3.2 The CMMI Appraisal 88
3.2.3.3 The CMMI Framework 89
3.3 Conclusion and Contribution for the Intended Research 90
4 Objectives and Methodology of the Maturity Model Construction 93
4.1 State of Research on Maturity Model Design 93
4.1.1 Maturity Models in Design Science Research 93
4.1.2 Approaches to Construct (and Evaluate) a Maturity Model 95
4.1.3 Approaches to Construct a Situational Adaptable Maturity Model 98
4.2 Construction Objectives 104
4.3 Construction Approach 110
5 State of Practice 113
5.1 Case Study Research – Companies Introducing an Enterprise Social Software Platform 113
5.1.1 Data Collection and Analysis Methods 114
5.1.2 Intermediary Summary and Critical Reflection 118
5.2 Success and Barrier Factors Relating to Collaboration 2.0 119
5.2.1 Data Collection and Analysis Methods 122
5.2.2 Success, Barrier, and Essential Factors Relating to Collaboration 2.0 from Literature Review 123
5.2.3 Findings from Literature Review 125
5.2.4 Success, Barrier, and Essential Factors Relating to Collaboration 2.0 from Case Studies Research 125
5.2.5 Findings from Case Study Research 126
5.2.6 Consolidated Findings 126
5.2.7 Intermediate Summary and Critical Reflection 130

6 Construction of the Situational Adaptable Maturity Model 133
6.1 Construction of the Generic Maturity Model 134
6.1.1 Definition of the Focus Layers and Focus Areas 139
6.1.2 Definition of the Dimensions 140
6.1.2.1 Dimension D0: Ability to Perform 142
6.1.2.2 Dimension D1: Planning 142
6.1.2.3 Dimension D2: Organizing 144
6.1.2.4 Dimension D3: Staffing 144
6.1.2.5 Dimension D4: Directing 145
6.1.2.6 Dimension D5: Controlling 146
6.1.3 Definition of the Improvement Areas and Improvement Activities 147
6.1.3.1 Strategy (Y) 153
6.1.3.2 Structure (U) 170
6.1.3.3 Employees (E) 174
6.1.3.4 Processes (P) 189
6.1.3.5 Information Technology (T) 207
6.1.4 Definition of the Maturity and Capability Levels 213
6.1.4.1 Definition of the Maturity Levels 213
6.1.4.2 Definition of the Capability Levels 215
6.1.4.3 Interdependencies of Maturity Levels and Capability Levels 215
6.1.5 Intermediate Summary and Critical Reflection 219
6.2 Situational Configuration of the Generic Maturity Model 220
6.2.1 Identification of Contingency Factors – Factors Increasing Collaboration Complexity 221
6.2.1.1 Identification of Context Type Factors (CTF) 222
6.2.1.2 Proposal of Potential Project Type Factors (PTF) 235
6.2.2 Cluster Analysis: Grouping Organizations According to Their Collaboration Complexity 236
6.2.2.1 Data Collection 236
6.2.2.2 Data Preparation 239
6.2.2.3 Data Analysis 243
6.2.2.4 Findings 250
6.2.3 Description of the Set of Occurring Situations 253
6.2.4 Configuration Rules 256

6.2.5 Intermediate Summary and Critical Reflection 261
6.3 Operationalization of the Maturity Model 263
6.3.1 Configuration of the Maturity Model 264
6.3.2 Data Collection and Maturity Analysis 266
6.3.3 Maturity Assessment and Result Presentation 269
7 Evaluation of the Maturity Model 273
7.1 Iterative Evaluation and Redesign 274
7.2 Empirical Evaluation 275
7.3 Analytical Evaluation 282
8 Conclusion 287
8.1 Results Achieved 287
8.2 Critical Reflection 289
8.3 Future Research 291
Appendix 293
Appendix A. Naming Conventions 293
Appendix B. Situational Adaptation with Context Types or Project Types – The Impact of Using Either of Them 295
Appendix C. Proof of Literature Research 299
Appendix D. Interview Guide and Details of the Case Studies 304
Case Study A: Procurement Platform 307
Case Study B: Global Intranet and Extranet 321
Case Study C: Collaboration Work Place and Global Publication Channels 322
Case Study D: Administrative Platform 323
Case Study E: Global Knowledge Management 324
Case Study F: Enterprise Search 326
Case Study G: Exploring Enterprise Social Software 327
Appendix E. Success, Barrier, and Essential Factors Relating to Collaboration 2.0 329
Appendix F. Cluster Analysis I: Determining Cultural Groups Based on Hofstede's Dataset 343
Appendix G. Survey Questionnaire: Cluster Analysis II 355
Appendix H. Cluster Analysis II: Grouping Organizations According to Their Collaboration Complexity 371
Appendix I. Survey Questionnaire: Expert-based Model Evaluation 391
References 397