



РЕПУБЛИКА МАКЕДОНИЈА
Универзитет „Св. Климент Охридски“
Битола
Економски факултет - Прилеп



Ghent University, Ghent Belgium
Faculty of Economics and Business
Administration – Ghent, Belgium



Збогатување на Sense-and-Respond Рамката за примена во
Тактички Менаџмент со користење на ИКТ

Tactical Management Sense-and-Respond Framework
Enhancement using ICT

*-докторска дисертација-
за двоен докторат*

Кандидат:

Рената Петревска Нечкоска
3023 УКЛЮ / 01303240 UGent

Ментор:

Проф. Д-р. Ѓорѓи Манчески
Проф. Д-р. Геерт Поелс

Прилеп, Мај 2017

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

1. Research Context: Starting point – Tactical management	Error! Bookmark not defined.
1.1. Main Research Questions	Error! Bookmark not defined.
2. Positioning of the Research	Error! Bookmark not defined.
3. Research Methodology	Error! Bookmark not defined.
3.1. Design Science Research	Error! Bookmark not defined.
3.2. Action Design Research	Error! Bookmark not defined.
3.3. Nested Problem Solving	Error! Bookmark not defined.
3.4. CIMO Logic	Error! Bookmark not defined.
4. Structure of the Dissertation	Error! Bookmark not defined.
5. Publications and Achievements	Error! Bookmark not defined.
Table of figures – Chapter 1: Introduction	Error! Bookmark not defined.
References	Error! Bookmark not defined.

CHAPTER 2: PROBLEM INVESTIGATION AND SOLUTION REQUIREMENTS

1. Research Methodology for Problem Investigation and Solution Analysis	Error! Bookmark not defined.
2. Problem Investigation	Error! Bookmark not defined.
2.1. Interviews	Error! Bookmark not defined.
2.2. Literature review	Error! Bookmark not defined.
2.2.1. Research design	Error! Bookmark not defined.
2.2.2. Analysis	Error! Bookmark not defined.
2.2.3. Interpretation of the results and conclusions	Error! Bookmark not defined.
2.3. Identifying managerial methods and information systems support for strategic, tactical and operational management	Error! Bookmark not defined.
2.3.1. Strategy	Error! Bookmark not defined.
2.3.2. Operations	Error! Bookmark not defined.
2.3.3. Tactics	Error! Bookmark not defined.
3. Defining Tactical Management	Error! Bookmark not defined.

4. Delineating Tactical Management among Operational, Strategic and Project Management	Error! Bookmark not defined.
5. Solution Requirements	Error! Bookmark not defined.
Table of Figures – Chapter 2: Problem Investigation and Solution Requirements	Error! Bookmark not defined.
References	Error! Bookmark not defined.

CHAPTER 3: THEORETICAL BACKGROUND

1. Main Theoretical Foundations for the Artifact Design	Error! Bookmark not defined.
1.1. Particular Postulates on: What is Being Managed, in Which Environment and How to Address It	Error! Bookmark not defined.
1.1.1. Complex Adaptive Systems (CAS)	Error! Bookmark not defined.
1.1.2. The Edge of Chaos	Error! Bookmark not defined.
1.1.3. Concepts of Adaptive and Adaptable and incorporation of Purpose	Error! Bookmark not defined.
1.1.4. Managing socio-technical Complex Adaptive Systems in Uncertainty	Error! Bookmark not defined.
1.2. Tactical Management Postulates for Purposive Adaptability	Error! Bookmark not defined.
1.2.1. System Design and System Thinking	Error! Bookmark not defined.
1.2.2. Context Capture and Situation Awareness in Dynamic Systems	Error! Bookmark not defined.
1.2.3. Effective Continuous Communication and Visualization	Error! Bookmark not defined.
1.3. Management Information Systems Nature for Tactical Management	Error! Bookmark not defined.
1.4. Sense-and-Respond Framework towards Providing Managerial and Informational adaptability for Tactics	Error! Bookmark not defined.
1.4.1. Background and History	Error! Bookmark not defined.
1.4.2. The Basics of the S&R Framework	Error! Bookmark not defined.
1.4.3. Recommended Applicability of the S&R framework	Error! Bookmark not defined.
1.4.4. Sense and Respond managerial profile	Error! Bookmark not defined.
1.4.5. Role-and-Accountability (R&A) system diagram	Error! Bookmark not defined.
1.4.6. Sense-Interpret-Decide-Act (SIDA) Loop – The Adaptive Loop	Error! Bookmark not defined.
1.4.7. Management Information Flows in the S&R framework	Error! Bookmark not defined.
1.4.8. Sense and Respond implementation roadmap	Error! Bookmark not defined.
1.5. Mapping Complex Adaptive Systems, Sense and Respond framework and Social Network Analysis	Error! Bookmark not defined.
Table of figures – Chapter 3: Theoretical Background	Error! Bookmark not defined.
References	Error! Bookmark not defined.

CHAPTER 4: ARTIFACT DEVELOPMENT AND EVALUATION

1.	Action Design Research for Tactical Management Information Systems and Adaptability	Error! Bookmark not defined.
1.1.	Action Design Research as Method	Error! Bookmark not defined.
1.2.	Performing Action Design Research with Companies and Managers in Belgium and Macedonia	Error! Bookmark not defined.
1.	Description of the business collaborators in the ADR	Error! Bookmark not defined.
2.1.	Context 1: Company A, End-users 1-9	Error! Bookmark not defined.
2.2.	Context 2: Company B, End-user 1	Error! Bookmark not defined.
2.3.	Context 3: Company C, End-user 10	Error! Bookmark not defined.
2.4.	Context 4: Company D, End-user 11	Error! Bookmark not defined.
3.	ADR Stages	Error! Bookmark not defined.
3.1.	ADR Stage 1: Problem formulation	Error! Bookmark not defined.
3.1.1.	Existing Situation Improvement for Existing Organization – Context 1	Error! Bookmark not defined.
3.1.2.	New Project Support for New Organization – Context 2	Error! Bookmark not defined.
3.1.3.	New Project Support for Existing Organization – Context 3	Error! Bookmark not defined.
3.1.4.	Existing Project Support for Existing Organization – Context 4	Error! Bookmark not defined.
3.2.	ADR Stage 2: Building – Intervention – Evaluation	Error! Bookmark not defined.
3.2.1.	Context 1	Error! Bookmark not defined.
3.2.2.	Context 2	Error! Bookmark not defined.
3.2.3.	Context 3	Error! Bookmark not defined.
3.2.4.	Context 4	Error! Bookmark not defined.
3.2.5.	The Evaluation in ADR/DSR and its specifics	Error! Bookmark not defined.
3.3.	ADR Stage 3: Reflection and Learning	Error! Bookmark not defined.
3.4.	ADR Stage 4: Formalization of Learning	Error! Bookmark not defined.
3.4.1.	Generalizing from Problem Instances to Class of Problems	Error! Bookmark not defined.
3.4.2.	Generalizing from Solution Instances to Class of Solutions	Error! Bookmark not defined.
3.4.3.	Generalizing from the Design Process into Design Principles	Error! Bookmark not defined.
	Table of Figures – Chapter 4: Artifact Development and Evaluation	Error! Bookmark not defined.
	References	Error! Bookmark not defined.

CHAPTER 5: CONCLUSIONS

1. Research Contributions	Error! Bookmark not defined.
1.1. Contribution 1 – the Artifact DENICA	Error! Bookmark not defined.
1.2. Contribution 2 – the Methodological Kaleidoscope	Error! Bookmark not defined.
1.3. Contribution 3 – Enhancing the Sense and Respond Framework for Tactical Management	Error! Bookmark not defined.
1.4. Contribution 4 – Tactical Management 2.0	Error! Bookmark not defined.
1.4.1. Definition	Error! Bookmark not defined.
1.4.2. Delineation	Error! Bookmark not defined.
1.4.3. Managerial and Information System Requirements	Error! Bookmark not defined.
1.5. Contribution 5 – Interrelating Complex Adaptive Systems, Uncertainty and Tactical Management	Error! Bookmark not defined.
2. Implications for Research	Error! Bookmark not defined.
3. Implications for Practice	Error! Bookmark not defined.
4. Limitations and Future Prospects	Error! Bookmark not defined.
List of Figures: Chapter V – Conclusions	Error! Bookmark not defined.
References	Error! Bookmark not defined.