

Changing Power Balance in Matrix Organizations

A thesis submitted by

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CERTIFICATE OF AUTHORSHIP/ORIGINALITY

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature of Student

Nursen Saracoglu

Dedication

This thesis is dedicated to my mother, who has always given me courage to pursue my dreams.

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Table of Contents

Dedication	ii
Acknowledgements	iii
Table of Contents	v
Figures	ix
Tables	x
Abbreviations	xiii
Abstract	1
Preface	2
Introduction	2
Chapter 1: Background	5
1.1 Overview	5
1.2 Aims and objectives	7
1.1.2 The weaknesses and strengths of these matrix structures	8
1.1.3 The effects of divisionalisation on matrix organizations' performance	11
1.1.4 The factors used to maintain power balance between divisions	11
1.1.5 A model to increase organizational effectiveness	12
Chapter 2: Literature Review	14
2.1 Historical Background of Organizational Change and Matrix Structures	14
2.2 The Concept of Power Balance of Matrix Organizations	20
2.3 Theorising Organizations	26
2.3.1 Institutional Theory	27
2.3.2 Decision making	27
2.3.3 Power Perspective	30
2.3.4 Strategic Contingencies' Theory	33

2.3.5	Resource Dependency Theory	36
Chapter 3: Research Design and Methodology		38
3.1	Selection of Organizations	41
3.2	Survey	41
3.2.1	On-line Survey	44
3.2.2	On-line Survey Process	44
3.3	Intensive Case Study	45
3.3.1	SKM Historical Background	46
3.3.2	Interview Schedule	51
3.3.3	Interview Process	53
3.3.4	Participants Profile	54
Chapter 4: Survey Results		55
4.1	Data Analysis	56
4.1.1	Data Analysis at Group Level.	57
4.1.1.2	Reliability and validity	65
4.1.1.3	Pearson product moment correlation	66
4.1.2	Data Analysis at Organizational Level	70
4.1.2.1	Descriptive Statistics	70
4.1.2.2	Reliability and validity	72
4.1.2.3	Pearson product moment correlation	73
4.1.2.4	Organization Performance	73
Chapter 5: Interview Results		75
5.1	Interview Data Analysis	76
5.2	The decision to adopt the matrix structure	78
5.2.1	The reasons to move to a matrix structure	78
5.2.1.1	Who were the main people involved in the decision?	88
5.2.2	Were you involved yourself?	89
5.3	The transition to the matrix structure	90
5.3.1	The issues during the transition?	90
5.3.2	How were any difficulties overcome?	99
5.3.3	Recommendations for a smooth transition.	100

5.3.4	SKM's change model	103
5.4	Evaluation of the present matrix structure – advantages and disadvantages	105
5.4.1	Evaluation of the present matrix structure?	105
5.4.2	The main advantages of a matrix structure for SKM	108
5.4.3	The main disadvantages of a matrix structure for SKM	115
5.5	The power balance between business units and divisions	120
5.5.1	Maintaining power balance	121
5.5.2	The methods to maintain the power of balance	123
5.5.3	Organizational performance	126
5.5.4	The factors that determine the level of power	130
5.5.5	The influence of higher levels of power	135
5.5.6	The influence of relatively low level of power	136
5.6	Advice for avoiding problems of a matrix structure.	138
Chapter 6: Discussion		149
6.1	Exploiting Quantitative Findings to Identify Patterning in Qual Data	149
6.2	SCT & RDT: Related Concepts and Research Objectives	153
6.5	A Model for an effective change: organizational design, transformation	192
Chapter 7: Conclusions and Further Recommendations		203
7.1	Research Limitations and Boundaries	203
7.2	Significance	204
7.3	Conclusion	208
7.4	Future Directions	209

Appendix A: Other Case Studies	213
A.1 ABB Zurich (1991) (Source: Pettigrew, Andrew M.. 2003. p 318).	214
A.2 Printer Incorporated (Source: Davis and Lawrence, 1977: 25-36).	220
A.3 Brown & Root (UK) (1999) (Source: SKM's Benchmarking Study, 2002)	230
A.4 Hatch (1999) (Source: SKM's Benchmarking Study, 2002)	231
A.5 IMC (1999) (Source: SKM's Benchmarking Study, 2002)	231
A.6 Parsons Brinckerhoff (1999) (Source: SKM's Benchmarking, 2002)	232
A.7 Shell (Source: Cornelissen, J. Corporate Communications:)	232
A.8 British Petroleum. (Source: Cornelissen, J. Corporate Communications:)	234
Appendix B: Acceptance Letter	238
Appendix C: Questionnaire	240
Appendix D: Interview	255
Glossary	259
References	263

Figures

Figure 2.1 Clegg’s Circuits of Power Framework (adapted from Clegg 1989,).....	22
Figure 3.1 The framework of research from political theories perspective	40
Figure 3.2 The SKM’s Growth Chart	46
Figure 3.3 SKM’s Organizational Structure after the transition.	48
Figure 3.4 How the Business Unit Structure works.....	51
Figure 6.1: The Analytic Mix Method –Three perspectives on the research.....	152
Figure 6.2: Correlation of quantitative variables	155
Figure 6.3: Equal Balance of Power	159
Figure 6.4: Directions of change.....	166
Figure 6.5: Star Model	193
Figure 6.6: Theoretical Framework	197
Figure 6.7: Stages in the SKM’s transition to matrix on timeline	199
Figure 6.8: SKM’s Change Process	202
Figure 7.1: Research Process	207

Tables

Table 1.1: The strengths and weaknesses of matrix structures	10
Table 1.2: The Effective Use of Power	31
Table 3.1: Interview Schedule.....	52
Table 4.1: Response Rate.....	56
Table 5.1: Reasons Given for SKM Moving to a Matrix Structure.....	88
Table 5.2: Issues during Transition.....	99
Table 5.3: Evaluation Level of Success	108
Table 5.4: The Main Advantages of a Matrix Structure for SKM.....	115
Table 5.5: The Main Disadvantages of a Matrix Structure for SKM.....	120
Table 5.6: Is Power of Balance a Problem?	122
Table 5.7: The Methods to Maintaining the Power of Balance	126
Table 5.8: The Level of Effect of the Power Imbalance on Organizational Perf....	126
Table 5.9: The Effects of the Power Imbalance on Organizational Performance...	130
Table 5.10: The Factors That Have Determined the Level of Power	135
Table 5.11: The Business Units with Higher Level of Power.....	136
Table 5.12: The Business Units with Relatively Low Levels of Power	138
Table 5.13: Advice to Reduce Weaknesses of the Matrix Structure.....	148
Table 6.1: Terms in the Analytic Mix	149
Table A.1: Descriptive Statistics at group level.....	248

Table A.2: Reliability Statistics	248
Table A.3: Correlations at group level (SCT).....	249
Table A.4: Correlations at group level (RDT).....	250
Table A.5: Descriptive Statistics at organizational level	253
Table A.6: Reliability Statistics	253
Table A.7: Correlations at Organizational Level	253

Abbreviations

BoP	Balance of Power
BBC	Brown, Boveri & Cie
BUL's	Business Unit Leaders
CAP	Change Acceleration Process
CEO	Chief Executive Officer
COO	Chief Operating Officer
CoP	Community of Practice
GCM	Garbage Can Model
IRC	Information Resource Centre
OCM	Operations Centre Manager
RDT	Resource Dependencies Theory
S3TBU-SC	Strategy 3 Transition to Business Unit – Steering Committee
SCT	Strategic Contingencies' Theory
T – Day	Transition Day

ORGANIZATIONS

ABB	Asea Brown Boveri
BR	Brown & Root
GE	General Electric
PB	Parsons Brinckerhoff
SKM	Sinclair Knight and Merz
ALSTOM	ALSTOM Power
SC	Cisco Systems
EDS	EDS
Siemens	Siemens Ltd
Telstra	Telstra
TP	Transpower NZ Ltd
AX	American Express
WP	Worley Parsons

Abstract

Modern organizations require new structural forms to cope with uncertainties arising from the challenges of global competition and rapid technological and environmental changes (Clarke and Clegg, 1998). One of the most important developments in the area of planned change has been on how to work with large systems so as to initiate and sustain change over time. It was from such contexts that the matrix concept emerged. During the 1950s the term *matrix* emerged in the United States aerospace industry and, as it has developed through the years, the term has come to be accepted in both business and academic circles. In the 1960s the matrix was sought as a fundamental alternative for dealing with unique management problems of coordination, communication and control (Davis and Lawrence, 1977). In the 1970s and 1980s interest in matrix organizational structures peaked. Since that time, research and literature on the matrix has diminished; contrarily, organizations continue to adopt the matrix as a viable alternative to deal with their increasingly complex business environment.

In the recent past, some of the companies that applied a complex global matrix structure have included Asea Brown Boveri (ABB), Zurich (1991); Brown & Root (BR), UK (1999); Hatch (1999) – Formerly BHPE and Kaiser mergers; IMC (1999); Parsons Brinckerhoff (PB), (1999); and Sinclair Knight and Merz (SKM), (2002). These companies have used matrix structures to achieve worldwide economies of scale, combined with local flexibility and responsiveness. The purpose of this study was to investigate the validity of political theories of organizations in major international companies that have implemented matrix structure, with a focus that includes identifying:

- i. The key factors behind the strategic decision to change the corporate organization in international companies to a matrix structure.
- ii. The weaknesses and strengths of these matrix structures for subsequent organizational performance.

-
- iii. The effects of transition to matrix structure on organizational performance.
 - iv. The factors used to maintain a power balance between divisions.
 - v. A model that seeks to diminish or reduce matrix structure weaknesses to increase organizational effectiveness.

The research was conducted in the form of a questionnaire survey and semi-structured interviews. To illustrate the implementation of the matrix structure that occurred in a real world environment, SKM has been researched as an intensive case study.

Preface

As a professional engineer I have had opportunities to be involved with major projects in various international organizations. I have also had opportunities to observe organizations and to analyse their operations by exploring existing procedures and manuals. It was noticeable that the overall success of the projects relied very much on organizational decision making. This observation led my paradigm shift from projects to organizational studies and to the idea of conducting research that aims to investigate the weaknesses and strengths of matrix structures for organizational performance.

Introduction

Thesis structure

This thesis presents a detailed account of the research activities undertaken by Nursen Saracoglu and the outcomes of that research. The purpose of this research is to investigate the validity of political theories of organizations in major international companies that have implemented matrix structure. Data has been collected using a combination of methods, including questionnaires, semi-structured interviews, and direct examination of library catalogues and databases. The structure of this thesis is designed as follows:

Chapter 1 introduces, and describes the background to the research project. The theories that provide a background to the various factors involved in organizations choosing to change to matrix structures, and the resulting positive and negative effects on the organization, are presented in this chapter.

Chapter 2 reviews and analyses the literature review that has been conducted to focus, especially, on how changes to the structure and design of power in matrix organizations can have important implications and consequences. The literature review looks in detail at different organizational theories, particularly theories on power within organizations, which have a bearing on the effect of a matrix structure on an organization. Each theory is critiqued in terms of its relevance to matrix structure analysis. Strategic Contingencies Theory (SCT) and Resource Dependency Theory (RDT) best explain the effect of different levels of power inside a matrix structure.

Chapter 3 details the research design and methodology. This chapter describes the advantages and disadvantages of quantitative and qualitative approaches and presents the rationale of selecting research methodology. The participating organization, SKM, is described in terms of its history and its matrix structure is outlined.

Chapter 4 illustrates the results of research that defines potential areas of concern associated with matrix structures. The discussion mainly centres on the methods used to analyse the data and then focuses on the different dependent and independent variables derived from the data that are used in the analysis for correlation purposes. The aim of this chapter is to explain the various statistics used to analyse the data and to list the variables that came up as a result of answers to questionnaire. These variables are then analysed against each other in order to develop a sense of the effectiveness of the matrix structure in SKM.

In Chapter 5 the qualitative data was examined using the responses obtained from interviews with the top managers of SKM. This chapter aims to identify the themes that have emerged from these interview responses and present them in

order of most to least common within each area of research, illustrated with comments from some of the respondents.

Chapter 6 discusses the survey and interview results in order to exploit quantitative findings to identify patterning in qualitative data. In parallel with SCT and RDT, the relationship between power and performance in matrix organizations is presented. The new concepts that emerged based on the research findings are introduced and discussed according to the relevance to the research objectives.

Chapter 7 This chapter concludes the research and presents research limitations, boundaries, the contribution to the body of knowledge and a summary of future research opportunities. The case studies give a sense of how various elements of Matrix structure that outlined in this research were actually applied by other particular organizations are exhibited in Appendix A.