AL

Lecture Notes in Economics and Mathematical Systems

Managing Editors: M. Beckmann and W. Krelle

291

Nobuo Takahashi

FB Mathematik
TU Darmstadt
58386073

Design of Adaptive Organizations

Models and Empirical Research

Fachbereich Mathematik
Technische Hochschule Darmstadt
Bibliothek
Inv.-Nr. B 21 357

Springer-Verlag
Berlin Heidelberg New York London Paris Tokyo

CONTENTS

INTRODUCTION		1
	PART ONE SHORT-RUN ADAPTIVE PROBLEMS	5
CHAPTER 1	THE MODEL	
1.1	Organization Structures	7
1.2	Management Systems	13
1.3	The Decision Process Model	17
CHAPTER 2	EFFICIENT ORGANIZATIONAL DESIGN	
2.1	The Separation Theorem	23
2.2	Existence of an Optimal Decision Rule	26
2.3	Efficient Organization Structures	28
2.4	Efficient Management Systems	33
CHAPTER 3	SOME MANAGERIAL PROBLEMS	
3.1	Efficient Management Systems and Information Costs	39
3.2	Neutral Tasks and Service Departments	41
3.3	Minimax Solutions of Organization Design Problems	43
	PART TWO LONG-RUN ADAPTIVE PROBLEMS	47
CHAPTER 4	MANAGEMENT SYSTEMS OF INNOVATION	
4.1	The Model	49
4.2	Efficient Management Systems	57
4.3	Efficient Management Systems and Members' Abilities	60

PART THREE MANAGERIAL IMPLICATIONS 63

CHAPTER 5 IMPLICATIONS FOR ORGANIZATION THEORY

5.1 Propositions on the Efficient Organizational Design 65

5.2 Contingency Theoretic Implications 68

CHAPTER 6 EMPIRICAL RESEARCH ON JAPANESE FIRMS

6.1 Hypotheses 75

6.2 Methods 76

6.3 Organization Structures under Uncertainty 82

6.4 Management Systems under Uncertainty 86

APPENDIX A MATHEMATICAL APPENDIX 95

APPENDIX B TRIGRAPH: A COMPUTER PROGRAM 118

REFERENCES 131

SUBJECT INDEX 135