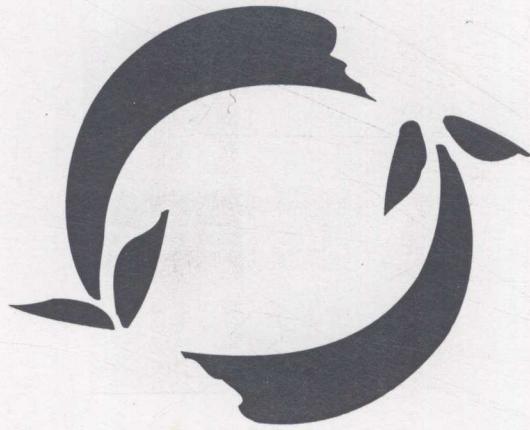


M A N A G I N G W I T H

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MANAGING WITH SYSTEMS THINKING

SYSTEMS THINKING



Making Dynamics work for you in Business Decision Making

MICHAEL BALLÉ

MICHAEL BALLÉ

About the Author

Michael Ballé is an independent consultant in organizational design and process improvement. After working in London with Coopers & Lybrand he specialized in systems theory and practice and its implications for businesses. He currently works on redesigning business processes according to systems principles in various companies in France and the UK. Michael Ballé also runs seminars and workshops in systems thinking for managers.

T H

A SEVEN-STEP FRAMEWORK FOR ANALYSIS—
how to undertake a systematic analysis of
problem situations

TARGET YOUR INFLUENCE—how to look for
areas of 'leverage': make small, focused
actions with big results

STIMULATE AND COMMUNICATE INSIGHT—
help people see the wood for the trees in
messy situations

NO BLAME, NO ENEMY JUST ACTION—by
identifying the underlying structures which
drive behaviour this book will help you create
a more structured and less conflicting vision of
problems

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Managing with Systems Thinking

Making dynamics work for you in business decision making

Michael Ralle

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Contents

For my parents, Catherine and Freddy

1. The system thinking approach	11
1.1 The system thinking approach	11
1.2 The system thinking approach	11
1.3 The system thinking approach	11
1.4 The system thinking approach	11
1.5 The system thinking approach	11
1.6 The system thinking approach	11
1.7 The system thinking approach	11
1.8 The system thinking approach	11
1.9 The system thinking approach	11
1.10 The system thinking approach	11
2. The system thinking approach	15
2.1 The system thinking approach	15
2.2 The system thinking approach	15
2.3 The system thinking approach	15
2.4 The system thinking approach	15
2.5 The system thinking approach	15
2.6 The system thinking approach	15
2.7 The system thinking approach	15
2.8 The system thinking approach	15
2.9 The system thinking approach	15
2.10 The system thinking approach	15
3. The system thinking approach	19
3.1 The system thinking approach	19
3.2 The system thinking approach	19
3.3 The system thinking approach	19
3.4 The system thinking approach	19
3.5 The system thinking approach	19
3.6 The system thinking approach	19
3.7 The system thinking approach	19
3.8 The system thinking approach	19
3.9 The system thinking approach	19
3.10 The system thinking approach	19
4. The system thinking approach	23
4.1 The system thinking approach	23
4.2 The system thinking approach	23
4.3 The system thinking approach	23
4.4 The system thinking approach	23
4.5 The system thinking approach	23
4.6 The system thinking approach	23
4.7 The system thinking approach	23
4.8 The system thinking approach	23
4.9 The system thinking approach	23
4.10 The system thinking approach	23

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'Then there is an order in the world!
I cried, triumphant.
'Then there is a bit of order in this poor
head of mine,' William answered.

The Name of the Rose
Umberto Eco

Preface

This book is for managers. This book is for anyone who feels that no matter how hard we push, 'the structure', or 'the system', or 'the organization' seems to push back harder; and for those of us who believe in trying but can see that sheer force is not always enough. The issues I have tried to address are particularly relevant to the running of projects within organizations. We try to understand how certain 'rational' behaviours create group dynamics that ripple throughout the organization. And, hence, how a project leader can sail his or her way through the firm's currents and tides to reach a safe harbour.

The book evolved out of numerous workshops, seminars and interviews with managers from various companies in which we faced real, nasty, messy business issues. In writing this book, I have tried to present a few concepts that can—hopefully—help foster insight in practical situations. It is not an academic work and does not pretend to either originality or exhaustivity—but to some solid common sense. The points that I make have, in a way, been dictated by practice more than by reason. They are the points that emerge, time and time again, in numerous working sessions and that seem to make sense to the participants. I believe that we cannot see something happening unless we already know what to look for. Columbus went looking for China, and found America instead. But centuries of sailors thought there was nothing there—so did not look. Over the years, we have found that too many of our working, practical problems are linked to the dynamic behaviour of organizations.

Most of us can deal intuitively with such dynamic behaviours as vicious cycles or virtuous circles, but often, intuition is not enough. I have tried to expose some building blocks that can help us deal with complex, interlinked dynamic situations by presenting them through examples. What I hope is that people confronted with these problems can then relate these concepts to their situation—and find workable solutions. The examples presented here are a patchwork of stories from the experience of managers I have been privileged to

work with, from my own experience or from the literature. They have no other value than being a tool to illustrate some rather complex mechanisms. What I have attempted here is to show that we can deal with complexity simply—without being simplistic.

The systems thinking framework is particularly relevant to anyone involved with organizations, because organizational problems simply do not fit within simple linear thinking. Organizational issues are interlinked, dynamic and uncertain—in other words, complex. Traditional analysis, as in our habit of breaking everything down to its component parts and then studying the parts, is invaluable when dealing with machines or small groups, but will yield very few valuable insights to understand how our modern organizations behave. Furthermore, many of these organizations have been designed according to simplistic frameworks that do not represent reality with enough accuracy to make sensible choices.

As a result, 'problems' keep cropping up. Then, true to our philosophy, we spend a lot of time and effort 'problem-solving'. If we are lucky, the pain will go away and we can go back to our 'real work'. Unfortunately, this is not enough. For one thing, we usually attack the symptom rather than the root cause—because we do not have the intellectual tools to perceive the root cause. Our solutions are then likely to produce new 'problems' in the future rather than solving the ones we set out to deal with in the first place. In the meantime, the structural causes to our original concern are still there so that the problem will reappear for someone else to solve. Problem-solving is not enough as long as the thinking that created the problem is still active. The fundamental solutions lie in the way we design the structures and operational policies of our organizations. Policies must take into account effects on the organization as a whole rather than on the ailing operating part.

Systems thinking provides a vocabulary to describe and predict complex, dynamic mechanisms. What most experienced managers do anyway and call 'intuition' can now be formally used and shared among management teams in order to control the complex systems we create, rather than letting them control us. Systems behaviours can be counter-intuitive, yet they are none the less real. In this book, I have tried to capture a simple view of these complex occurrences—and have fun with it. I hope the result is a pleasant read.

Acknowledgements

Almost ten years ago, I stumbled upon a small book of collected essays of Gregory Bateson. After reading a few pages I felt as if somebody had finally found the light switch. *Steps to an Ecology of Mind*¹ made 'sense'. There was no real theoretical proposition in the book, no formalized doctrine, but a wealth of insights and observations about how the world works—or does not work. For once, these observations did not seem dry or abstract, but were consistent with how I personally experienced life. Bateson seemed to live in a universe where things were interconnected, dynamic, random and, yet, somehow ordered. Within complexity there is a pattern and he outlined the tools to draw it.

Being a self-taught 'systems thinker' I would like to thank authors whose remarkable works have paved the way for this book. I cannot quote here all the books that have inspired my work, but I would like to address particular thanks to Jay Forrester's *Industrial Dynamics*² and Peter Senge's *The Fifth Discipline*³ from the MIT group, which have been particularly enlightening, also Barry Richmond's *Ithink User Guide*⁴ and Donella Meadows's works.

From then on, I have pursued systems theory wherever I could find it and realized that a systemic vision of the world is emerging in fields as diverse as biology, cybernetics, social sciences, psychology, although there are, as yet, few applications to the field of management. When working as a systems dynamics modeller with Coopers & Lybrand, I realized that some of the mechanisms I was using to model market behaviour could be more directly used to shed some light on certain business problems. I followed the advice of my friend and colleague Doron Cohen, and wrote a short, friendly brochure on systems thinking for my then boss and mentor, John Rountree.⁵ The success of this internal document led me to develop workshops with managers using these ideas. Most of what is in this book comes from experience of people in companies. I wish to thank all the people I have worked with, and in particular Michael Kightley and Carol Greenhalgh for their enthusiasm and insight in the early days of working with systems thinking in practice. All my

thanks also to the rest of the team and in particular to Moira Evans and Rachel Parr.

I then worked with Thorogood Associates and developed more 'formal' systems thinking training courses. I would like to thank the team: Paul Balasky, Morag Banks, Patrick Dight, Jeremy Engasser, Kate Farmer, Mark Gibson, Julia Honnisberger, Trevor Jones, Tracy West and Rhona Worley for their warm support. At the end of one such session, Ian Dunham, one of the managers in the workshop, suggested that I write a short book summarizing basic systems thinking ideas and I would like to apologize for dismissing his idea at the time—it was great advice!

On a more personal front, I am very grateful to my wife, Lisa Ballé, for the patience and common sense that I have appreciated over years of 'systems thinking'. I would also like to thank Andrew Vincent, my father-in-law for long, fun and fruitful discussions about Life, the Universe and Everything. Many thanks to Andrew Gottshalk, Rob Abbott, Dennis Sherwood and Richard Hervey for their support in difficult times—as in good times. I am also very grateful to Mairi Mackinnon for correcting my grammar with great insight, and Marion Edsall for her skilled copyediting and Tessa Hanford for 'making it happen'. Finally, last but not least, I wish to thank my editors Kate Allen and Nathalie Burfitt for making this project happen and being wonderful listeners. As people say 'how can I know what I think if I don't hear myself say it?'; many thanks to all those who—willingly or not—have listened to me think.

Notes

1. G. Bateson, *Steps to an Ecology of Mind*, 1972, Ballantine Books.
2. J. Forrester, *Industrial Dynamics*, 1961, MIT Press.
3. P. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organisation*, 1990, Bantam Doubleday.
4. Barry Richmond, *Ithink User Guide*, 1990, High Performance Systems.
5. M. Ballé, *Systems Thinking*, 1992, Coopers & Lybrand.

Introduction

Systems thinking has been around for almost a century, in many forms and disguises. It has been applied in various fields from cybernetics and computer sciences on the one hand to sociology and psychology on the other. S-curves have been used extensively in business since the 1960s and many economists have integrated aspects of systems theory in their analyses. Yet, as most fields increasingly adopt some concepts or techniques that stem from systems theory, the theory itself is still clouded in a shroud of esotericism and mystery. In the 1980s, there was a revival of interest in systems dynamics as a modelling technique for a range of issues, but yet again it has remained the domain of very highly specialized guru-type academics or consultants.

'Systems thinking' does not really exist as a unified field of research. It is at the intersection of many scientific disciplines and diversity is increased by the fact that the very term 'systems thinking' has different meaning for different groups of scientists. In the United Kingdom, critical systems theory as developed by P. Checkland, R. Flood, E. Carson and M. Jackson represents more a methodology—an approach—than specific theorizing. In the United States, systems thinking largely gravitates around the MIT and is solidly anchored in computer modelling (i.e. systems dynamics). This aspect of systems thinking has been successfully developed by J. Morecroft at the London Business School and M. Karsky in France. The French field of systems thinking is more centred on the role of the individual within the system than on overall systems behaviour. However, some seminal work has been done by thinkers such as R. Thom, E. Morin and J. de Rosnay. Within this diversity of works, I have centred my own understanding of 'systems thinking' around the feedback loop concept. Most of the other ideas should be represented here but the emphasis remains on representing structures of behaviour. Nothing in this book is new. The ideas have been around for a while. The author's main work and pleasure has been in the presentation of these concepts from a practical, workable point of view. The book provides a method, and specific, simple techniques to use systems thinking in practice. Systems

thinking is not about solving corporate problems: it is about thinking.

Thinking is often taken for granted. The very logic of our thought processes is accepted as a 'given', something we cannot change. However, this 'logic' often goes wrong. Things just do not work out the way we figured they would. When that occurs, no matter how frequently, we tend to dismiss it and resign ourselves to the sad fact that 'accidents happen' and that the world is far too complex and weird a place for us to make any sense of it. Systems thinking is a practical way to challenge our old logic, to change ourselves in the very way we think and approach the world. It is very practical and down to earth—sometimes to a surprising extent in a world where accountants have taught us to think in terms of gross averages, percentages and balance sheets. This thinking is no less rational than what we commonly call 'rationality'. It is certainly more reasonable, and most people already use it and call it 'common sense'. Ultimately, what we wish to explore with you in this book is a way to capture common sense, and to use it in a more formal and systematic way. And, just like common sense, systems thinking often flies in the face of 'conventional wisdom' but that, of course, is also the fun of it.

Contents

Preface xi

Acknowledgements xiii

Introduction xv

- 1 The problem 1**
 - The 'financial decision' 3
 - The limits of classical rationality 5
 - The left-brain, right-brain debate 7
 - Overview 19
 - Notes 19

- 2 Mental models 21**
 - A mental model is internally consistent 21
 - Mental models are stable, and tend to resist change 22
 - Mental models are simplifications of the real world 22
 - Mental models are stories that run through our minds 23
 - Mental models determine how we act 25
 - Thinking follows the principle of least mental effort 26
 - Mental models need to be made explicit 29
 - The classical mental model 29
 - Overview 33
 - Notes 33

- 3 An alternative rationality: systems thinking 35**
 - The systemic approach 35
 - Origins 36
 - Analytical 38
 - Holistic 39
 - Pragmatic 41
 - Overview 42
 - Notes 42

- 4 The systems thinking framework 44**
 - The concept of feedback 45
 - Linear causality 46
 - Delays 48

	Influences represent the actions in the system	50
	Population dynamics	51
	Structure drives behaviour	54
	Influence diagrams	56
	A language to describe and predict	56
	Operational thinking	57
	Systems components	58
	Overview	63
	Notes	63
5	Basic systems behaviours	64
	Positive feedback loops: the engine of growth	66
	Negative feedback loops: the source of stability	71
	Growth: an S-curve process	82
	'Limits to growth': an S-curve process	86
	Niche strategy	86
	Nothing can grow forever	91
	Overview	94
	Notes	95
6	Leverage	96
	Identifying leverage points	100
	Don't panic	100
	Anticipations	101
	There is no blame, no enemy, no 'out there'	102
	What is the next limiting factor?	103
	Change the rules, change the game	105
	Do not fight positive feedback: support negative feedback instead	106
	Shorten the delays	107
	Project management	108
	Overview	110
	Notes	110
7	Steps to a systems thinking analysis	111
	What is the symptom?	111
	Who are the players?	113
	What is the growth engine?	119
	What are the main limiting factors?	120
	Expand the frame	122
	Structural action points	123
	Communicate	124