Systems Thinking: The New Frontier

Discovering Simplicity
in an Age of Complexity

Stephen Haines

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Testimonials

To solve the growing challenges in the world, we need better ways to think, plan, and act. This book shows us how.

—Jay Galbraith, world-wide leader in Organization Design, Galbraith Management Consultants (Breckenridge, Colorado)

The Haines Centre has done a fantastic job through their unique Systems Thinking Approach to Strategic Management and its very specific practical implementation…. I highly recommend the Haines Centre for Strategic Management and their Strategic Management System as a state-of-the-art, best practices strategic planning and execution process.

—Ruben Barrales, CEO, San Diego Regional Chamber of Commerce (San Diego, California)

"This is the Cliff's Notes summary you need to quickly understand a vital topic."

—Terry Schmidt, CEO, Management Concepts International (Seattle, Washington)

"I met Steve Haines and the Haines Centre for Strategic Management as a result of researching the most applied, useful and manageable approach to Systems Thinking and change management. What I found was so much more—Systems Thinking: The New Frontier is a must-have for anyone in the business of leading an organization for the future."

—Joan Resnick, CEO, The Real Life Training Group (Portland, Oregon)

Testimonials

"I applaud Steve for this road map on achieving simplicity in the midst of complexity and chaos. After reading this, organizations will begin to understand how Systems Thinking is in their best interest. I strongly recommend this book to everyone who wants to have a complete Strategic Management System in place."

—Uju Onwuzulike, CEO, Mentoring Consult Ltd. (Lagos, Nigeria)

"Steve has distilled the seemingly complex theory and practice of Systems Thinking, strategic planning and execution into its most understandable and implementable forms. This primer on Systems Thinking is written so clearly that front-line staff and executives alike can read it and instantly gain application value to improve the performance and profitability of their teams and organizations. This book is a must read for anyone who wants to be on the edge of understanding and applying Systems Thinking."

—Dr. Terry Anderson, professor and founder,
The Consulting Resource Group (Abbottsford, British Columbia, Canada)

"Systems Thinking works! For any leader, in any organization, taking a Systems Thinking Approach® should be mandatory as part of their on-going strategic management process. The simplicity and clarity that comes from Systems Thinking is a game changer in any organization. It gets the desired results.

"This book is the clearest book ever written as a primer on the ABCs of Systems Thinking and its universal applications to life and work. It is a must read for anyone who wants to navigate the complexities of the 21st century with more clarity, simplicity and speed."

—Brian Rhiness, president and CEO of The Rhiness Group (Edmonton, Canada)
and former Assistant Deputy Minister of Alberta Agriculture

Acknowledgements

This book is a culmination of my lifelong search for knowledge and my personal journey to understand and apply Systems Thinking to my life and work. It became clear to me in 1975—when I completed my master's dissertation on the use and applications of General Systems Theory and its use and applications—that I was on to something.

I didn't know exactly what that was until a few years later, when I had the privilege of hearing Russell Ackoff, acknowledged master of Systems Thinking from the University of Pennsylvania, talk for four hours on the practical understanding and application of Systems Thinking—with no notes. I was a junior executive for Sunoco, sitting in the back of the room with light bulbs going on the entire time. That's why this book is dedicated to Russ, who awakened in me a true understanding and value of Systems Thinking.

I would also like to dedicate this book to my good friend, retired Rear Admiral David Ellison of the U.S. Naval Academy, alongside whom I completed my master's degree. After Russ Ackoff inspired me to dig up my dissertation, I was also able to look at David's findings, and I am grateful for his help with my research at the foundational level.

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I am the classic example of the fact that "adults learn best by doing." My many jobs, my colleagues, my friends and my clients over the last 20 years have helped me refine my knowledge. I'd like to acknowledge four people who have especially impacted my journey over the past five years. The first, of course, is my incredibly intelligent wife, Jayne Reed Haines, who has been with me throughout this 20-year journey of taking Systems Thinking mainstream. I would also like to acknowledge Joyce Evans and Jenna Murobayashi, two staff members who have helped me to learn and grow by challenging my thinking. The fourth is James McKinley, the co-founder of the Haines Centre. Jim and I have been on the same growth path for the two decades, and I value our exchange in learning and growing with each other.

Lastly, I want to acknowledge my editor, Jeanette Calo, because she has continued to challenge me and force me to clarify my thoughts. It's been a tremendous learning experience—and that's the main reason I write books.

So thanks to all of you—without you I wouldn't be here.

About the Author

Stephen Haines is the Founder and CEO of the Haines Centre for Strategic Management®, which he founded in 1990. He is internationally recognized as a world-class leader in the field of Strategic Management and Change. Steve has more than 30 years of executive experience with more than 300 CEOs in complex and diverse international situations. The Centre now has Partners, Principles and Certified Business Consultants across the United States and Canada, with offices in more than 25 other countries.

Prior to founding the Centre, Steve was president and co-owner of University Associates Consulting and Training Services, a pioneer firm in the development of human resource practitioners and their organizations. In addition, Steve was executive vice-president and CAO for the Imperial Corporation of America (ICA), a diversified $14 billion nationwide financial services firm. He was also SVP of Freddie Mac, a $32 billion United States financial institution.

Steve has been a member of eight top management teams—both in the United States and internationally—with corporate responsibilities for all aspects of organizational functions, including planning, operations, marketing, PR, communications, finance, HR, OD, training and facilities. His career also included executive positions at MCI, Exxon, Sunoco and Marriott Corporations.

Steve has completed his coursework for his doctorate in management from Temple University and an M.S.A. in Organization Development with a minor in financial management from George Washington University. He has a B.S. in Engineering with a minor in foreign affairs from the U.S. Naval Academy in Annapolis, MD, where he was part of the prestigious and legendary leadership class of 1968. He is also a graduate of the Department of Defense Human Goals Institute, a former Navy pilot and a veteran of the Vietnam conflict.

Steve currently serves as VP for the Association for Strategic Planning's Board of Directors. He led the task force project, which created the ASP Certifications and involved the participation of hundreds of junior and senior ASP members. He has been granted the prestigious SMP Pioneer number 001. Steve was inducted into the ASP Hall of Fame in 2011.

Steve is the world leader in Strategic Management using the Systems Thinking Approach®. His diverse background includes exposure to hundreds of firms and extensive "Best Practices" research. He has received numerous Who's Who honors,

written 16 books and more than 60 articles, and developed 11 volumes of the Systems Thinking Library. He has taught more than 80 different kinds of seminars and Gold Mastery Certifications, and is in demand as an insightful and provocative keynote speaker at international conferences, with a special emphasis on CEO and Board issues. His interests include family, community service, sports, sailing, traveling with his wife Jayne, as well as photography, art, design and spending time with his grandson Sebastian.

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Part I

An Overview of Systems Thinking

Chapter 1 Introduction
Chapter 2 Systems Defined
Chapter 3 Foundational Research

Discovery consists in
seeing what everyone else has seen
and thinking what no one else has thought.

—Albert Szent-Gyorgi

Chapter 1

Introduction

When astronauts look back at the earth, they see a swirling pattern of blue and white, set in an endless void of black. It's an elegant system of atmosphere and orbits, stars and vacuums, all working together in perfect sync.

Yet even from space, the complexity of our lives is evident. The earth is just a small part of our solar system, and an even smaller part of our galaxy. And beneath the marbled blue, green and white lie an infinite number of living, human systems that need to learn to work together for the betterment of all.

The world is complex. But simplicity wins the game every time.

The key to navigating the world successfully is uncovering its simplicity. We do not need to invent this simplicity, as it's already there—like an undiscovered country or a new frontier.

Looking outward, Star Trek Captain James T. Kirk called space the "final frontier." But the show missed the inward frontier—the untamed territory of our minds. *How* we think is a new frontier that needs to be understood and cultivated in order to discover simplicity through the mist of today's global complexity.

Join in the exploration of this new frontier—the interior of our minds and *how* we think—and you will discover an elegant simplicity that will dramatically improve your life and work.

Why Elegant Simplicity?

Major change fails 75 percent of the time because organizations attempt to make organizational change using a piecemeal and analytical approach to a systems problem (see my book *Enterprise-Wide Change* for more details).

What's the remedy? For successful transformation to occur, we must shift our thinking 180 degrees toward Systems Thinking—a simple yet more holistic approach. It is an old-but-new way to view and mentally frame what we see in the world. It is a worldview that is concerned with an individual or entity first as a whole, as a living system, with its fit and relationship to its environment as primary concerns.

Everything should be made as simple as possible, but not simpler.

—Albert Einstein

Following more than 50 years of scientific research in this field, Systems Thinking is a natural and integrated approach for living, human systems—such as individuals, teams, organizations and societies—as they try to survive and thrive in today's dynamic and complex global environment. By understanding the simple fundamentals of how these living systems work at many levels, it is possible to work through complexity to elegant simplicity, achieving effective and sustainable results.

For this book, I have boiled this profusion of research into a simple guide—including our Universal Thinking Framework and Guide™, which can be learned n 10 minutes—just as we do with our clients at the Haines Centre again and again. It is an elegantly simple way to live your entire life.

Complexity is the New Normal

When you boil it down, the world is naturally quite simple. Just look at a few basic numbers:

12: All the music in the world is based on just 12 notes.
10: All math and economics are based on just 10 digits.
4: All people come from just four strands of DNA.
3: All the colors are made from just three primary ones.
2: All information technology is just based on binaries (bits and bites).

Simplicity exists, but we have blacktopped over it and fragmented it, creating a complex and confusing—yet still interconnected—world. This complexity is vital to how the world operates. Technological advances and global communications have shaped today's dynamic environment, and in order to be successful, living systems—including you as an individual—have to adapt.

In short, the world can no longer be comprehended as a simple machine. It's a complex, highly interconnected dynamic global system. The basic trouble is that most people are still trying to solve the problems of complex, living (human and organizational) systems with the mindset, thought process and tools that were appropriate for the long-ago world as a machine.

Complexity is the new normal, but it doesn't have to stay that way if you can learn how to think to reduce complexity to its core essence. As Oliver Wendell Holmes, Jr., chief justice of the United States Supreme Court, once noted, *"I wouldn't give a fig for simplicity this side of complexity, but I'd give my life for the simplicity on the far side of complexity."*

You can't ignore the complexity of the world. You have to navigate it and build on it—then simplify it and then find its holistic and integrated core essence. Albert Einstein said, "We don't need to think more, we need to *think differently*." This level of simplicity and clarity is only possible through thinking differently using Systems Thinking.

The best part about uncovering the core essence of a problem is that it is *the natural way the world works*, so it is actually easy. In fact, one definition of simplicity is "a focus on logic and common sense."

Cut through the red tape and clutter all around you—The Systems Thinking Approach® is a simple and common-sense method that can be taught to nearly everyone in 10 minutes. Systemic and holistic thinking helps to cut through complexity to its core essence—and that leads to a beautiful and elegant simplicity.

Don't try to make it too simple too soon. First, absorb the complexity of the situation, then start looking for simpler perspectives on it.

—Geoff Bellman, *Training & Development*

Systems Thinking vs. Analytic Thinking

While complexity is a great tool for the systems thinker, it often paralyzes the traditional, independent and analytic thinker. Analytic thinking—a piecemeal and mechanistic approach to problem-solving—falsely reduces problems to simplistic, knee-jerk solutions, as if the elements of the world were independent of each other. It's like three blindfolded people who touched the same elephant—one touched the tail and thought it was a broom, another touched the leg and thought it was a tree, and a third touched the tusks and thought it was a statue.

The complexity of our world blinds analytic thinkers to the reality of the living systems around and in us. They fixate on only one answer and consider it the best and only way. It is an *artificial either/or method of thinking* that tries to cure one symptom at a time—and often with only one solution. And because it takes such a narrow view of the problem, analytic thinking yields scores of unintended (and negative) consequences.

As John E. Johnson wisely asserted, *"Any idiot can simplify by ignoring the complications. But it takes real genius to simplify by including the complications."* The genius of the ABCs of Systems Thinking, our Universal Thinking Framework and Guide™, is that it considers complexities in a simple way.

The dominant paradigm in our lives is analytic thinking. However, the natural order of life in the world is a systems one. Our world is composed of living systems within systems within systems. Unlike traditional analytic thinking, Systems Thinking embraces, explores and overcomes complexity, as Peter Senge notes in his article "Learning Organizations":

> System Thinking is a discipline for seeing wholes, a framework for seeing patterns and interrelationships. It's especially important to see the world as a whole as it grows more complex.
>
> Complexity can overwhelm and undermine: "It's the system. I have no control."
>
> *Systems Thinking makes these realities more manageable. It's the antidote for feelings of helplessness.* ***By seeing patterns that lie behind events and details, we can actually simplify life.***

Reaching success in how you think involves progressing up three levels of maturity from the dependency (non-thinking) of every infant:

Level 1: Independence (analytic thinking)
Level 2: Interdependence (more *systematic* yet still eclectic thinking)
Level 3: Mastery (Systems Thinking—holistic, integrated and systemic)

A paradigm shift is occurring right now—advanced thinkers in nearly every scientific discipline are evolving well past analytic thinking to an understanding of interdependence along the way to Systems Thinking. In the process, they're moving toward a higher maturity in their own thinking process that recognizes the complexity and interdependence of today's dynamic world, yet are not overwhelmed by it.

W. Edwards Deming said, "We live and work in an analytic prison: Working hard within this prison produces nothing. We cannot remodel the prison. We must get out of it. To do this, a transformation is required." That transformation is Systems Thinking.

Analytic Thinking (Analysis of Today)	vs.	Systems Thinking (Synthesis for the Future)
1. We/ they	vs.	1. Customers/ stakeholders
2. Independent	vs.	2. Interdependent
3. Activities	vs.	3. Outcomes/ ends
4. Problem-solving	vs.	4. Solution-Seeking
5. Today is fine	vs.	5. Shared vision
6. Units/ departments	vs.	6. Total organization
7. Silo mentality	vs.	7. Cross-functional teamwork
8. Closed environment	vs.	8. Openness and feedback
9. Department goals	vs.	9. Core Strategies
10. Strategic Planning Project	vs.	10. Strategic Management System
11. Hierarchy and controls	vs.	11. Serve the customer
12. "Not my job"	vs.	12. Communications, collaboration
13. Isolated change	vs.	13. Systematic change
14. Linear/ begin-end	vs.	14. Circular/ repeat cycles
Parts are primary	**vs.**	**Whole is Primary**

Figure 1.1 Analytic Thinking Vs. Systems Thinking

Keep it Simple: Systematic vs. Systemic Thinking

Systems Thinking is not systematic, but *systemic*. Instead of systematically examining the parts of a system, *systemic* thinking considers the relationships between the parts of a system rather than targeting a single piece of the system or taking a single-minded approach without considering all the other factors in play.

Justin Acosta, one of my staff members, provided this easy example to clarify the difference between these two terms: There could be a multiple reasons why a person might have a runny nose. To determine the cause, *systemic* thinking would examine "the whole"—in this case, the body. Because the whole is primary, a systemic thinker would ask, "Is another part(s) of my system (the body) that is interdependent with the affected area (the nasal passage) causing this problem?" Using this approach would lead to a quicker and more holistic diagnosis.

Stop using analytic approaches to systems problems! Remember, in analytic thinking, the parts are primary and the whole is secondary. *In Systems Thinking the whole is primary and the parts are secondary.* The results from Systems Thinking are simply better.

We are tied together in the single garment of destiny, caught in an inescapable network of mutuality.

—Martin Luther King