think smarter

Critical Thinking to Improve Problem-Solving and Decision-Making Skills

Michael Kallet

WILEY
think smarter
think smarter

Critical Thinking to Improve Problem-Solving and Decision-Making Skills

Michael Kallet

WILEY
To my dad, Sidney Kallet, who thought, and thought well.
CONTENTS

Preface xi
Acknowledgments xvii

Section I
INTRODUCTION AND THE FRAMEWORK FOR CRITICAL THINKING 1

1 What Is Critical Thinking? 3
2 When to Use Critical Thinking 10
3 The Framework and Tools 16

Section II
CLARITY 21

4 Empty Your Bucket 23
5 Inspection 28
<table>
<thead>
<tr>
<th>Section III</th>
<th>CONCLUSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>It’s All about the Premise 85</td>
</tr>
<tr>
<td>16</td>
<td>Facts 90</td>
</tr>
<tr>
<td>17</td>
<td>Observations 94</td>
</tr>
<tr>
<td>18</td>
<td>Experiences 99</td>
</tr>
<tr>
<td>Section IV: Conclusions and Innovation</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>27 Outside-the-Box Thinking</td>
<td>159</td>
</tr>
<tr>
<td>28 Abductive Thinking</td>
<td>164</td>
</tr>
<tr>
<td>29 Impossible Thinking</td>
<td>172</td>
</tr>
<tr>
<td>30 Summary of Conclusions</td>
<td>176</td>
</tr>
</tbody>
</table>
Section V
DECISSIONS

31 Who, Need, and When
32 Criteria
33 Risk
34 Summary of Decisions

CRITICAL THINKING
SUMMARY AND SUGGESTIONS

About the Author
Index
T
hinking is the process that every human being uses to solve problems, make decisions, generate new ideas, and be creative. The goal of Think Smarter is to answer the question “How exactly do we get better at problem solving, decision making, and creativity?” Actually, the question is “If thinking is what we use to solve problems, then how do we improve our thinking with respect to solving problems?” The inspiration to write this book came from years of helping others answer that question.

People often ask me if it’s truly possible to teach people to be smarter. The answer depends on how you define smarter. If it means increasing intelligence quotient (IQ) points, then the answer is probably not. But if becoming smarter means applying your IQ in a way that produces more successful problem solving and better decisions, then the answer is absolutely yes.

Critical thinking isn’t about making people smarter; it’s about using a set of tools and techniques to think in a more effective way. Critical thinking won’t increase IQ points, but it will help people apply whatever level of intelligence they have in a way that produces higher-quality solutions. It raises the bar for everyone and improves both individuals’ and organizations’ overall performance.

Why I Wrote This Book

I had enjoyed a successful career in software development from the beginning of the personal computer (PC) revolution and then worked as an operations and technology executive in the rocketing Internet space. Then, in 2003, I found myself in yet another fast-changing business. I was a senior executive in a telecommunications company, sitting in a boardroom with
20 other executives during the first of a series of strategy sessions to create a five-year plan. A question was raised: What did we want to be five years from then? After a few jokes about running a beach and golf resort in Hawaii, the conversations began to coalesce around becoming a billion-dollar company. A very interesting line graph was drawn. Our revenue had been on the decline; the graph was decreasing through the then-current $400 million per year revenue but then made an abrupt upward slope to $1 billion. There were no discussions about being the best telecommunications company, developing unique solutions, having the fastest network, being the best in customer satisfaction, or being a profitable, great place to work. Rather, we determined that if we were to be a billion-dollar company, we would need to sell so much of this, sell so much of that, and sell it in this number of cities. There weren’t any conversations about what we would have to do differently to change from a decreasing revenue stream to a very significant and aggressively growing one.

That was the moment when I sat back in my chair and asked myself a question: “I wonder if anyone in this room, including myself, is actually doing any real thinking?” Soon after that meeting, I started to think about thinking.

After doing a bit of research, I determined that there always seemed to be two ingredients present for successful businesses. The first was persistence. Companies that consistently do well embrace a statement I like: “There’s always a way.” The second ingredient was quality thinking: real, hard, roll-up-the-sleeves, not-taking-anything-for-granted thinking. I’ve noticed throughout my own career that when people really think about something and ask questions—even when they know the answer—they tend to come up with new solutions to a problem, arrive at a new decision, or realize an innovation. It doesn’t happen every time, but it happens often enough.

Although persistence is an important ingredient in success, I decided to focus my work primarily on thinking. In the autumn of 2004, I started a company I named HeadScratchers, LLC. The goal was to help people—not just executives, but individuals, supervisors, and managers as well—become better headscratchers, that is, better problem solvers, decision makers, and innovators. I wanted HeadScratchers to take a different approach from the
pref.indd   13
2/21/2014   9:15:44 AM

Preface

traditional academic focus of logic, inference, and Boolean algebra many other thinking consultants offered. This was about business problem solving, in the real world, for people who needed a few good tools in their toolbox. Our target audience was business people who don’t have the time or interest to understand the science of left brain/right brain, neurochemical stuff. The goal was to provide, train, and coach business people with skills they could use, on their own or with others, to be more thoughtful when tackling problems, making decisions, or innovating. This meant training with an interactive workshop, so HeadScratchers became a training, coaching, and interactive workshop company, focused 100 percent on the business use for critical thinking. In 2006, we rolled out our first workshop, “Critical Thinking for Problem Solving and Decision Making.”

Whom Is This Book For?

You might be wondering whether this book is worth your time. Consider this: thinking is the foundation of everything we do. Whether you’re a novice thinker or an accomplished problem solver and decision maker, is it possible that you might pick up one idea, one technique, or one tool to use in your life—which would potentially lead you to look at an issue, goal, problem, or decision in a different way? If yes, then this book is for you. As a result, you might avoid an error, recognize an opportunity, or accomplish something a little faster or with higher quality.

Why You Should Read a Book Like This

Of course, I am biased and think you should read this book. To be honest, you would get something out of reading any book on problem solving, decision making, and critical thinking. Here’s why: when you read a book related to thinking, it will result in your thinking, possibly about what you are reading related to thinking. In doing this, you will most likely pick up at least one thing, one idea, or one exercise you can incorporate in your day-to-day thinking. Your thinking will be different and improved.

So, why this book? Think Smarter isn’t focused on theory. Rather, it contains real-world tools, techniques, and exercises, which makes a huge
difference in your ability to apply what you read. We present numerous pragmatic, straightforward, business-related, implementable ideas with tons of examples. You won’t have to translate from a neuroscience discussion to everyday real-world issues.

What should you expect from this book? You’ll learn that critical thinking isn’t difficult, and you’ll learn how and when to apply it. You’ll gain many ideas about where to apply critical thinking in your daily job, for both tactical and strategic problems and decisions. You’ll obtain tools to add to your existing critical thinking toolbox and will figure out how to think outside the box—and how to get others to do so as well. You’ll be able to distinguish automatic from manual thinking and ask questions that generate quality responses.

What I’ve Learned after Teaching Critical Thinking for Eight Years

- **Everyone can be a critical thinker.** Although some people are more inclined to think critically than others—and although some people become better at it than others—everyone can improve how he or she thinks when tackling problems.

- **We need to be trained.** We all have the ability to think critically, but like many skills, we need to be taught to do it.

- **We forget to think.** We’re in automatic mode most of the time and just plain forget to tell ourselves, “Gee, maybe I should think about this a bit.” I teach critical thinking for a living, yet even I sometimes forget to use it when it would be helpful.

- **We need to practice.** It’s like any new skill; if you don’t practice it, you don’t get good at it. Practice doesn’t have to take long, often just a few minutes while you’re conducting your everyday business activities. You just need to remember to do it (see previous bullet).

- **You must have a need to learn this stuff.** It might be based on a desire for self-improvement, more responsibility, or a promotion. You may have a crisis or an elusive goal to achieve. Maybe it’s a corporate directive, or
you're looking for a breakthrough, looking just to survive, or looking to do something very different. We’ll talk more about need later.

How to Read This Book

You don’t have to read this book cover to cover, nor completely in sequence. If you already know a little about critical thinking or understand why it’s important and what the benefits are, you can start at Chapter 3, “The Framework and Tools.” Read that first, before any of the material in the sections for “Clarity,” “Conclusions,” and “Decisions.” After that, you can skip around or read in sequence. In the “Conclusions” section, read Chapter 15, “It’s All about the Premise,” first, because everything else builds on that.

That’s it; have fun.
I’m extraordinarily grateful to my family for countless reasons, and two specifically come to mind with respect to this book. Thank you to my daughters, Rebecca, Jordan, and Julia, who provided a wealth of insights and ideas as I watched them grow up, learn, and apply their thinking. Of course, special thanks to my wife, Stephanie, who for all these years has endured all of my never ending questions—and of course answered the most important question 22 years ago by saying, “Yes.”

Thank you to my editor, Stephen Smith, who was able to decipher and translate my brain dumps into readable form with phenomenal turnaround times.

Special thanks to a few of my clients, who over the years continually asked, “Where’s the book?”

Finally, thanks to John Wiley & Sons, Inc., for finding and encouraging me to take “write the book” off my to-do list and actually do it. Thanks especially to my development editor, Christine Moore, whose suggestions and encouragement were exemplary.
Section I
Introduction and the Framework for Critical Thinking

This section will introduce a few definitions and terms. We’ll cover the meaning of critical thinking and discuss what distinguishes it from what we call automatic thinking. We’ll list many of its benefits and discuss times when you should use critical thinking in your work. Most important, we’ll introduce a framework for critical thinking to guide you through the process.

Throughout the book I’ll use the term headscratcher. You’ve likely heard the expression “That’s a real headscratcher” when referring to a problem to solve, a decision to make, a situation to resolve, a goal to reach, or an objective to obtain—all without a predetermined way to get there.

A headscratcher is a:

• problem or issue without a ready solution;
• result or observation without an obvious explanation;
• goal without a clear path.
INTRODUCTION AND THE FRAMEWORK FOR CRITICAL THINKING

If you’re already familiar with critical thinking, its benefits, and where you can use it, and you have the urge to skip over these chapters, you might want to start at Chapter 3, “The Framework and Tools,” where I define the framework; otherwise, start with Chapter 1, “What Is Critical Thinking,” where I define critical thinking, its benefits, and numerous places in your business you can use it.
1 What Is Critical Thinking?

Thinking is the foundation of everything we do. Every action, every solution, and every decision we make is the result of thinking. We think when we decide what to eat for lunch, how to meet a project schedule, and what to say during a conversation. We think when we drive a car (although, unfortunately, we’re not always thinking about driving). We’re thinking all the time, and although not always filled with valuable thinking, our brains are always in gear. Even when sleeping, we’re thinking.

Critical thinking is thinking but in a different way. Many people describe this process using terms such as analytical, thoughtful, questioning, probing, nonemotional, organized, innovative, Socratic, logical, methodical, not taking things for granted, examining, details, exhaustive, outside the box, scientific, and procedural. Odds are that you’ve heard and probably used a few of these terms. But what exactly do they mean?

Some paraphrase critical thinking as “thinking smarter.” I paraphrase it as “headscratching.” Most would agree critical thinking is not our everyday, automatic, not-really-thinking-about-it thinking.

Critical thinking is:

• manual thinking (not automatic);
• purposeful;
• being aware of the partiality of your thinking;
• a process; and
• thinking that uses a tool set.

Here are the details of each of these:

Critical thinking is manual rather than automatic thinking. Let’s first take a look at automatic thinking, the kind of thinking we do the most. Have you ever driven your car to work but didn’t remember the drive when you got there? How about intending to stop at the grocery store on the way home from work—then realizing as you approached your home that you completely forgot about that errand? What about a time when you put your keys down and had no idea where they went a few minutes later? This is what happens when you’re in automatic thinking mode. It is still thinking, but you’re not necessarily aware of what you are thinking.

Try reading this text:

You might think that you can read this with virtuality no difficulty even though the letters are mixed up. It turns out that all you need are the first and last letters in the correct place. This is an example of your brain running in automatic mode.

How can you read that? When I ask that question, the answer I inevitably get these days is “Because I can read my kid’s text messages.” Well, that’s partially true; but really, how are you able to read that? If English is your native language, you probably even read this as quickly as you would have if the letters were not scrambled.

Your brain does several activities to enable you to read this mixed-up text, one of which is pattern recognition. Your brain is a very powerful pattern recognition machine. You’ve probably had the experience of talking with someone and being able to predict how they are going to react—because it’s a pattern. We recognize many things, such as places, people, noises, and smells. As you start reading the paragraph, your brain automatically starts to unscramble the words—until you get to the word tuohg. It’s spelled wrong. It is missing a letter and doesn’t follow the rule. Your brain recognizes this,