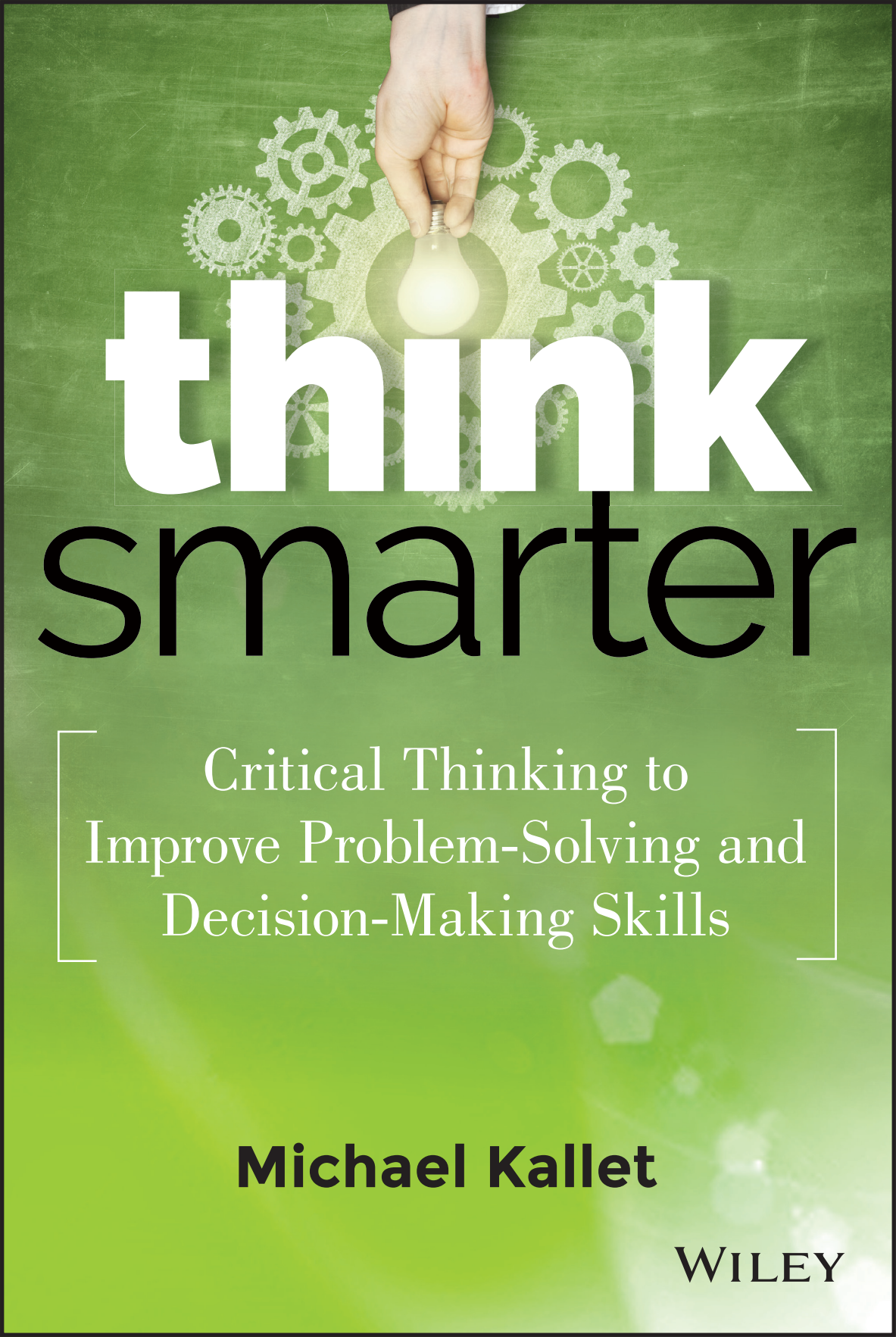
think
smarter
Critical Thinking to Improve Problem-Solving and Decision-Making Skills
Michael Kallet
WILEY

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

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PREFACE

Thinking 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

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.

ACKNOWLEDGMENTS

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.

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 mghit tnihk i'ts aaminzg taht you can raed tihs with vrlialuty no diluftficuy even tuohg the ltetres are mxeid up. It trnus out taht all you need are the fsrit and lsat leetrts in the crocert pcale. Tihs is an eaxplme of yuor barin rnuning in aoumtatic mdoe.

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,

so it mentally searches every word you know that looks like *tuohg* and might belong in the sentence. This is called context recognition and refers to what belongs here—what fits based on the sentence's meaning. Our brains are incredibly adept at this. As a result, our pattern recognition, aided by context recognition, enables us to read the preceding passage. However, what if I had asked you to pick the misspelled word? Did you even catch that while you were reading? Most people have a difficult time picking out *tuohg*.

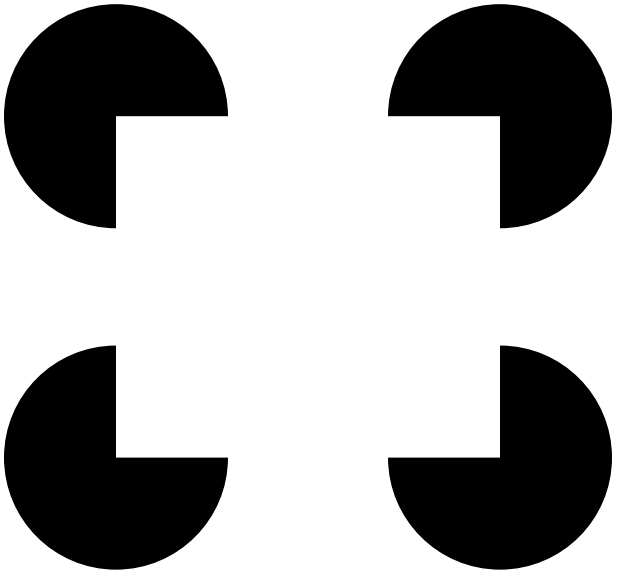
Try this next activity: count the number of Fs in the following paragraph, in 15 seconds or less.

FINISHED FILES ARE THE RE
SULT OF YEARS OF SCIENTI
FIC STUDY COMBINED WITH
THE EXPERIENCE OF YEARS.

How many Fs did you count? Three? Four? Five? We show this in every workshop we conduct, and usually about two-thirds of the class count three, with the remaining counting four, or five, and only a few counting six. There are six Fs in that paragraph, and if you didn't see them all, you missed one or more instances of *OF*.

The Fs test is an example of how your brain discards information when it's operating in automatic mode. Our minds discard things such as this all the time. You throw out some of what your manager tells you; if you are a manager, you throw out some of what your reports tell you. You disregard things your significant other says to you (and get lectured about it later). Why do we throw stuff out? Our brains are bombarded with a tremendous amount of information. When your eyes are open, billions of information bits per second are entering your brain. Your ears are always open, but you block out noise. In an attempt to simplify things for you, your brain throws things out that it doesn't deem important or thinks it already knows. The trouble is that your brain doesn't tell you it is throwing things out; it just does it. Thank you, automatic mode!

Try one more activity: What predominant shape do you see in the diagram that follows?



The square, right? Of course—but it's not really there. Those three-quarter circles define the boundary, but the square isn't there if you move them away. This is an example of how you make stuff up when you operate in automatic mode; that is, you infer things that are not always true.

Your brain's automatic mode is extremely helpful in guiding your thinking. However, unbeknownst to you, it also discards, distorts, and creates information. Although this tendency can be extremely helpful in many situations—such as your drive to work—it can also be a drawback. When you have to think about something important, you want to get out of automatic mode and go into manual—that is, critical thinking.

Critical thinking is purposeful. You make a conscious effort to leave automatic mode as you start to consider a certain situation. You begin to think a little bit differently using some of the techniques of critical thinking. You are very aware about what you are thinking and are thinking purposefully. For example, when you are learning something for the very first time, you are very attentive; you listen carefully to determine whether you understand; you're aware that your goal is to learn something.

Critical thinking means that you're aware of the partiality of your thinking. Most of the people we ask assume critical thinking is nonemotional

thinking. That would be great if humans could actually achieve it. But if you are reading this book, you are undoubtedly a human being—and humans have emotions, biases, and prejudices that stem from our values. Although it is possible to be aware of these, it is impossible to ignore them. Your values are a part of you, and as you will read later, play an important role in how you come to conclusions. You cannot be completely impartial, but you can be *aware* of the components of your partiality and how they influence you.

Critical thinking is a process. This process requires that you understand a situation, come to a conclusion about what to do, and take action on that conclusion. We have many processes in business—the steps we follow to get us from A to B. For example, a customer who has a problem may call customer care. A typical process there might include understanding why the customer is calling, assessing the situation, asking a series of questions, perhaps looking information up in a database, and coming to conclusions about what the issue is, what you can do about it, or whether you have to escalate it.

Critical thinking is conducted within a framework and tool set. The framework consists of a three-step process. The tool set consists of the individual critical thinking techniques used in each step to guide your manual thinking.

Benefits of Critical Thinking

Critical thinking can significantly enhance your problem-solving and decision-making skills. You make better-quality decisions, come up with more innovative solutions, and enjoy faster outcomes. Some benefits of critical thinking include:

- clear understanding of problems or situations
- faster and accurate conclusions and quality decisions
- a richer variety of explanations and solutions
- opportunity recognition
- mistake avoidance
- thought-out strategies and early elimination of dead ends

Critical thinking achieves these benefits by affecting three main aspects of your thought process, explained next.

Critical Thinking Enables You to Look at Issues Differently

We often look at the problems we have to solve from a certain perspective. This means that you get a set of solutions that are consistent with the way you interpret the problem. However, when you use critical thinking tools to review problems differently, you get new perspectives and ideas.

For example, suppose your shoelace broke on your tennis shoe. If your goal was simply to fix it quickly, you might just tie the dislodged piece with a knot to the rest of the lace and jury-rig the tennis shoe tight. But if you wanted to fix it so it would last, you might replace the shoelace with another. If you decide the shoes are old and uncomfortable, you might buy another pair.

In business, you might receive customer calls about lowering the fee for service. From the perspective of keeping the customers at all costs, you might give them a discount. If your goal above all else is to provide a fair price for the value, you might have a conversation with them about the value of your service and not give them a discount, with the understanding they might not renew.

Suppose there was a spike in the workload of your department. If you thought the workload change was only temporary, you might ask your folks to work overtime or perhaps hire a short-term contractor. But if you thought the workload increase was permanent, you might start interviewing for a new full-time hire.

As you can see, different perspectives result in different solutions.

Critical Thinking Prevents a Distorted Picture

You saw in the examples at the beginning of the chapter how your brain hides information, imagines, and throws things out when operating in automatic mode. Interpretations of statements and situations vary greatly as your automatic brain attempts to compare them to a prior known situation. For example, you might misinterpret a request from a customer because you automatically think it is the same as others you recently fulfilled. Issues you think are clear are not always actually clear. Critical thinking, and being conscious about what you are thinking, minimizes this distortion and allows you to examine a situation anew.

How often are you asked for something that you respond to automatically using solely your prior experience? Without looking more clearly, you might not recognize the situation at hand is actually a bit different from

prior situations—and this time, the answer can be different as well. For example, if you had a job in accounts payable, you would be accustomed to many calls from your suppliers asking for expedited payment of their invoices. When you receive your next request for faster payment, you might automatically say, "I'm sorry, we cannot. Our company policy is to pay in 45 days." However, perhaps your supplier actually sent in the invoice more than four months prior, and it was misplaced within your company. Knowing this, you would have responded, "I'm sorry, we'll expedite payment of the invoice, and you'll have payment in five days."

Critical Thinking Gives You a Framework to Think In

A framework to think in provides two huge benefits: it helps organize and guide your thinking while leveraging and incorporating others' input as well.

- *Organizing your thoughts:* Many of us think in a somewhat haphazard manner, causing us to rethink the same issue and to forget what we have already figured out, assumed, or even decided. Critical thinking helps sort it all out.
- *Incorporating others' thinking:* An important part of the critical thinking process is listening to others explain *their* thinking—which allows two things to occur. First, you might realize that others have ideas to help solve your problem. After all, you don't have exclusivity on all the good ideas. Second, listening to others' thinking stimulates new thinking in you. As a result, you may come up with ideas you would have never thought about had you not had that interaction.

The Takeaway

Critical thinking is a purposeful method for *enhancing your thoughts beyond your automatic, everyday way of thinking. It's a process that uses a framework and tool set*. The benefits result from changing the way you look at issues, organizing your thoughts, and incorporating others' thoughts. It stimulates new perspectives and prevents distorted views of a situation. As a result, your problem-solving and decision-making skills are enhanced.

2 When to Use Critical Thinking

The previous chapter outlined some of the benefits of critical thinking. With so many advantages, it would seem we should think critically all the time. Although critical thinking is always useful and can be applied everywhere, it's not practical to think this way all the time. It's not only about where you apply critical thinking but also about when you apply it.

A simple rule to determine whether you should employ critical thinking in a given situation is when the result of a problem, initiative, goal, or circumstance (a headscratcher) is substantial. In other words, use critical thinking when the outcome makes a significant difference in your business or personal situation.

For example, a casual e-mail about where to eat lunch usually isn't catastrophic if there's a miscommunication. However, a misunderstood e-mail about the requirements of a product, or about a customer issue, may have far-reaching ramifications. As a result, you might want to use a little critical thinking on the e-mail that describes a customer issue, as opposed to the e-mail about lunch.

The following are three lists of examples of where and when you might use critical thinking. The first list contains high-level business functions; the second, specific business issues or goals; and the third, day-to-day activities many use to achieve those business goals. Once you learn the critical thinking tools, you'll add to this list with areas specific to your job.

List 1: Business Functions That Benefit from Critical Thinking

- Account management
- Automation
- Budgeting
- Build versus buy decisions
- Competitive analysis
- Contracts
- Cost-reduction initiatives
- Crisis management
- Customer care improvement
- Customer retention strategies
- Development processes
- Diagnosis
- Employee leadership development
- Employee productivity
- Financial decisions
- Human resources issues
- Information systems
- Inventory control
- Investment management
- Mergers and acquisitions
- New product ideas and creation
- Operational efficiency
- Outsource versus in-source decisions
- Partnership-related issues
- Product management
- Product marketing

- Project management
- Proposal evaluations
- Quality assurance control
- Resource management
- Responses to requests for information (RFIs), requests for proposals (RFPs), and bids
- Revenue generation strategies
- Risk management
- Sales and marketing tactics
- Short- and long-term business strategies
- Space planning
- Succession planning
- Task coordination
- Technology infrastructure
- Time, cost, and resource planning

List 2: Examples of Specific Business Issues and Goals for Which Critical Thinking Should Be Used

To understand a situation that is unclear:

- There is a flurry of activity in sales and the pipeline is at high levels, yet closed sales are flat.
- Customer care call volume has significantly changed for no apparent reason.
- A series of manufacturing errors has occurred without an explanation.
- Prospective customers *seem* interested in your product, yet few actually buy it.
- The cost of operations is increasing, but the volumes being processed are not.

- A project plan has milestones with particular dates and deliverables, but people aren't meeting the time-frame deadlines.
- A change in the norm has occurred with no obvious explanation.
- The metrics you're tracking are not capable of guiding improvement or predicting an outcome.
- You've made a call for root-cause analysis to find the original cause of something, and it produces an unexpected result.
- Inventory or usage of parts does not reconcile with the finished product.
- Delivered products or services do not reconcile with bills or revenue.
- Incremental expenses in growth do not equal decremental savings in reduction.
- Two people using the same data obtain different conclusions.
- Conclusions about data don't add up or make sense.
- The graph of something measured or projected has a sudden slope change.
- Customers are reporting an error rate that is significantly different from what you are measuring.

To improve something:

- To decrease the cost of customer care by 25 percent yet increase customer satisfaction.
- To increase productivity.
- To improve communications between your department and another.
- To determine how to change the marketing strategy to be more competitive.
- To grow your business.
- To decrease costs by 25 percent.
- To find and hire more qualified candidates.
- To determine what to do with ever-increasing health care costs.

- To shorten development times by a third.
- To decrease mean time to repair (MTR) by 20 percent.
- To shorten order-to-delivery time by half.
- To increase the quality of products so that the customer rating is 5 out of 5.
- To improve an advertising campaign's results.

When looking toward the future, consider:

- How can we create a new product that will compete with the new service our primary competitor just introduced?
- Two key employees just quit—now what?
- Our legacy product, which produces the majority of our revenues and profit, has a high attrition rate. What should we do?
- How do we avoid *this* [insert unpleasant event] from ever happening again?
- How do we replicate what we just did for the next time?
- Should we build or buy our way to expand our service offerings?
- How do we finance an expansion strategy?
- Given our budget, how do we accomplish our objectives?
- How do I progress my career?

List 3: Examples of Specific Day-to-Day Activities for Which Critical Thinking Can Be Helpful

- Assembling or fixing something
- Attending meetings
- Assessing risk
- Coaching
- Conducting brainstorming sessions

- Creating and interpreting surveys
- Creating presentations
- Engaging in financial planning activities
- Engaging in one-on-one conversations
- Evaluating proposals
- Making go or no-go decisions
- Organizing
- Planning your schedule/calendar
- Preparing speeches
- Prioritizing
- Reading (Are you paying attention to the underlying meaning of the words?)
- Reviewing contracts
- Reviewing spreadsheets
- Setting goals
- Setting metrics
- Teaching
- Writing (e-mails, directions, proposals, reports, etc.)
- Writing and conducting performance evaluations

The Takeaway

Critical thinking can be applied everywhere in your business and life, but be selective. Use critical thinking when the outcome might make a difference.

3 The Framework and Tools

In this chapter, I introduce a simple framework to guide you through the critical thinking process. The framework, which provides tools and techniques, consists of three components: clarity, conclusions, and decisions.

Clarity

The single most important reason why headscratchers—projects, initiatives, problem solving, decisions, or strategies—go awry is that the headscratcher itself—the situation, issue, or goal—isn't clear in the first place. Clarity allows us to define what the issue, problem, or goal really is. For example, instead of a broad general statement, such as "We need to improve our quality," a clearer statement might be "We need to reduce our defect rate to less than 10 units per 1,000."

Conclusions

After you are clear on what issue you must address, you have to figure out what to do about it. Conclusions are solutions and a list of actions (to-dos) related to your issue. For example, "To reduce our defect rate, we will add a product test cycle prior to shipping."

Decisions

Once you come to a conclusion about what actions to take, you have to actually decide to take the action—and do it. For example, "The vice president has approved implementing the product test cycle before shipping, so we will start tomorrow morning."

Most people combine conclusions and decisions when they're asked about problem solving or decision making, saying, "I need to decide what to do." However, it's important to separate conclusions and decisions, because the thinking processes for each are very different. For example, you probably have a to-do list of your tasks. You haven't decided to do them yet, because if you did, they would not be on your to-do list; they would be on your done list. Although you might be the one who is responsible for coming up with a solution or a conclusion, you might not be the decision maker; it might be your boss.

To review, the critical thinking framework is a three-step process, as illustrated in Figure 3.1.

- *Clarity:* Get clear on the issue, problem, or goal; our company calls it the headscratcher.
- *Conclusions:* Take your clear headscratcher through the process of coming to a solution about what to do.
- *Decisions:* Take each one of your conclusions and decide to do it or not do it; to act, or to not act; to go or not to go.

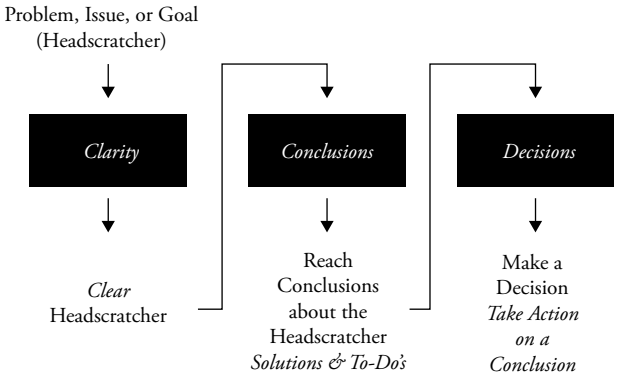


Figure 3.1 The Three-Step Critical Thinking Process

What's the difference between this process and the way we usually think? Usually, when faced with something new, you'll ask a few questions (*clarity*), then think awhile and come up with a solution (*conclusion*), and eventually make a decision and act (*decision*). But here is how critical thinking is different.

Our regular automatic thinking doesn't focus much on clarity and thinking. We spend a little time there but usually move to conclusions and decisions as quickly as possible, often spending plenty of time thrashing around. There are four reasons why we tend not to spend much time on clarity:

1. *We're not taught to think too much*. We're taught to *do*, and do quickly. Think about most of the tests you took throughout your education, starting from kindergarten through your upper grades. Tests took the form of you being presented with a problem that had four possible answers. Only one answer is correct, so your job was to pick the right answer quickly and go on to the next problem. But the world doesn't really work like that. When you face a problem, there are multitudes of ways to address it. You have to compare these choices, pick the most appropriate solution for your situation, and explain why. Although what we learn in school is helpful, we're not taught to think; we're taught to get to *do* quickly.
2. *You aren't paid to think*. As a former executive, I managed hundreds of people to whom I often said, "I pay you to think." However, the truth was that I paid people to get things done. Admittedly, thinking helps doing, but you are paid for actual, tangible results of that thinking. Imagine how your boss would respond if he asked you on a Friday afternoon, "What did you do this week?" and you answered, "Well—I thought a lot." Chances are that response wouldn't go over too well.
3. *You get personal satisfaction from* doing, *not thinking*. People don't get excited when they put something on their to-do list; they get excited when they get to cross it off. You get your personal satisfaction when you get things done, not when you think about them.

4. *You discover many things you don't know*. Although this might seem like a good thing, it does expose your ignorance, or your lack of knowledge. There's nothing wrong with this, of course; it's how we learn new things. However, many people are not okay showing others—especially their manager or peers—what they don't know.

These reasons mean that you spend as little time as possible in the clarity and thinking stages when you are in your automatic mode—and usually try to make a decision as quickly as you can. Usually, a few things happen when you do this, none of which is very desirable. You make a bad call, spend an inordinate amount of time trying to figure things out, and realize you're really not very clear on the matter at hand, or you solve the wrong problem—and then get to do it all over again. You waste a lot of time, money, and effort.

Critical thinking requires that you spend more time in the clarity phase, using a tool set. As a result, your conclusions come faster *and* are more accurate. Subsequently, you make decisions more quickly, because decisions in critical thinking are go or no-go calls; that is, all the work has already been done.

Consider the following: If you erected a building or baked a layered cake, which shape in Figure 3.2 would you prefer to use?

Although you invest more time in clarity during critical thinking, it usually takes less *total* time to make a decsion. Problem solving generally speeds up, and the quality of your solutions is enhanced as well.

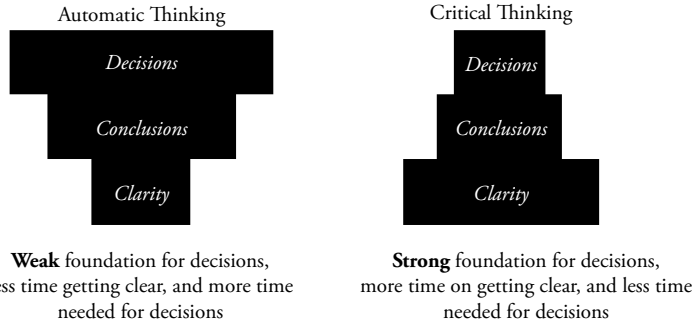


Figure 3.2 Automatic versus Critical Thinking

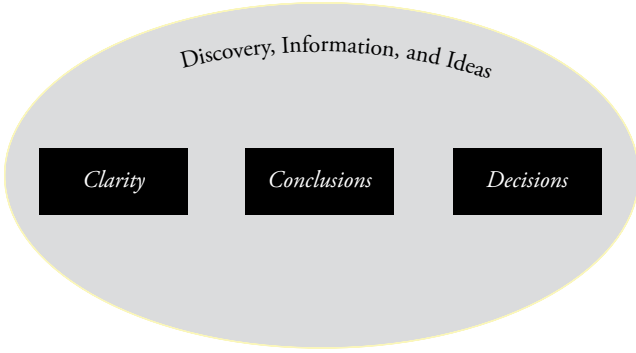


Figure 3.3 The Critical Thinking Framework

The space around clarity, conclusions, and decisions in Figure 3.3 is filled with *discovery*, *information*, and *ideas*. These three concepts include asking questions, exploring ideas, listening to responses, and conducting research.

The Takeaway

The framework for critical thinking is simple:

- *Clarity:* You *get clear* on the headscratcher.
- *Conclusions:* You create a solution for the headscratcher.
- *Decisions:* You take action on your conclusion.

Within each of the framework components of clarity, conclusions, and decisions, there are numerous critical thinking tools and techniques to guide your thinking. As you use and practice these tools, your problem-solving and decision-making skills will improve. This will directly yield higher quality problem solving, decision making, and creative results.

Now to begin. We start with *clarity* and the tools to get clear.

think smarter