



Changing the Status Quo

By H. William Dettmer

ABSTRACT

The most problematic challenges in business these days are associated with getting organizations to change the way they operate. It's not enough to clearly identify a problem and lay out an effective solution, expecting that people will be immediately persuaded by the common sense of it all. Most change agents have been frustrated to find perfectly good proposals greeted with skepticism or indifference. This paper will lay out some of the conclusions resulting from study of this situation over several years. It represents a personal perspective.

Overview

There's no shortage of opinions on why organizations—or, more precisely, people—resist changing. Many of these opinions can be found in books, most of which usually provide some prescription on how to overcome such resistance. Very few of these prescriptions work, or if they do, they don't work for very long.

In this paper, we'll examine some explanations why apathy, or even resistance, to change occurs. We'll investigate the cognitive side of change, and consider a very basic blueprint for getting change started in an organization.

Even the most successful methodology changes succeed no more than about 20 percent of the time. “Success,” as used here, means that the changes are fully implemented, they produce measurable, attributable results, and the changed behavior is sustained over time. Therefore, an improvement from 20 percent to, say, 40 percent success might be considered outstanding.

A Typical Scenario

Here's a typical scenario. It may even sound familiar to many of you. You develop a comprehensive, sound problem analysis and solution for it. You present it to your decision-maker: what the problem is, what the solution is, and how it should be deployed. And you get one or more of these reactions:

- “Yes, but...”
- “That looks pretty good. Well done! Now, if you'll excuse me, I have to get to another meeting.”
- “I don't know...let me think about that.”
- “Good work! Let me think about that, and I'll get back to you.”

And then nothing more happens! Or, at best, it's discussed to death over time, and then nothing happens.

Why does this happen?

The reason that this happens is that logic is not enough to persuade people. Human emotion, motivation and behavior enter into the equation, and these factors are likely to be even more decisive than logic. As Winston Churchill once observed, “Man will occasionally stumble over the truth, but most times he will pick himself up and carry on.” [Churchill, Internet source]

Underlying motivation

Many of you have seen the dilemma pictured in **Figure 1** before. It's known as Efrat's cloud. [Dettmer, 2003] Developed around 1995 by Efrat Goldratt-Ashlag, it characterizes the internal conflict most people experience when they contemplate changing their lives.

Most people's personal objective is to be happy. In order to do that, they must feel both satisfied and secure. Now, in order to feel satisfied, they must initiate change of some kind. But in order to feel secure, they must resist change—that is, cling to the status quo.

Why does satisfaction require change? Essentially, it's because the pleasure associated with satiation eventually wears off. One must find new horizons or challenges to conquer. Or, as Efrat

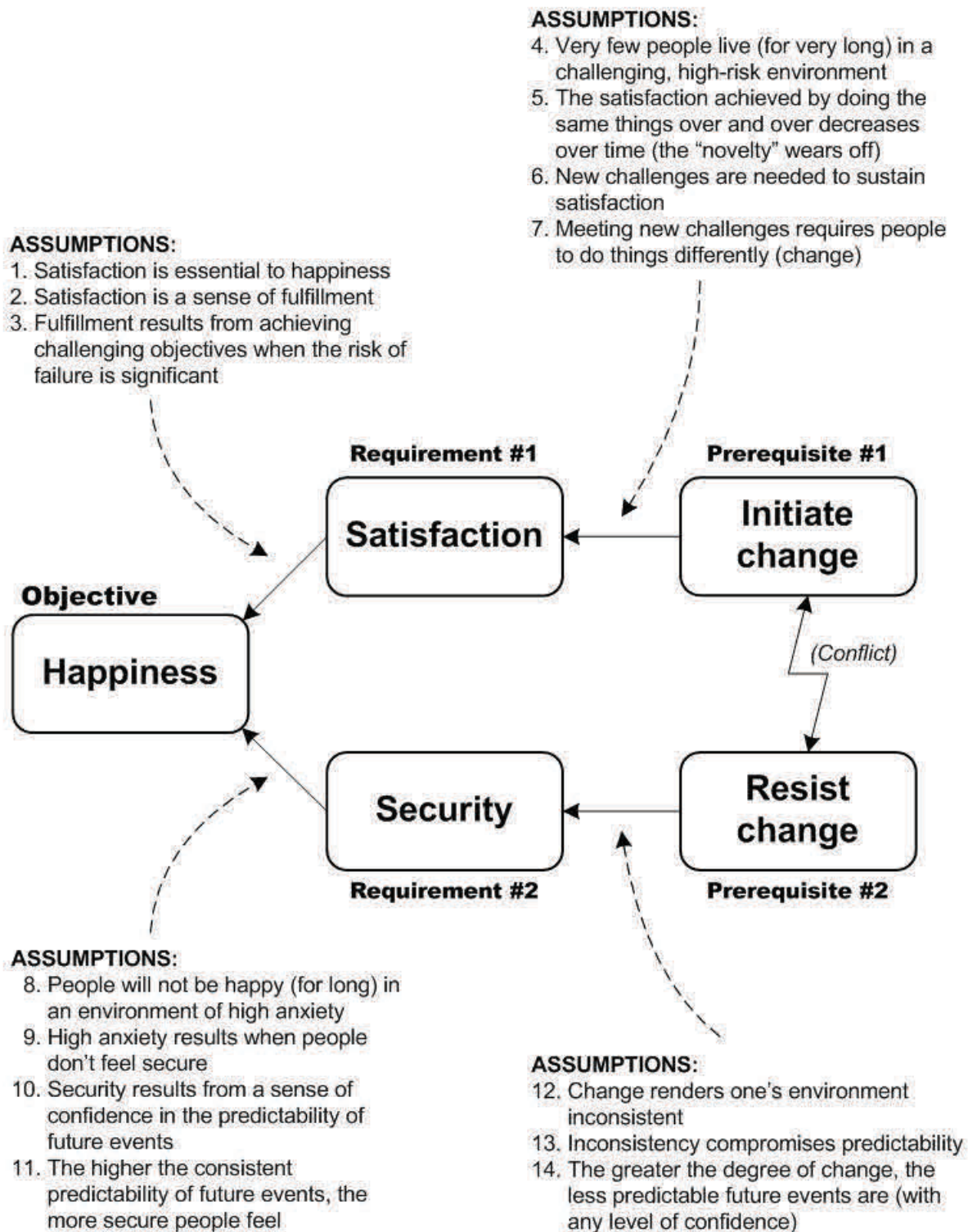


Figure 1. Efrat's Cloud

SOURCE: Dettmer. *Strategic Navigation* (2003)

Goldratt-Ashlag put it, “Satisfaction comes from achieving a difficult objective, when there was substantial doubt about the probability of success.”

A fighter pilot friend of mine once said he preferred flying the older F-4s to the newer F-16s because the F-4 was a more challenging airplane to fly well. It required a highly skilled pilot; not so much the F-16, which did much of the job automatically. He felt much more satisfied as a pilot flying the F-4 because of this. Or, as he said, “There’s no virtue in doing something that just anyone can do.”

Why is there security in resisting change? Goldratt-Ashlag defined security as a sense of well-being that comes from predictability of the events in one’s life. We feel secure because we can predict what’s going to happen in our lives...today, tomorrow, next week, or next month. Beyond that, who knows? But we’re confident it won’t be too different, as long as we stay in our nice, secure little cocoon and don’t change much.

The Risk of Change

Change poses a risk for its initiator. In the security-versus-satisfaction dilemma, it clearly leans toward the “satisfaction” side. *Not* changing, naturally, leans toward the “security” side. And the degree to which a particular person—a decision maker, if you will—embraces or resists change depends on their predisposition to search out or avoid risk. This is a personality trait, and some people get a kind of “high” from taking risks. Let’s see why this is so.

Theories of Action

One of the most renowned behavioral psychologists is Chris Argyris, professor emeritus at Harvard. In 1974, Argyris coined the term “mental maps” to explain people’s behavior. He said that the mental maps we create in our minds help us plan, implement, and review the actions we take.

He also suggested that these actions are often at odds with the theories or philosophies we actually espouse. The result, he said, is behavioral incongruence: a difference between what people say they do and how they really behave.

We can see this in organizations, when the verbal expressions sound like, “Good idea! Let’s do that.” And then nothing happens. The reason, Argyris contends, is because their mental maps tell them something completely different from what they (or others) say. But Argyris doesn’t go much into why this happens.

Risk-Taking Versus Risk Aversion

As we mentioned in discussing Efrat’s cloud, some people are risk-takers and others are risk-averse. Risk-takers are those for whom their need for satisfaction outweighs their need for security. The risk-averse are exactly the opposite. And a significant number of people lie somewhere in the middle. In other words, for most people, some degree of calculated risk is acceptable.

The Technology Adoption Life-Cycle

This brings us to the technology adoption life-cycle. In 1991, Geoffrey Moore, a consultant at Regis McKenna Associates in Silicon Valley, offered the technology adoption life cycle as a way of explaining why and how some new product introductions succeed while others fail miserably. [Moore, 1991] It should be noted that Regis McKenna was the advertising and public relations firm for Apple Computer at the time.

Moore suggested that the embrace of new technology—keep in mind that we’re talking about products here, such as cell phones, iPods, Blackberries, etc.—the acceptance of these things by the public approximated a bell curve.

The curve had two extreme tails and a large mainstream in the middle. Relatively little of the population lies at the extremes. Most is in the middle. This is what Moore’s graph looks like. (Refer to **Figure 2**)

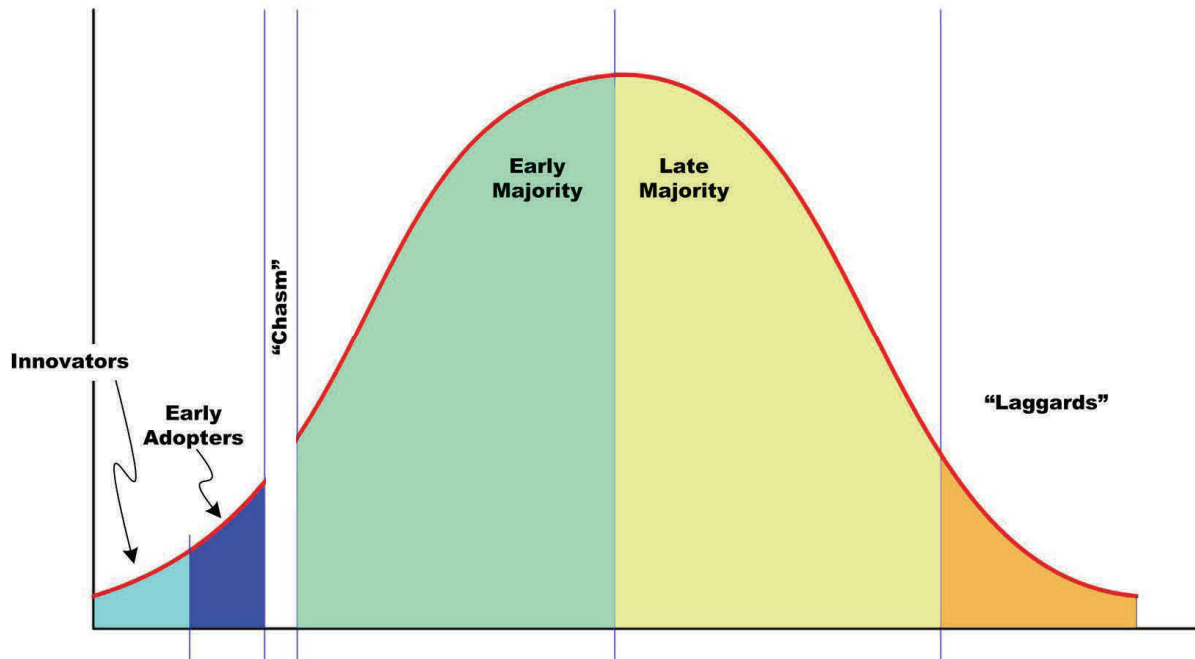


Figure 2. The Technology Adoption Curve

At the left tail, are the innovators and early adopters. In the center are the early majority and the late majority. And finally, at the right are the laggards. Now, notice that there's a gap, or "chasm" between the early adopters and the early majority.

We'll examine this concept in more detail in a moment. For now, consider that the same idea applies to the psychology of risk aversion when it comes to accepting new ways of doing things, or new methods. I submit that total quality management (TQM), business process reengineering (BPR), lean, six sigma, and the theory of constraints (TOC) all represent kinds of new "management technology"—a substantial technological advancement, as it were.

Risk Aversion

Take a look at the graph in **Figure 3**. It looks like Moore's Technology Adoption Life Cycle, but the labels have been changed. On the far right, are the completely risk-averse. Then, moving to the left, we see the reluctant risk-takers and conservative risk-takers. Then the chasm and finally, at the left tail, are the ambitious risk-takers and those with a death wish. I suggest that adoption of revolutionary new methods is akin to the embrace of new technology—it's related to the decision maker's degree of risk aversion.

Completely Risk-Averse. The risk-averse don't communicate with any of the other population segments. They flat refuse to change. They're "left behind," using cassette tape players or vinyl records in a compact disk or MP3 age. Such companies may be ones that don't use computers much, or who prefer old-fashioned manual labor to automation. These people and companies never "get it."

Reluctant Risk-Takers. Reluctant risk-takers, the next segment moving to the left, are one step above the completely risk-averse. They *do* communicate with their peers in the mainstream market, many of whom may be calculated risk-takers. But these folks never voluntarily initiate any change, and they certainly don't seek it out. The only reason they even consider changing is because they see their other mainstream contemporaries doing it. They don't like the idea of changing, but they're also afraid of being left behind. This group would include the last family on the block to get a flat-screen TV, or the last company to computerize its record-keeping.

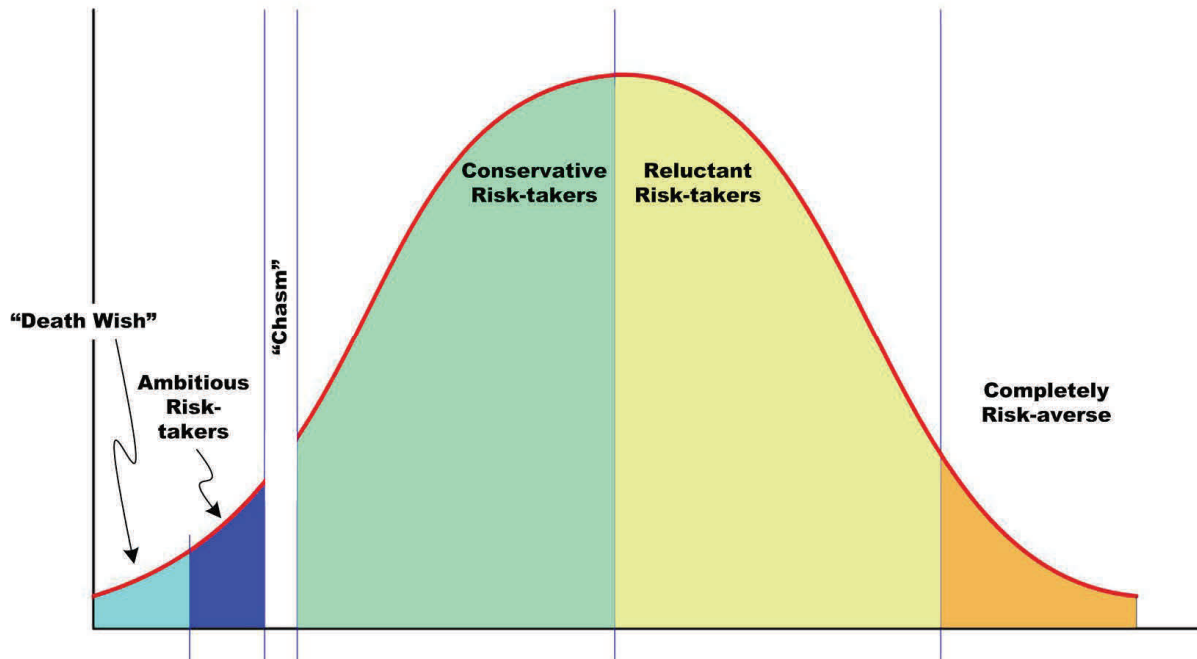


Figure 3. The Risk-Aversion Curve

Conservative Risk-Takers. Conservative risk-takers communicate with the reluctant risk takers, but they also communicate with the ambitious risk-takers, too. They don't initiate change on their own, but they're willing to watch some other person or company take that chance.

However, some other external motivating factor is required for them to take the chance. They require persuasion—and unlike the reluctant risk-takers and the laggards, they're open to persuasion, but they demand to see positive, verifiable results that the new idea has worked—and better yet, in their own industry or situation. In other words, "Show me somebody in my line of business who has already done this successfully!" They don't want to be the guinea-pigs.

Ambitious Risk-Takers. Next are the ambitious risk-takers. These people communicate with both the conservative risk-takers and the "death-wishers." Ambitious risk-takers are constantly on the lookout for "the next big thing." They want to be first on that train, not chasing it as it leaves the station. Ambitious risk-takers will eagerly embrace new ideas. They're willing to experiment and even stumble a bit, but only when:

- They see some practical application that they can exploit to their benefit, and
- The odds of success are at least 50-50. (Some risk-takers may accept slightly worse odds.)

The ambitious risk-takers include the first family in the neighborhood to get a flat-screen TV, or the first company to install Enterprise Resource Planning software, or use collaborative management.

"Death Wish." The final category is the "death-wishers." These people are largely an insular bunch—the computer geeks of the world, for example. They communicate with the ambitious risk-takers occasionally, but usually they live in their own little world.

The "death-wishers" embrace ALL new technology and methods, just because it's new. They love to experiment with it, to "push the edge of the envelope" just to see what it can do. They're not concerned with broader acceptance or application. "If it's new, I want it!" And their attention span for new things is relatively short. They're quickly on to the "next new thing."

Implications of the Risk-Aversion Model

Now, if this risk-aversion model is valid, what are the implications for change agents, who try to move organizations from the status quo to a new way of looking at the world?

First, there is that chasm between the ambitious risk-takers and the conservative risk-takers. Change comes naturally on the left side of the chasm, but not on the right side. And there is a serious challenge getting across that chasm. Yet 67 percent of the potential market lies on the right side of the chasm, so from any rational perspective it's definitely worth trying to find a way across it.

Furthermore, I submit to you that in the approximately 20 years that methods such as TOC have been known in the business environment, all the death-wishers and ambitious risk-takers that are going to seek it out on their own and try it have already done so. And many, if not most of them, have gone on to the "next big thing." What remains, however, is still that unexploited mainstream market—the 67 percent under the curve represented by the conservative and reluctant risk-takers.

The challenge of persuading the conservative risk-takers should be easy, shouldn't it? After all, logic should win the day! In the immortal words of sports pundit Lee Corso, "Not so fast, my friend!"

Mental Models (Senge)

Let's return to the concept of mental maps, first introduced by Argyris in 1974. While most readers may not know much about Argyris, it's likely that nearly everyone has heard of Peter Senge. His book, *The Fifth Discipline* [Senge, 1990], is still a best-seller today.

Senge tweaked Argyris' idea a little, referring to mental *models*, rather than mental maps. But the concept is much the same. The five disciplines Senge contended are necessary for success in today's business environment are *systems thinking*, *personal mastery*, *mental models*, *building a shared vision*, and *team learning*. For now, let's confine ourselves to the mental models part.

Senge defined mental models as:

"...deeply ingrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action. Very often, we are not consciously aware of our mental models or the effects they have on our behavior." [Senge, 1990]

Mental Models (Gonzales)

Let's explore this concept of mental models a little more. In 2003, Laurence Gonzales wrote about the world of extreme survival situations. [Gonzales, 2003] Call it "field research," if you will. Using actual case studies, he describes extreme situations in which some people lived, other situations where people died, and even some situations where some lived and some died in the exact same scenario. Gonzales investigated these cases to find out why this happened.

Not surprisingly, he found that in extreme survival situations, people often let their long-held mental models overrule their common sense—even at the risk of death. This is particularly true in stressful situations, when the tendency is to revert to instinct. In one such case, a man lost in the Rocky Mountains deliberately left his compass behind along with some of his gear to lighten his load. He didn't have a map, because he didn't think he'd need one. And he kept walking deeper into the mountains instead of out of them, because his mental model told him that civilization was just over the next ridge—but it wasn't. The important conclusion Gonzales drew from his research was that mental models are actually "hard-wired" into the human brain.

Descartes' Error

In *Deep Survival*, Gonzales mentioned the research of Antonio Damasio, a medical doctor with a Ph.D. in neuroscience as well. Damasio wrote a book in which he biologically refuted the notion of Rene Descartes, the 18th century French philosopher, who proposed that logic and emotion occupied completely separate parts of the human brain. [Damasio, 1994] This view has been prevalent for the 200 years since Descartes' time.

Not only do mental models exist, according to Damasio, but they are actually “hard-wired” into the brain in the form of neural networks—a specific arrangement of connections and firing sequence of neurons. These networks continually “rewire” themselves as new learning occurs, but the transition is slow. One might say that it happens in an *evolutionary* way, not a *revolutionary* one. In other words, time is a factor—sometimes a lot of it.

Evolutionary Psychology

This brings us to the work of Robert Wright, who explored the emerging field of evolutionary psychology. [Wright, 1994]. Fortunately for us, Wright translated fundamentals and principles into words and concepts that laymen can understand. He demonstrated that human behavior *does* evolve in response to a changing environment, but this happens over time. However, when human behavior is established according to some norm, it doesn’t change easily.

Paradigms

Finally, there’s the subject of paradigms. The term was first introduced in 1962 by Thomas Kuhn. [Kuhn, 1962] Since then, it’s been used, abused, and redefined to suit different purposes by a host of management experts for decades. In fact, it’s been so overused that it’s lost its impact, if not its meaning. According to Kuhn, a paradigm is a pattern or model that describes how things must, or do, happen within the confines of some domain. This model might be considered “the rules of the game.” Some examples of paradigms include organized sports, economics, societies, industries and business, geopolitics, and scientific bodies of knowledge.

The accepted state of our knowledge about systems and their interactions might constitute a paradigm. This knowledge shapes behavior within systems—say, the banking or home mortgage system, for example. Paradigms are modified or refined, but they are rarely replaced. But why is this so?

Synthesizing Theories

Let’s put everything that we’ve discussed so far together...

- Our discussion of security versus satisfaction
- Theories of action and incongruent behavior
- Risk-taking versus risk-aversion
- Mental models
- Evolutionary psychology, and
- Paradigms

Figures 4a and **4b** comprise a two-page logic tree that seeks to provide this synthesis. Read the tree from bottom to top, left to right, starting with **Figure 4a**:

101: If logic is not independent of emotions (as Damasio contends), and...

102: Mental models guide behavior (as Senge suggests), and...

103: Mental models are “hard-wired” into neural networks (again, from Damasio), then...

105: Mental models are not swayed or modified exclusively by logic. And if...

104: Human psychology is subjected to the same kind of evolutionary process as biology (according to Wright, et.al.), then...

107: Mental models can be a long time in changing, and...

108: Logical argument—that is, persuasion—is ineffective in changing people’s mental models.

106: If paradigms are complex patterns or mental models that embody “the rules of the game” (according to Kuhn), and...

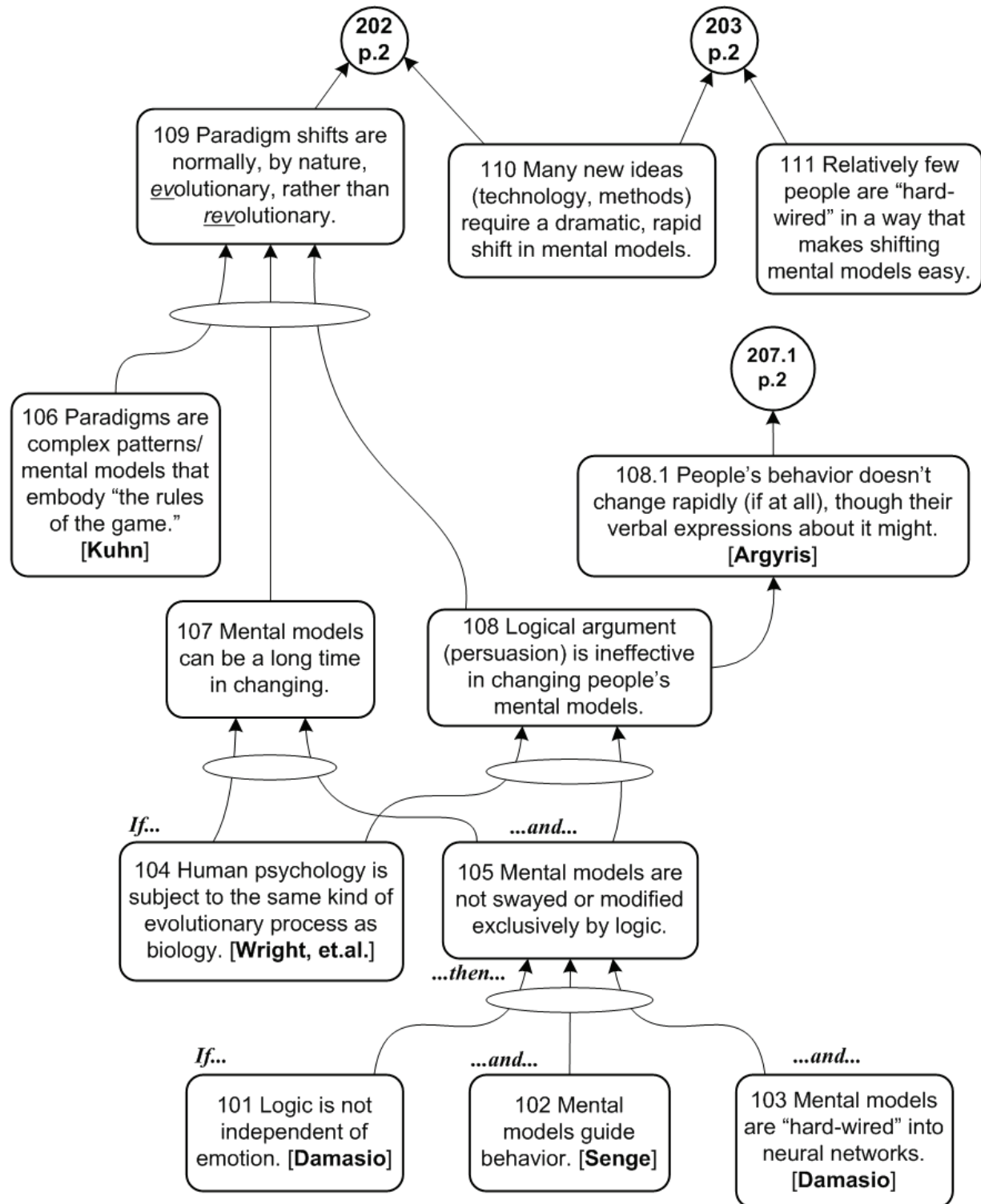


Figure 4a. Why Revolutionary Change is Difficult to Sustain

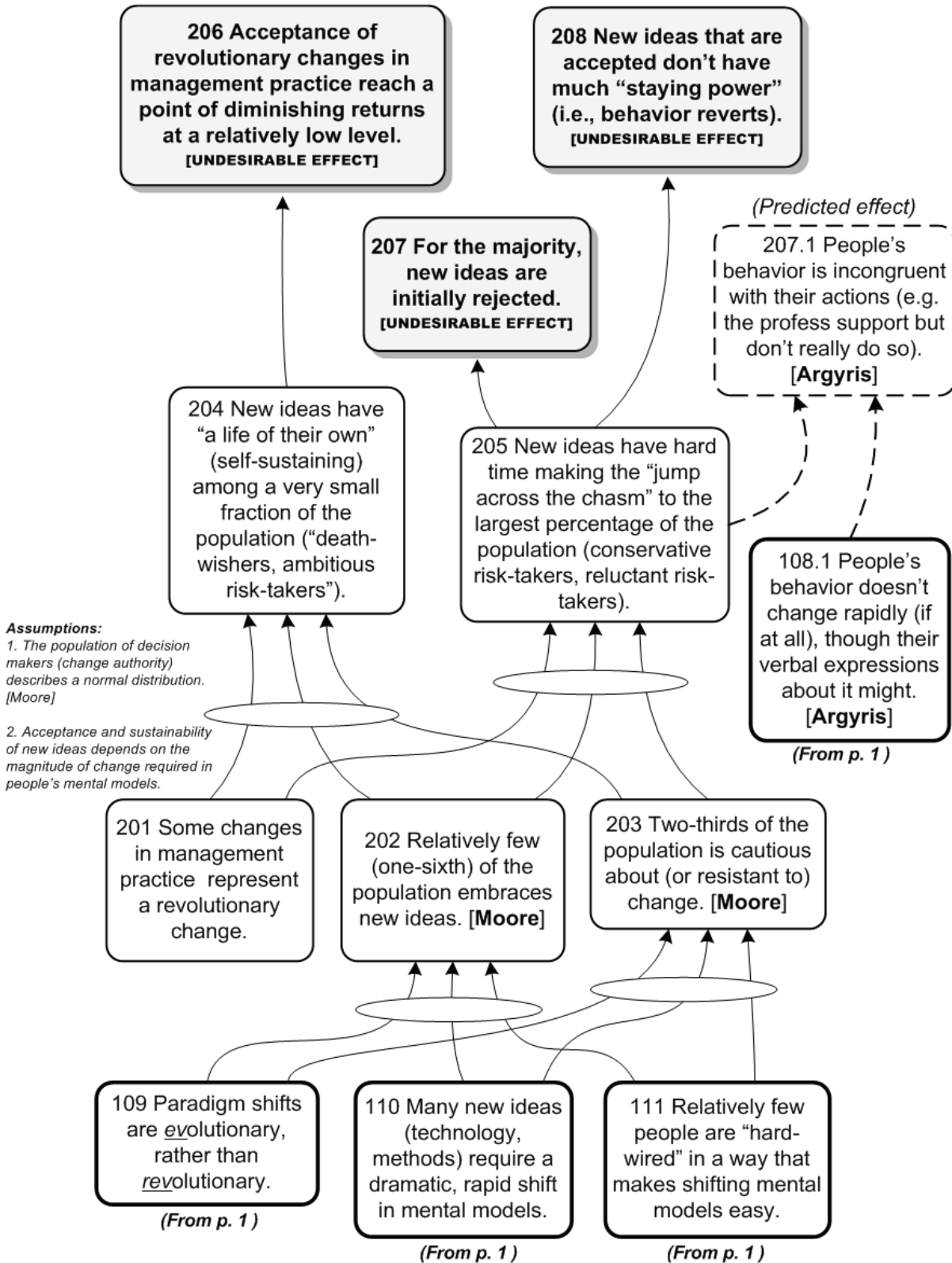


Figure 4b. Why Revolutionary Change is Difficult to Sustain

107: Mental models can be a long time in changing, and...

108: Logical argument is ineffective in changing people's mental models, then...

109: Paradigm shifts are evolutionary, rather than revolutionary.

108: If logical argument is ineffective in changing people's mental models, then...

108.1 People's behavior doesn't change rapidly (if at all), though their verbal expressions about it might (this is Argyris' concept of incongruent behavior).

Continuing in **Figure 4b** (Blocks 109, 110, and 111 carry over from the preceding slide):

109: If paradigm shifts are evolutionary, rather than revolutionary, and...

110: Many new ideas (technology, methods) require a dramatic, rapid shift in mental models, and...

111: Relatively few people are "hard-wired" in a way that makes shifting mental models easy, then...

202: Relatively few—according to Geoffrey Moore, maybe no more than one-sixth—of the population embrace new ideas. If that happens, and...

201: Some changes in management practice represent a revolutionary change, and...

203: Two-thirds of the population is cautious about (or resistant to) change, then...

204: New ideas have "a life of their own" (in other words, they're self-sustaining) among only a very small fraction of the population (i.e., "death-wishers" and ambitious risk-takers), and...

205: New ideas have a hard time making the "jump across the chasm" to the largest percentage of the population—conservative risk-takers and reluctant risk-takers.

You can also see that 205 and 108.1, from **Figure 4a** lead to Argyris' concept of incongruent behavior.

204: If new ideas have a "life of their own" among only a very small fraction of the population, then...

206: Acceptance of revolutionary changes in management practice reaches a point of diminishing returns at a relatively low level of adoption. (And I suggest that we've seen this happen with all popular methodologies: Lean Six Sigma, Theory of Constraints, etc.)

205: If new ideas have a hard time making the "jump across the chasm" to the largest percentage of the population, then...

207: For the majority, new ideas are initially rejected, and...

208: New ideas that are accepted don't have much "staying power." In other words, behavior reverts to what it was.

Mental Models: The Role of Security and Satisfaction

Let's not forget that in the scheme of evolution, the underlying goal is survival and propagation of the species. In the business world, this might be interpreted as "job security." This is a powerful force for retaining and reinforcing the status quo.

Now, if we consider Efrat's cloud, which is focused on individual happiness, we can better understand the powerful psychological forces underlying resistance to change. Yet on the other hand, as individuals, we long to realize satisfaction in our lives, which provides some degree of stimulus for change.

Efrat's cloud is a mental model, but most people are completely oblivious to it. Yet it subliminally guides their behavior to balance security and satisfaction—in other words, a compromise. That balance, for most of the population is tilted in favor of security—resisting change.

Executive Acceptance

Now, whose security and satisfaction are we talking about when we're trying to foment a revolution to a new business paradigm—which the Theory of Constraints and other comparable methodologies most certainly are? It's the security and satisfaction of decision-makers—executives!

Let's look briefly at another two-page logic tree (**Figures 5a** and **5b**). Starting with **Figure 5a**:

101: If it requires hard work and time to become an executive, and...

102: "Many are called, but few are chosen...", then...

103: Reaching executive status is not easy (or even guaranteed), and

104: There is no shortage of qualified "replacements" waiting for an executive to "screw up."

103: If reaching executive status is not easy, and...

104: There is no shortage of qualified replacements waiting for an executive to "screw up," then...

105: Executives feel great satisfaction in their success, and...

106: Executives are constantly looking over their shoulders.

105: If executives feel great satisfaction in their success, and...

106: Executives are constantly looking over their shoulders, then...

107: Executives realize that there is nowhere to go but down.

107: If executives realize there is nowhere to go but down, and

108: Executives enjoy status and power, and

109: Executives don't want to lose their status and power, then...

110: Security takes on more importance than achieving higher levels of satisfaction.

Moving on to **Figure 5b**...

110: If security takes on more importance than achieving higher levels of satisfaction, and...

201: Executives must make major decisions daily, then...

204: Executives are comfortable making low-risk decisions.

110: If security takes on more importance than achieving higher levels of satisfaction, and...

201: Executives must make major decisions daily, and...

202: Every decision carries a degree of risk, then...

205: Executives are uncomfortable making high-risk decisions.

203: If delaying a decision, or not making one, is perceived as low-risk, and...

204: Executives are comfortable making low-risk decisions, and...

206: Paradigm-changing decisions are risky, then...

207: Executives often delay or make no decision.

On the other hand...

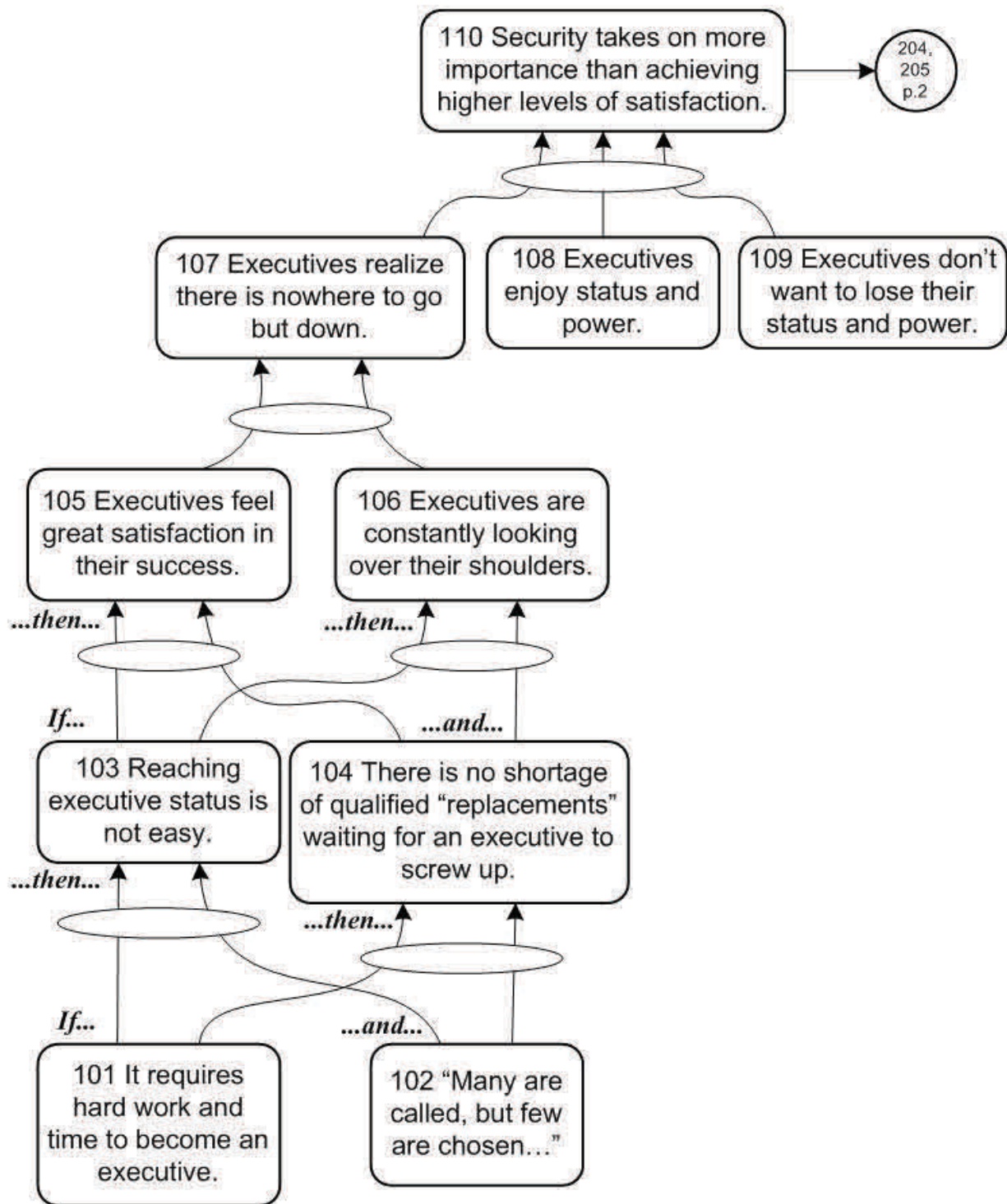


Figure 5a. Why Executives Procrastinate on Revolutionary Change

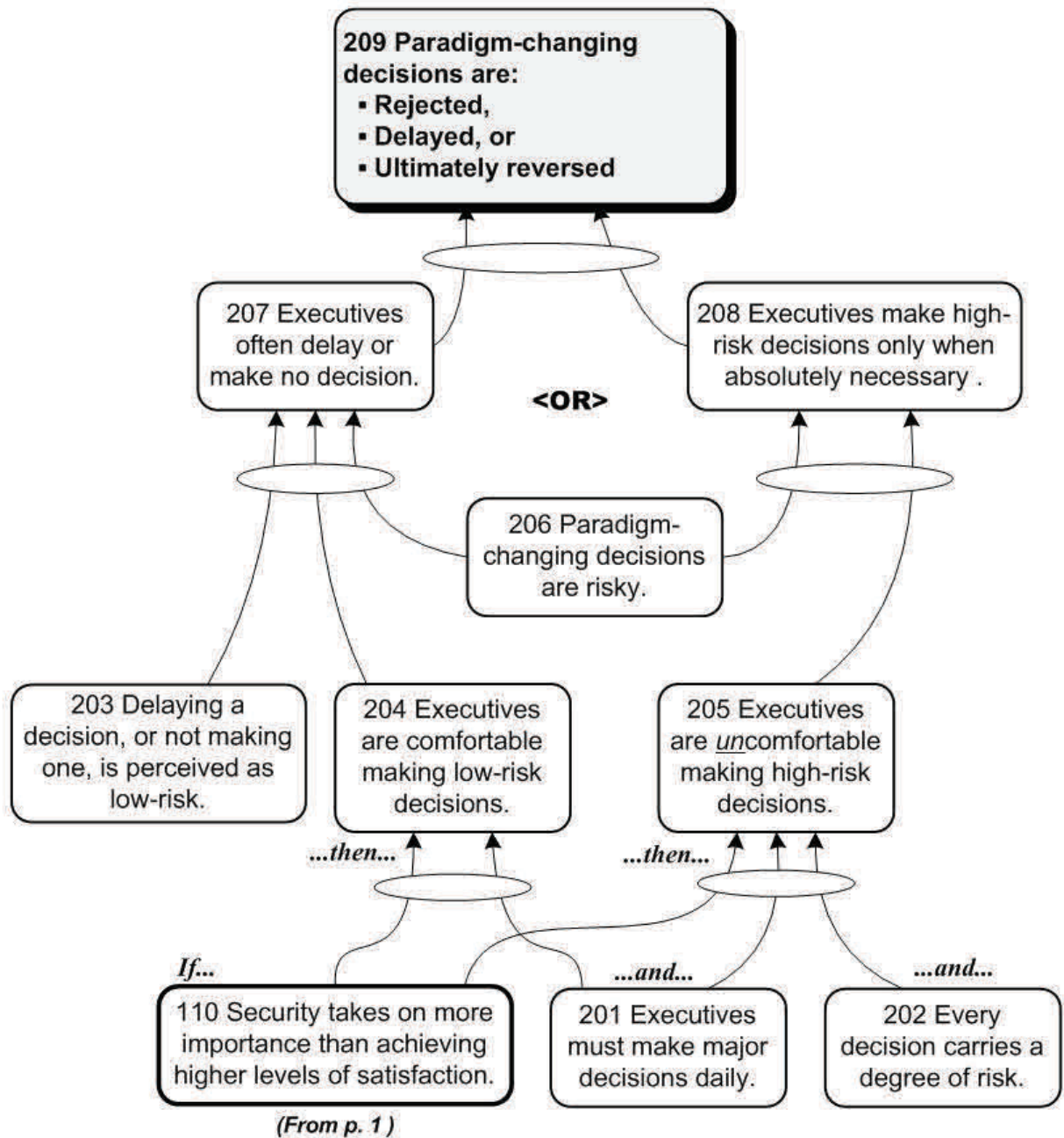


Figure 5b. Why Executives Procrastinate on Revolutionary Change

- 206: If paradigm-changing decisions are risky, and...
- 205: Executives are uncomfortable making high-risk decisions, then...
- 208: Executives make high-risk (paradigm-changing) decisions only when absolutely necessary.
- 207: If executives often delay or make no decision, and...
- 208: Executives make high-risk decisions only when absolutely necessary, then...
- 209: Paradigm-changing decisions are rejected, delayed, or ultimately reversed.

What this is saying is that a paradigm-changing decision, such as the embrace of the theory of constraints as an operating philosophy, is more likely when a company and its executive find themselves in a “survival” situation, where they must do something different or die. If things are going “okay”—not great, but not that bad, either—the odds are very low that an executive will embrace a revolutionary change like TOC, unless he or she is an ambitious risk-taker. And we all know there aren’t very many of those. Another way of saying this is that “the good is the enemy of the better.”

Conclusions

So, what can we conclude from this line of reasoning?

- First and most important, people’s behavior is “hard-wired” and largely emotional.
- Second, people behave according to their mental models, which provide a comfort zone.
- Third, logical persuasion is likely to have little impact, in spite of what it might seem like at the time it’s attempted. (Remember incongruent behavior?) Emotion is a much more powerful actor.
- Fourth, relatively few people—those whose need for satisfaction outweighs their need for security—will risk changing on their own. And of those that do, most will do so only cautiously or reluctantly.
- Fifth, people’s actions often don’t reflect their words about it.
- And, finally, true behavioral change occurs naturally at a more evolutionary rate, not a revolutionary one.

Implications

What are the implications of these conclusions? First, the odds of success for revolutionary change by persuasion alone are very long. A more likely outcome is rejection, or reversion to past behavior. Incremental, evolutionary changes have a better chance of long-term success. But they require patience!

Second, if you’re determined to attempt revolutionary change in the face of these long odds, imposed change has a better chance of success—at least for the short term. But imposed change requires a champion with formal authority, because, in the immortal words of Charles Colson, “When you’ve got them by the balls, their hearts and minds will follow”—at least, until you relax your grip. If you relax your grip, all bets are off.

How New Ideas “Get In”

This brings us to the question of how new ideas get into an organization in the first place. Deming once observed that truly profound, game-changing knowledge must come from outside of a system; it doesn’t naturally reside within it. Moreover, he said, it has to be invited in. [Deming, 1993] In other words, someone has to actively seek it out and bring it in.

The problem with introducing something game-changing is that in most cases the people with the decision-making power—the executives—are too busy running the company on a day-to-day basis to worry much about searching out new ideas, or new ways of doing things. They don't have the time or the inclination to go to conferences like this. They may not even have much time to do professional reading in journals that might provide them exposure to paradigm-shifting methods (even if they were inclined to consider them).

Who actually does this kind of external research to find out “what's out there?” Normally, it's people in the middle levels of large organizations—the working professionals who aspire to upper management, maybe even department heads, but not usually executives.

The exception to this tendency is small-to-medium sized privately-held companies, whose owners are often the executives in charge. These executives have to wear two hats. Besides running the company, they have to originate the breakthroughs that will grow the company. So these are the companies where radical new methodologies such as TOC are embraced by decision-makers and actually have a better track record of success.

When a new idea or method penetrates an organization at the middle level, it requires persuasion *up* the chain of command. When it enters at the top, it can be imposed *down* the chain.

Executive-Led Change

Unfortunately, change initiated by an executive is no guarantee of long-term success— maybe not even short-term success. It's definitely required for initial success, and the best example of this is Jack Welch and Six Sigma at General Electric. But even executive-imposed change is no guarantee of sustainability. Because the change was imposed in a revolutionary way, behavior may revert when the executive leaves. And with rare exceptions, executives don't stay in their positions for very long. Not “evolutionarily long,” at any rate. Again, the prime example is Jack Welch at General Electric. After he retired, Jeffrey Immelt took GE in a completely different direction—into the ditch, as it happened.

I don't have any solutions to this problem. The best I can offer is a possible model for change, and it's not particularly new or original to me.

A Change Implementation Model

The diagram in **Figure 6** comes from my book, *The Logical Thinking Process*. (Dettmer, 2007) It doesn't specify how to win the heart and mind of the top leader. That's the part I have no answer for...yet. But I know that particular step has to happen first, and logic alone won't do it. Once it does happen, this model provides a potentially effective roadmap for implementation and sustainment.

- Briefly, the leader's commitment precedes everything else.
- Then the leaders must define the new, modified behavior required of both themselves, and of subordinates.
- Simultaneously, leaders must communicate the new mission, task, or charter to all subordinates, and...

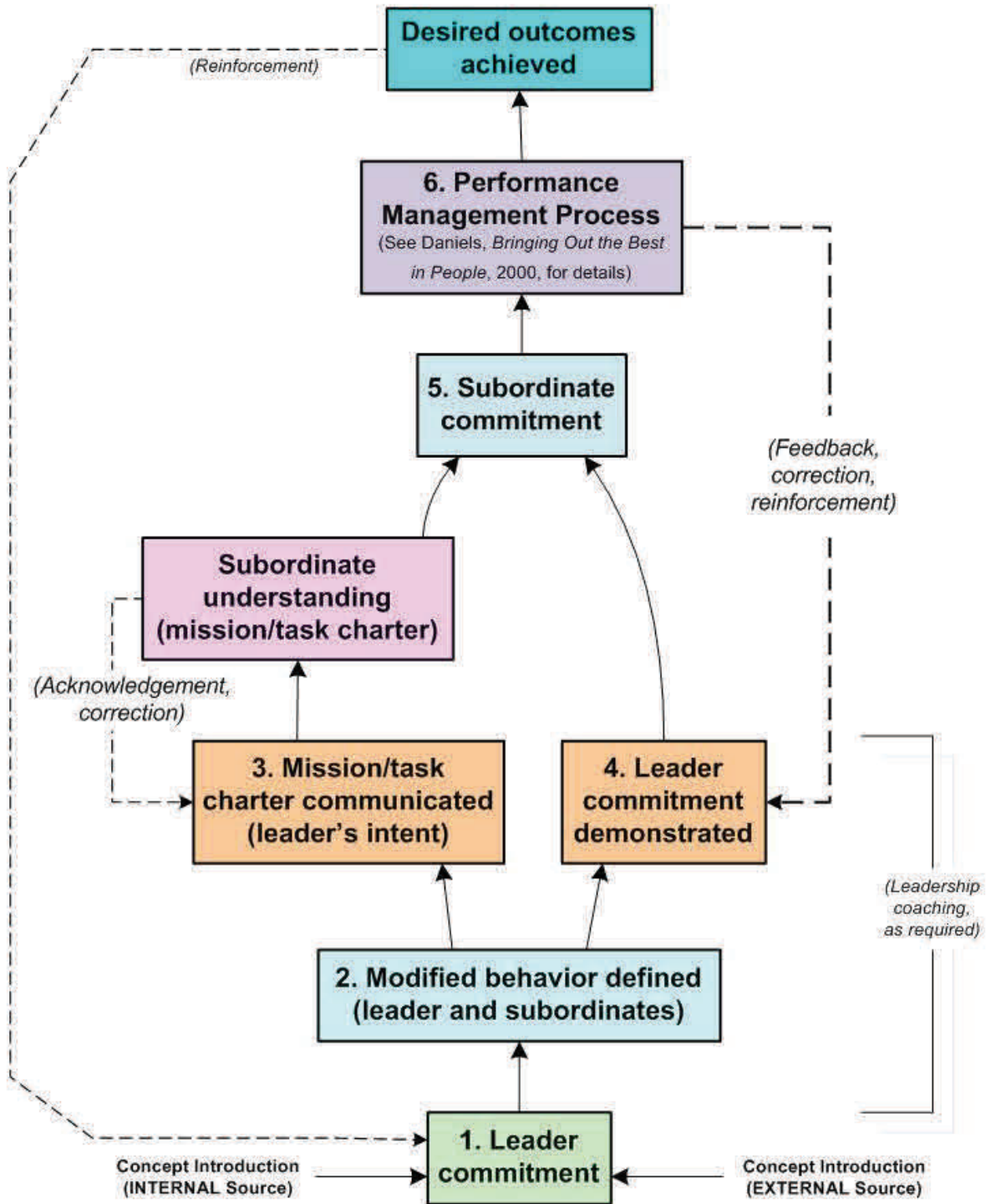


Figure 6. A Change Implementation Model

SOURCE: Dettmer, *The Logical Thinking Process* (2007)

- Visibly demonstrate—by their own behavior—their commitment to the new way of doing things. This requires a cognitive acceptance on their part of the need to change and the value of doing so.
- Only these first four steps have a chance of engendering subordinates' understanding of their charter and their commitment to it.
- This brings us to the ubiquitous feedback loop: managing performance through behavior modification techniques. Whole books have been written about this topic, so I won't go into that here. Suffice it to say that neither TOC, lean, or six sigma tell us anything of consequence about this vitally important contributor to long-term success. What we *can* say with assurance is that if you don't measure and correct behavior to the desired standard over a long period of time, the evolutionary change will not occur—behavior will revert. This is where TOC and most other newly-embraced philosophies and methods ultimately fail.

Finally, if all of this is done effectively, the desired outcomes should be achieved—if you're lucky. And then leaders must grasp that success and hammer it home as reinforcement from the executive level, as proof that the changes were the right things to do.

Behavioral Reinforcement. All we've addressed here is the cognitive side of changing the status quo—emotionally internalizing the need to change. There's a powerful behavioral side that must also be considered. If you're fortunate enough to overcome the cognitive challenge with the organization's leader, the nature of evolutionary change still means that extensive reinforcement will be required for an indefinite transition period if a change is ultimately going to succeed. It takes a long time to modify mental models.

ENDNOTES

1. Damasio, Antonio R. *Descartes' Error: Emotion, Reason, and the Human Brain*. NY: Putnam, 1994.
2. Deming, W. Edwards. *The New Economics for Industry, Government, Education*. Cambridge, MA: MIT Press, 1993.
3. Dettmer, H. William. *Strategic Navigation: A Systems Approach to Business Strategy*. Milwaukee, WI: ASQ Quality Press, 2003.
4. Dettmer, H. William. *The Logical Thinking Process: A Systems Approach to Complex Problem Solving*. Milwaukee, WI: ASQ Quality Press, 2007.
5. Gonzales, Laurence. *Deep Survival: Who Lives, Who Dies, and Why*. NY: W.W. Norton & Co. 2003
6. <http://www.quotesandpoem.com/quotes/showquotes/author/winston-churchill/1881>
7. Kuhn, Thomas S. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press, 1962.
8. Moore, Geoffrey, *Crossing the Chasm*. NY: HarperCollins, 1991.
9. Moore, Geoffrey, *Inside the Tornado*. NY: HarperBusiness, 1995.
10. Senge, Peter M. *The Fifth Discipline: The Art and Practice of the Learning Organization*.
11. Wright, Robert. *The Moral Animal: Why We Are the Way We Are: The New Science of Evolutionary Psychology*. NY: Vintage, 1994.