# THE LADDER OF INFERENCE

How Presumptions Can Serve Productivity

*BY Micki McMillan, MCC*

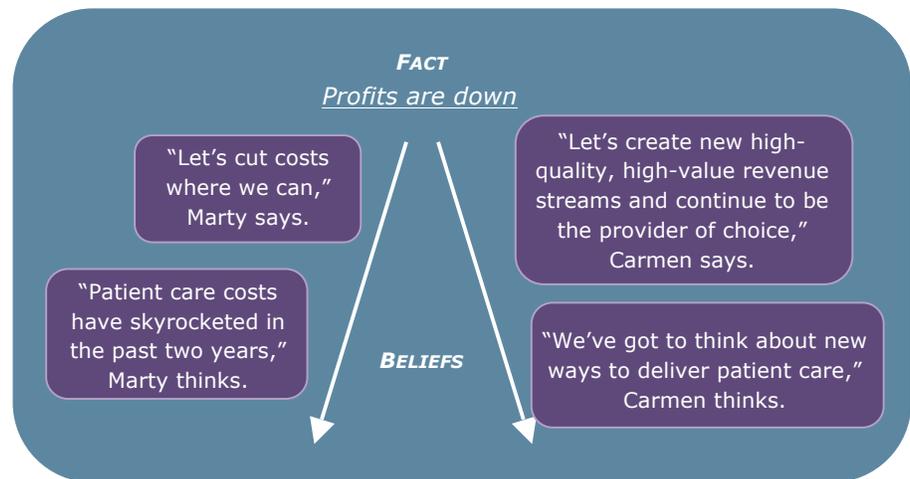> *The outer conditions of a* PERSON'S LIFE WILL ALWAYS BE FOUND TO REFLECT THEIR INNER BELIEFS.
>
> - JAMES ALLEN

**THE SAME, YET DIFFERENT**

*"Profits are down," Anne Marie, a hospital CEO says. She reviews the numbers with Marty, the CFO, and Carmen, the Patient Care Executive. Then she asks them both to work up a response to the situation. As Marty and Carmen think through their options, it becomes clear that, even given the same facts, they have different beliefs about how to respond. (Fig. 1)*

FIGURE 1
FACTS VS. BELIEFS



**FACT**
*Profits are down*

"Let's cut costs where we can," Marty says.

"Let's create new high-quality, high-value revenue streams and continue to be the provider of choice," Carmen says.

"Patient care costs have skyrocketed in the past two years," Marty thinks.

**BELIEFS**

"We've got to think about new ways to deliver patient care," Carmen thinks.

**THE LADDER OF INFERENCE**

An **inference** is a belief, opinion, or conclusion reached through the gathering of data; based on personal or cultural experience; and supported by premises assumed to be true. Inferences, while often perceived to be facts (or observations), are in fact assessments.[i] For example, if you live in the West and you see an anvil-shaped cloud forming in the late morning, you might infer there will be thunderstorms before the sun sets:

*If there is an anvil-shaped cloud,
then thunderstorms will form and follow.*

Or, if you review a patient's health history and learn that her mother and grandmother are both diabetic, then you may infer that your patient will face diabetes, too:

*Since diabetes runs in her family,
it's only a matter of time before she gets it, too.*

While making inferences can be a valuable way to construct meaning, the behavior can also undermine productivity and destroy relationships. It all

depends on what data you're using to construct meaning and what mindset you're using to interpret that data.

The **Ladder of Inference** is a visual metaphor used to describe the way we interpret data and construct meaning. In other words, it shows how we create our mental models. Designed by Chris Argyris, Professor Emeritus at Harvard Business School, The Ladder of Inference also illustrates how, when we climb the Ladder, we often convert what we presume to be objective data (observations) into subjective opinion (ungrounded assessments). When these ungrounded assessments become the foundation for decisions and action, they inhibit relationships and productivity.

### The Ladder of Inference: Pieces and Parts

Let's examine The Ladder of Inference in detail (Fig. 2).
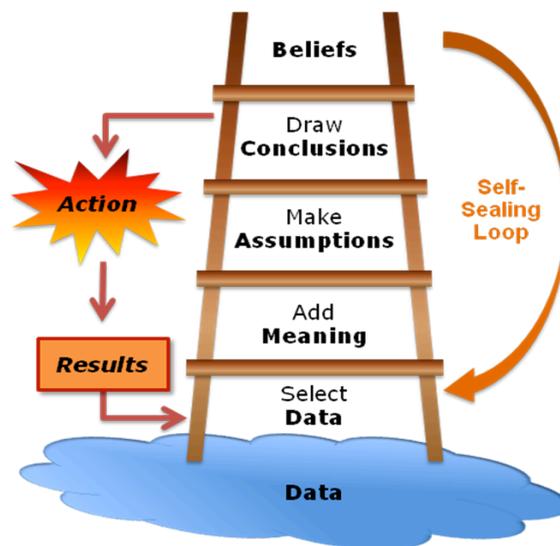
#### *The Pool: Infinite Data*

Think of the Ladder of Inference as a ladder ascending out of an infinity pool built on the edge of the ocean. Unlimited data passes through the pool, but at any given time, we experience the data and filter it. We sort data based on our biological and cultural influences. As we swim in data, we also filter it based on our personal experiences: we tend to select data based on what is familiar and top of mind. Really, the Ladder we use to climb from observation to assessment to action is floating in conditional, contextual, and narrowly relevant data.[ii] We think we're standing on solid ground, but the surface we're standing on can be far less solid than we think.

#### *Rung One: Select Data (Observation)*

On the first rung of The Ladder, we select data. What observable facts do we notice? What information strikes us as relevant?

*Both Marty and Carmen receive the same Profit and Loss Statements.*

*Marty notices that patient care costs have increased 18% in the last two quarters, and cumulatively costs have risen 32% in the last two years.*

*Carmen notices those figures, and she also reviews her Patient Care and Staff reports. Her Full-time Equivalents (FTEs) are down, and her staff is concerned about patient safety and satisfaction. She does notice some information showing a significant spike in inpatient psychiatric services, end of life services, and heart and vascular services.*

### Rung Two: Add Meaning (Explanation)

On the second rung, we explain the facts; that is, we add meaning and make theories about the significance of the facts. We also organize our observations and interpret them as stories.

*Marty interprets the data to mean that patient care spending is out of control. From Marty's perspective, the story isn't what's happening with patient care. Instead, the story is, if we don't intervene and cap costs now, the business results are going to continue to decline.*

*Carmen shares Marty's concern about the cost trending, but she does not talk to Marty about the data regarding increases in inpatient services. As those costs fall under her domain of responsibility, she doesn't think it will matter to Marty, and if it does, she's worried he'll just want to cut staff or cut back on services. In Carmen's eyes, that would reduce the organization's competitive edge and impact the quality of patient care. So, Carmen interprets her data privately. She theorizes that maybe there are more medical students involved in cases in the psychiatric and surgical services. She also theorizes that some of the end of life or heart and vascular service costs could be minimized, even prevented, if there were earlier healthcare interventions.*

### Rung Three: Make Assumptions

On the third rung, we fill in the blanks in our stories with assumptions. Here we construct problems, identify what needs fixing, and consider our options for making those fixes. Consequently, it is on this rung where two people, who may have thus far traveled up the Ladder together, suddenly part ways.

*Marty sees the situation as pretty black and white: in his mind, it's time for triage. If costs are an issue, we need to cut overhead and phase out costly services. Maybe the nursing staff FTEs should be cut. Maybe the hospital can attract less-expensive health care providers. Maybe we need to rethink renewing certain physicians' contracts. Maybe we need to be more exclusive with the types of patients we treat. Maybe we need to stop scheduling high-cost, high-risk surgeries and refer patients to another hospital.*

*Carmen thinks there's an opportunity to be proactive rather than reactive to rising patient care costs. She thinks there might be some value in revisiting the expectations and protocols for medical students in the patient care process. She also thinks they could simultaneously cut costs and better serve patients by designing and implementing strategic healthcare education programs. While this might cost a little money in the short-term, once the programs were in place, they would have a significant impact on long-term patient care costs, the organization's reputation, and revenue generation.*

### *Rung Four: Draw Conclusions (Decision)*

On the fourth rung, we make choices based on the problems and options we've previously identified. We decide how to respond and proceed.

*Marty believes, whatever we do, we need to put a moratorium on non-essential spending and better manage our current expenses. To stay viable and competitive, we need to be more than financially solvent — we need to be more profitable. In time, as we rebalance profits and losses, we can look into expanding or remixing our services. But, for now, we need to scale back.*

*Carmen believes, even in the face of these financial challenges, quality patient care cannot be compromised. That means we need to keep our top talent and better leverage their expertise. It also means we need to reconsider the costs to patients — not just to the hospital — when we opt for more and more inpatient care. Over the long-term, the more we can do to help patients take better care of themselves, the less risk we expose ourselves to and the more effective we can be as healthcare leaders.*

### *The Top of the Ladder: Beliefs & Action*

The decisions we make reinforce our mental models and validate our beliefs. Once we scale The Ladder of Inference — with or without great care — our beliefs are stronger and our resolve even more unshakable. With our beliefs as our guiding force, we take action.

And, as our actions take effect, we can examine our results. The results then become new "facts" and we build a second Ladder on top of the first. As we traverse the Ladder, over and over, testing and reinforcing our beliefs, our mental models become ironclad. We build an endless loop, scaling Ladder upon Ladder,

> *until we lose all sight of the observable data and logical links that informed our very first inferences. This helps to explain how we can forge the sources of our most ingrained attitudes, and how opposing sides of long-standing conflicts often find so little on which to agree.[iii]*

Our actions are completely informed by what we've observed, what we think our observations mean, how we think they matter, and what we think should happen next. If we've raced up the Ladder by making ungrounded assessments, without practicing advocacy and inquiry, we've set ourselves up for trouble. If we've walked up the Ladder in a regular, open-minded, give-and-take, we're in good shape to take effective action.

*Marty tells the CEO, Anne Marie, "I've seen this situation before. Serious times call for serious measures. I'm recommending a series of cutbacks and I'd like to declare a moratorium on new programs and new hires. This may ruffle some feathers and make our work more challenging in the short-term, but over the long-term, it will send a message about efficiency and accountability. The staff will learn to make better use of the resources at our disposal, and once we get spending under control, we can take a more strategic approach to managing programs and growth. Bottom line? We need to scale back, then hold fast."*

*Carmen tells Anne Marie, "We have to look at this situation long-term. There is a way to cut costs while we also generate more revenue, but, truthfully, we*

*may have to spend a little money up front so we can save money and make money long-term. It's going to take some time, but we will see the results we desire. And those results will only strengthen our future."*

### The Rails: Mental Models

Just as every Ladder sits in a slightly different pool of data, every Ladder is held together by unique mental models. It's these mental models that predispose us to pay attention to different facts, ascribe different meanings, and come to different conclusions. The only way our mental models (the Ladder rails) get shaken up is if our actions lead to unexpected results.

*If Anne Marie chooses Marty's recommendations, Marty may feel validated. And, if his suggestions, literally, pay off, chances are he'll want to follow the same path when costs become an issue again — no matter where in the organization. However, if after some time has passed, patient care expenses haven't planed off or been reduced, he may rethink his approach to the problem.*

*If Anne Marie chooses Carmen's recommendations and Carmen's plan attracts valuable new talent and delivers proactive programs, Carmen will feel validated and her mental models will be reinforced. However, if Carmen's programs flop, she may question her beliefs and expertise in the future.*

---

**HOW TO USE THE LADDER AS A CONSTRUCTIVE, NOT DESTRUCTIVE, TOOL**

The tricky part about the Ladder of Inference is that none of us climb the same Ladder together — even if we're participating in the exact same conversation. Imagine if Marty and Carmen sat down together and worked through their options. If both Marty and Carmen were tied to their own perspectives and did not practice productive advocacy and inquiry, the conversation could lead to short-term misunderstanding. Long-term, it could hurt their relationship with each other and their effectiveness in the organization.

*Marty might think, I can't believe Carmen wants to SPEND money in the face of this financial crisis! That's just crazy! I thought she was smarter than that.*

*Carmen might think, Ugh! It's just like the CFO to only think about the numbers. Why doesn't he think and act more strategically about the business?!*

*For those who believe,* NO PROOF IS NECESSARY. FOR THOSE WHO DO NOT BELIEVE, NO PROOF IS POSSIBLE.

*- STUART CHASE*

#### Skilled Incompetence

Our mental models, the way we listen, and the way we talk to others are like computer programs. There's a ton of stuff behind the scenes that supports and empowers our behaviors, but we don't sense those elements in action. We just turn on and off – automatically. But, when we're operating on autopilot, we unconsciously set ourselves up for breakdowns. Along the way, since we can't see our own role in creating those objectionable outcomes, we experience frustration and disappointment. If things don't go the way we imagined, we may lay blame on others or on the situation, when really we have no one to blame but ourselves. Chris Argyris calls this skilled incompetence.

## Tips for Scaling the Ladder of Inference

To overcome skilled incompetence and travel up the Ladder of inference effectively, ascend the Ladder mindfully.

1.  **Pause, notice, and be open.**
    Because the process is, ultimately, about taking effective action, it's worthwhile to reflect on the different and potentially legitimate inferences other people are making.

    *Marty might notice that Carmen keeps referring to potential savings over the long-term. While he's concerned there might not be a long-term if patient care costs continue along this trend line, he's open to her ideas about adding long-term value and new revenue streams. He might look for other areas to cut costs (or raise prices) in another part of the hospital system to offset the costs in Carmen's plan.*

2.  **Be curious, be humble, and practice productive inquiry.**
    This approach requires a shift in your thinking. Rather than holding fast to your own reasoning, you tentatively adopt the concerns and reasoning of others involved in the process.

    *Carmen might say, "Okay. Suppose Marty's right and we need to scale back right now. Maybe he has insights or information that I haven't seen. Let me ask him about that. There may be more to this than I realize."*

3.  **Reveal yourself and practice productive advocacy.**
    Share your background and the rationale behind your ideas, not just the ideas themselves.

    *Marty might say to Carmen, "It's my job to maintain the financial integrity of this institution. Sometimes, that means cutting costs by cutting projects and eliminating jobs. It isn't pretty, but it's a proven way to get us through tough times."*

4.  **Convert abstract statements to specific, concrete statements.**
    When you hear a high-level assessment, find out where it's grounded. Likewise, when you make broad statements, offer to give a little context or provide some examples about what you think.

    *Marty might say to Carmen, "That's why we need to aggressively cut costs in patient care. We are 'living beyond our means.'" Carmen could then ask, "Tell me more, Marty. How, specifically, do you recommend we cut costs?" Marty might say, "We need to cut overhead. Let's look at the span of control of your nurse leaders. If we truly are an empowered workforce, then we shouldn't have to have so many nurse managers. " To which Carmen might respond, "I disagree, Marty. And here's an example of why..."*

5.  **Be willing to be wrong.**
    If it becomes clear that your perspective and actions aren't going to get the results you and your organization desire, you still have the opportunity to make positive contributions. Being wrong isn't a bad thing. Just like being right isn't a good thing. The point is to be a productive, effective leader. You

want to create the best possible outcome, and to do that, you may have to let go of some of your most steadfast beliefs.

**WATCH YOUR STEP**     Traveling up the Ladder of Inference can help or hobble a conversation. To help, you must heighten your awareness for your own ungrounded assessments and self-serving data. You must practice productive inquiry as you explore what may be others' faulty reasoning and untested presumptions. You must also practice productive advocacy and walk others up "your Ladder" as you reveal your concerns, biases, mental models, and reasoning.

You must also be willing to come down off "your Ladder" to explore other possibilities before you can reconstruct the Ladder, determine the most effective action to take, then implement those measures. After all, the Ladder is a useful tool; but it's utility is tied to how skillfully you maneuver on it.

**NOTES**

[i] McMillan, Micki. "Sound Judgments: How to Turn Assessments into Assets." 2010.

[ii] Kofman, Fred. "The Ladder of Inference." 1995.

[iii] Kofman, Fred. "The Ladder of Inference." 1995.

Read more from Chris Argyris. View his full bibliography at ActionScience.com, here. http://www.actionscience.com/argbib.htm