

Integrative thinkers share some common traits related to their stance, tools and experiences, which is good news for those of us who aspire to attain their level of decision-making prowess.

BECOMING AN INTEGRATIVE THINKER

By **Roger Martin**





OVER THE PAST SIX YEARS, the Rotman School's *Integrative Thinking Seminar Series* has hosted a variety of renowned CEOs and thought leaders – everyone

from **Jack Welch** to **Michael Dell** to **A.G. Lafley**. My goal when we started the *Series* was to try to figure out how these highly-successful people think. I was looking for patterns: I wanted to know, 'what was the *thinking* that led them to the *doing*?' Was there a common pattern to their mental models? It turns out that there is, and the fact that their thinking patterns can be defined is good news for all of us, as it means that we, too, can learn to become integrative thinkers.

It all begins with mental models. Although we're usually unaware of it, each of us uses models in our thinking. It's how we make sense of the world. As MIT's **John Sterman** explained early in the *Series*, we think that what we see is what really is; but in fact, what we 'see' is based on our mental models, and thus we suffer from 'naïve realism': our models become indistinguishable from reality, and what constitutes 'reality' differs from person to person. The result? Model clash – the most important challenge faced by modern managers.

The Four Steps of Decision Making

After studying the thinkers featured in the *Series* to date, I recently revised my model for decision making, which still consists of four steps:

1. The first step is **Salience** – what do we choose to pay attention to, and what not? In this initial step, we decide what features are relevant to our decision.

2. The second step is **Causality**. How do we make sense of what we see? What sort of relations do we believe exist between the various pieces of the puzzle?

3. The third [newly-named] step is **Architecture**, during which an overall model is constructed, based on what we have arrived at in the first two steps.

4. The final step is **Resolution**: what is our decision based on our reasoning?

Integrative thinkers approach each of these steps in a very specific way: they consider more features of the problem as salient to its resolution; they consider multi-directional and non-linear causality between the salient features; they are able to keep the 'big picture' in mind while they work on the individual parts of the problem; and they find creative resolutions to the tensions inherent in the problem's architecture.

The interesting part is that everyone builds their understanding of the world around them in a similar manner, either implicitly or explicitly following steps one through four to construct their mental models. The result is 'clashing realities': those who don't agree with our model are seen as either uninformed ('stupid') or ill-intentioned ('evil'), which creates tension, conflict and impasse.

There are two ways to deal with model clash. The first is to fear and avoid it – to basically deny its existence. This results in pursuing one's own model as if others don't exist, attempting to crush other models, or caving into the models of others to avoid the inherent conflict. The second, far superior approach is to seek out and leverage model clash. Those who choose this option actually

...those who don't agree with our model are seen as either uninformed or ill-intentioned, which creates tension, conflict and impasse. The pervasiveness of such clashing realities makes reacting to model clash the single most-important challenge facing managers today.

enjoy the tension that model clash entails. They say to themselves, 'That is so cool: what did that person see that I didn't see? How on earth did she get to that resolution?'

Scenario two is the source of the greatest insights and resolutions. It is where the highly-successful leaders reside, and it's where we should all aim to be. However, we can't get there without seriously contemplating the opposing models we are facing, and combining insights from them to form new models. As the speakers in the *IT Series* have shown us, there is never a situation where a better model cannot be built.

Personal Knowledge Systems

Our journey in life is a search for answers to problems big and small. For each of us, the answers we come up with depend on the mental models we form based on our personal knowledge system, which is made up of three elements: your **stance** is your answer to, 'who am I in the world, and what am I trying to accomplish?' Next, with what **tools** and models do you organize your thinking and understand the world? And lastly, with what **experiences** do you build your repertoire of sensitivities and skills?

The three aspects of our knowledge system are interdependent: our stance influences and guides which tools we use, which influences and guides the experiences we garner, which builds our repertoire of skills. Our experiences further influence the tools that we work on acquiring, and the tools we acquire alter and guide our stance – how we view ourselves. For example, if you see yourself as someone who would like to build computer equipment – i.e. your stance is that of a budding computer engineer – you are likely to attempt to acquire computer engineering skills by taking a degree in Computer Engineering. With such a stance and these tools in hand, you will likely gain some experience building computers. However, as you acquire these experiences, you may find that the business decisions that define your working context are made elsewhere, and you may decide that in order to be able to influence those deci-

sions, you need to acquire more tools in business management. So you return to university to take an MBA, after which you alter your stance to see yourself as a 'business-oriented engineer.'

The Knowledge Systems of Integrative Thinkers

By studying some of the world's most successful individuals, I have concluded that integrative thinkers have a different combination of stance, tools and experience than non-integrative thinkers. Their **stance** is different in six ways:

Nature of their world:

1. They recognize that existing models do not equal reality;
2. They seek out model clash and leverage opposing models;
3. They believe that better models always exist that cannot be seen;

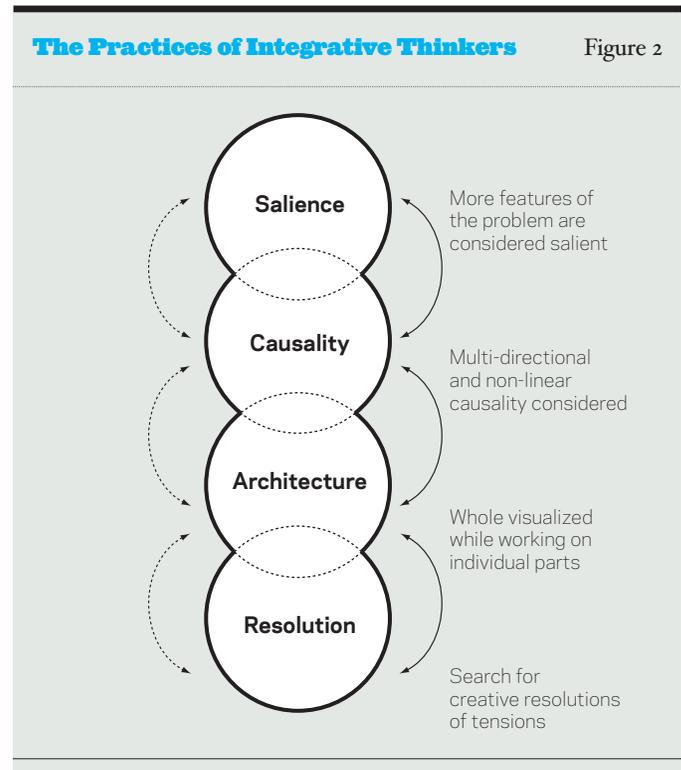
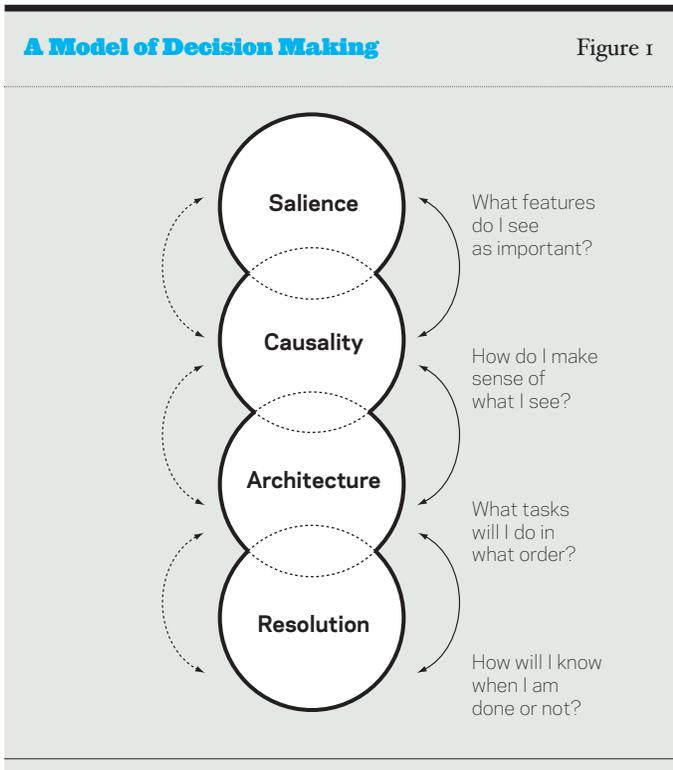
Their role in it:

4. They believe that they are capable of finding a better model;
5. They are willing and enthusiastic about wading into complexity; and
6. They give themselves the time to create; they aren't rushed to find 'the answer' to a problem.

I got to see two great examples of the productive stance in action recently at **Design Indaba** in Cape Town, South Africa. Billed as the world's biggest design conference, it was indeed a massive affair, with more than 1,500 delegates, a separate conference room of young designers listening via closed-circuit TV, and a terrific array of presenters from around the world. The roster included graphic designers, product designers, and architects; a futurist and a cartoonist; an 'artist, musician, and ideologue' (that would be former Roxy Music keyboardist and U2 producer **Brian Eno**); and a couple of academics, including an MIT scientist and this lonely business school dean.

The real hits of the conference, from my perspective, were also the two oldest speakers: **Milton Glaser** and **Massimo Vignelli**, both designers in their 70s who launched their careers in the 1950s, together representing more than a century of design insight. Both have contributed an impressive legacy of design icons to the world. Glaser's 'I ♥ New York' logo is often referred to as "the most frequently imitated logo design in human history," and his design for *New York* magazine became the model for city-based periodicals everywhere. *The Washington Post*, *Paris Match*, and dozens of other leading publications around the world owe their looks to him. Vignelli, meanwhile, created the iconic New York subway system signage and map, the timeless **American Airlines** logo, and the corporate identity (logos, packaging, etc.) for **Bloomingdale's** and **Benetton**, to name a few.

Given the massive success of both designers, perhaps it's not surprising that their presentations were so compelling. Yet they're both well past normal retirement age, and shared the roster with



numerous designers in the prime of their careers who could, and perhaps should, have been doing better work. Vignelli presented his work in five-year increments starting with 1955 to 1960 (a period in which I was born!), but his post-2000 work was, if anything, more impressive than any previous period. And Glaser, who provided for each delegate a copy of his new “We are all Africans” poster (a protest of international inaction to the situation in Darfur), is still swinging for the fences and connecting.

From their talks, and from a long conversation with Vignelli, I came to believe that the key to both men’s success lay in their fundamental stances, which exhibited the six elements described earlier.

1. They recognize that existing models do not equal reality

By not confusing what they presently see with reality, they don’t see the present ‘state of a thing’ as immutable. As Glaser firmly argued: “Everything we see, we actually construct – it is our image of the thing.” For Vignelli, the absence of something doesn’t mean it can’t exist – just that it hasn’t been designed yet.

2. They seek out model clash and leverage opposing models

These two design masters lack any fear of the ambiguity that’s created by models or concepts that conflict with one another.

Rather, they see the benefits of such conflict and ambiguity in spurring their creative juices. Glaser illustrated this using **Da Vinci’s Last Supper**, which can be seen simultaneously as an attempt by the artist to portray betrayal...or redemption. Which is it? “Both,” argued Glaser, and to him the harnessing of that ambiguity is the key to the power of this masterpiece. “Ambiguity drives the brain into action,” he noted. Vignelli spoke of the value and importance of considering both the singularity of identity and multiplicity of diversity, even though they’re directly in conflict.

3. They believe that better models always exist that cannot be seen

Neither is fooled into believing that nothing better exists than what they can see today. Both repeatedly affirmed that they believe that there’s always a better design out there – a model that better manages the inherent conflict and ambiguity while remaining, in Vignelli’s words, “visually powerful, intellectually elegant, and above all, timeless.”

4. They believe that they are capable of finding a better model

When they look at our world – one in which models clash, ambiguity reigns and better models wait to be constructed – they see a

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central role for themselves in it. They are the ones who can, should, and in fact *will* find a design solution that meets their high standards. As Vignelli stated matter-of-factly: “If you can’t find it: design it!” This was not egotistical bragging, but rather a solemn statement of what he sees as his job in life.

5. They are willing and enthusiastic about wading into complexity

Both Vignelli and Glaser show a complete lack of concern about wading into the necessary complexities that one must grapple with before coming to an elegant design resolution. Glaser flatly states that “design is hard work,” but at the same time, he shows nothing but joy for it. Vignelli looks forward to the creative impetus of a tricky design challenge: “You can only design when you need something.”

6. They give themselves the time to create

Finally, they refuse to rush to choose one side or the other of the conflict inherent in their task, or to race through the difficulties without giving themselves a chance to develop new and better insights. Rather, they are comfortable taking the time necessary to come up with a great design solution. Glaser implores us to “leave things fuzzy” at the beginning, and argues that one problem with the use of computers in design is that “computers make closure happen too soon.”

In stark contrast to integrative thinkers like Glaser and Vignelli, conventional thinkers exhibit the following six alternative aspects of stance:

Nature of their world:

1. They believe that they see and understand the true reality of a given situation;
2. Views that oppose theirs are ‘not reality,’ and are therefore wrong;

3. They believe that no better model could exist, because they are looking at ‘reality’;

Their role in it:

4. They believe that where opposing views exist, one must be crushed;
5. They believe they must simplify and specialize to avoid unnecessary complexity; and
6. They believe that they must always act quickly and decisively.

A Positive – or Negative – Spiral

It is quite easy to see how the six elements of stance personified by Glaser and Vignelli lead to a positive spiral of tool acquisition and experience deepening. A person with such a stance naturally develops tools for handling ambiguity, complexity and conflicting models, and is inclined to garner experiences that deepen skill and sensitivity. These experiences reinforce and deepen the productive view of seeing the world as full of ambiguous and conflicting models that can be leveraged for insights that can then be used to create wonderful new designs. In turn, the stance encourages the development of still-better tools and the acquisition of deeper experiences. That’s why the Glasers and Vignellis of the world seem to keep getting better and better instead of fading away. However, for anyone with the conventional unproductive stance, the acquisition of tools for handling ambiguity and complexity would be seen as a colossal waste of time. Instead, high value tools would be those for crushing opposing models, simplifying away complexity, making quick decisions and then sticking to them.

The first step in achieving the integrative thinker’s stance is to imagine the possibility that the six dimensions listed above are true. But this stance can only be maintained if you have the tools and experiences to back it up. There are three key **tools** used by integrative thinkers:

1. Generative Reasoning rather than solely Declarative Reasoning

The most common form of reasoning in business is ‘declarative reasoning,’ which declares whether a proposition is true or false. The tools for declarative reasoning are deductive logic (the logic of ‘what must be’) and inductive logic (the logic of ‘what is operative’). Integrative thinkers go beyond declarative reasoning to embrace *abductive logic* – the logic of ‘what might be’ – in order to generate creative new solutions, which is why I call the combination of deductive, inductive and abductive logic generative reasoning.

Vignelli and Glaser show clear evidence of using the Generative Reasoning tool. Vignelli in particular warned against using only inductive logic: in his view, utilizing quantitative market research, an inductive logic tool, had led him almost exclusively to big design mistakes. Instead, he urged going beyond market research to imagine better design solutions.

2. Causal Modeling rather than Conventional Wisdom

Rather than simply employing the tool of conventional wisdom – ‘based on what I’ve seen before, this is how x relates to y’ – integrative thinkers use the more sophisticated tool of causal modeling. They ask: ‘Under what conditions does x cause y? What is the driving force fuelling this causal relationship? And what are the mechanisms underlying it?’ Their goal is to build more sophisticated and creative solutions with more robust model-building.

Glaser in particular stressed the importance in his work of patiently building understanding of a situation and not quickly coming to the conclusion that he was right and had figured out all the causal relationships. His approach to the Causal Modeling tool related nicely to his stance of giving himself time to work through the ‘fuzzy’ situations he faces.

3. Assertive Inquiry rather than reliance on Advocacy

Those who rely on advocacy assume, ‘I know best; I must get others to agree with me so we can move forward; the only reasons others don’t agree is that they are uninformed or ill-intentioned.’ Hence they simply advocate their existing point of view, attempting to ensure it prevails, unchanged. The tool of Assertive Inquiry holds that, ‘I have a view worth hearing, but I may be missing something, so I will enquire into the views of others, seek to understand them, and consider alternatives.’ This type of inquiry opens up a dialogue between the opposing models, enabling the integrative thinker to see what is good about ‘the other model,’ and what parts of it are worth integrating to produce a superior model.

Both Vignelli and Glaser were striking and impressive with respect to this tool. Of all speakers at the conference, they had the greatest moral authority to simply advocate their points of view as ‘correct’ based on their experience and track records of success. Instead, they were highly contemplative and spoke at length about their mistakes, and the ways they had learned from others.

The final piece of the personal knowledge system puzzle is **experiences**. The key for integrative thinkers is to accumulate experiences that both *deepen their mastery* and *nurture their originality*; conventional experiences attend to one or the other, but not both. Mastery without originality becomes rote, and in due course becomes a *cul-de-sac*. Originality without mastery is shallow, if not flaky. Mastery, however, provides the foundation for great originality, while originality establishes new foundations on top of which greater mastery can be built.

More than anything, Vignelli and Glaser illustrated the power of experiences that combine mastery and originality. Between the two of them, they have accumulated over a century of professional experiences. Each has established mastery in a number of domains. However, each has also managed to combine that with persistent originality. Vignelli was particularly interesting on this point as he showed a chair that he reprised 20 years later when he discovered materials and techniques that could be applied to the task in new

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Figure 3

The Stance:

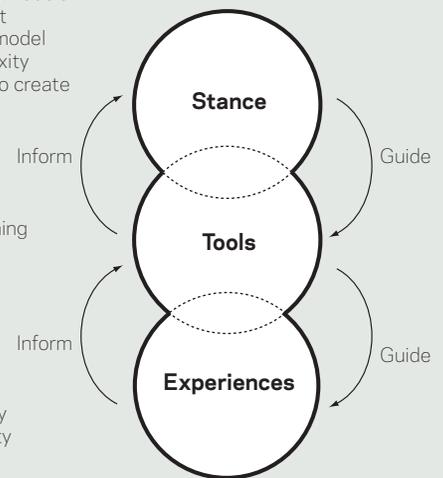
- 1) Existing models ≠ reality
- 2) Leverage opposing models
- 3) Better models exist
- 4) I can find a better model
- 5) I wade into complexity
- 6) I give myself time to create

The Tools:

- 1) Generative Reasoning
- 2) Causal Modeling
- 3) Assertive Inquiry

Experiences:

- 1) Deepening Mastery
- 2) Nurturing Originality



ways. Not satisfied with his mastery of the existing design, he dove enthusiastically into the task of exploring a new design.

In closing

Is it easy to become an integrative thinker? No, but it is doable. My advice is to take baby steps by starting a positive reinforcing spiral and letting it accelerate to your benefit. Experiment by adopting some of the six stances described here. Then, try out one of the three tools I’ve outlined. And seek out one or two experiences that both deepen your mastery and nurture your originality.

Over time – not overnight, but slowly – your thinking will improve. And as you improve, you will find the spiral will gain a momentum of its own. Such is the journey – and destination – that is Integrative Thinking. **R**



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Press in December.