

The Art of Integrative Thinking

Modern leadership needs integrative thinking. Integrative thinkers embrace complexity, tolerate uncertainty, and manage tension in searching for creative solutions to problems.

By Roger Martin and Hilary Austen

In today's climate of constant change and relentless competition, the key job of a leader is to make robust choices. In an idealized world, leaders are efficient choice factories — processing information, options, and consequences — and rolling decisions off their personal assembly lines every day. However, daily operations rarely run as smoothly as expected, because choices are varied, complex, and demanding. For example, leaders must decide where and on whom they will focus their attention; on what initiatives they will spend resources; how, with whom, and where they will compete; what capabilities they will build upon; what activities they will stop or start doing; and how they will motivate their charges.

These choices inevitably involve tensions — what appears to be a trade-off in which the choosing of one option precludes another attractive option. Or using one resource renders that resource unavailable to others. Tension, by its very nature, compels leaders to make choices of some kind. Maintaining the status quo, typically, is not an option. To move ahead, there's no choice but to choose.

Often these choices are enigmatic, exhibiting a challenging combination of qualities including ambiguity, uncertainty, complexity, instability, uniqueness, and risk. Enigmatic choices with these features demand special consideration. For instance,



they involve a vast array of interrelated elements and consequences. Addressing one piece of the choice puzzle means many others are affected, making it impossible to break the puzzle down into small parts and solving each sequentially. Outcomes of initiatives are often difficult to predict, and conditions often change before solutions can be implemented.

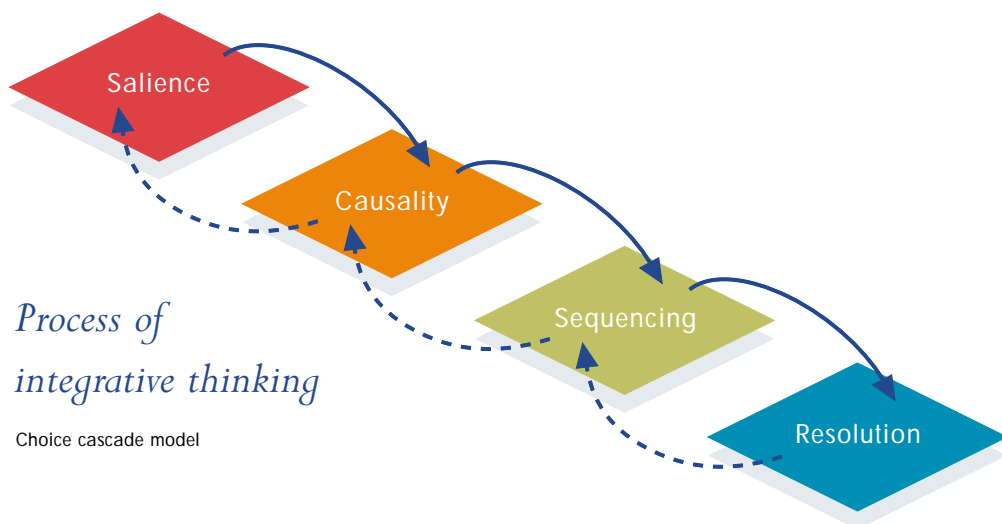
Further, such choices typically cannot be made from within narrowly defined functional, regional, or operational boundaries. Different areas of an organization see the issues and the choices that face them from different perspectives. This suggests the need for managers who can attend simultaneously to a vast array of interconnected variables and related choices to deal effectively with enigmatic choices. In short, modern leadership necessitates integrative thinking.

Integrative thinkers work to see the whole problem, embrace its multi-varied nature, and understand the complexity of its causal relationships. They work to shape and order what others see as a chaotic landscape. They search for creative resolutions to problems typically seen by others as a simple 'fork in the road' or an irresolvable bind brought about by competing organizational interests.

At its core, integrative thinking is an art, not a formula or algorithm that can be followed routinely from start to finish. Managers who attempt to reduce choice making to an algorithm are quickly overwhelmed by the enigmatic qualities their formula overlooks. As in art, a heuristic, not algorithmic process must guide the integrative choice maker.

INTEGRATIVE CHOICE MAKING

Although integrative decision making can't be reduced to an algorithm, it does typically involve a predictable cascade of four interrelated steps that constitute a heuristic process. Working effectively requires a stance and a supporting set of skills that allows managers to move fluidly through and between the four steps. As illustrated in the diagram (opposite), choice options cascade down from higher-order choices. Higher-order choices both set the context for and constrain lower-order choices. Choices are interrelated, so that if a lower-order choice can't be constructed to fit within the context and constraints of a higher-order choice, then the higher-order choice must be revisited and revised until consistent lower-order choices can be made. When accomplished with insight and intelligence, the revisiting



Process of integrative thinking

Choice cascade model

and revision of choices produce “integrative integrity”. Choices are adjusted fluidly to become both consistent with and reinforcing of other related choices. Conflicts with other choices are harnessed and each choice improves the effectiveness and power of the other choices around it. Preserving and enhancing the quality of choice in rapidly changing business environments demands both close attention to and ongoing reshaping of integrative integrity over time. In short, integrative choice making is a creative work in progress.

AN INTEGRATIVE THINKING STANCE

A heuristic and integrated approach to choice making requires the cultivation of a somewhat counterintuitive stance. While conventional managerial wisdom often pursues predictable and measurable clarity, the integrative stance embraces an uncommonly high tolerance for, even attraction to change, openness, flexibility and disequilibrium. Managers with an integrative stance expect dynamism in their purposes, attention, capabilities, and understanding of the choices they must formulate and pursue. As described earlier, working through the choice cascade is a dynamic and iterative process where stability, clarity, and any current status quo are short-lived.

Managers with an integrative thinking stance also embrace complexity and seek to wade into complexity rather than try to skirt it. They don't view imposed simplicity as an unalloyed virtue, but rather as the potential result of narrow thinking.

Finally, the integrative thinking stance places a central value on learning. It welcomes rather than fears surprise, keeping an eye keenly attuned to disconfirming data and using surprise to innovate. It embodies tolerance for the temporary incompetence that comes with the development of new skills. The stance, however, also values the courage, even pig-headedness, to pursue emerging beliefs even as they come up against resistance.

Facility within this integrative stance requires a supporting repertoire of skills, discussed under each step of the choice cascade pictured above. As managers become more skilled at the dynamics of integrative thinking, they become more comfortable with an integrative stance and begin to enjoy discovering the unexpected opportunities these dynamics often present. In each step of the choice cascade, both the stance and the skills that support it are critical when resisting the temptation to lop off the challenging features that make choices enigmatic.

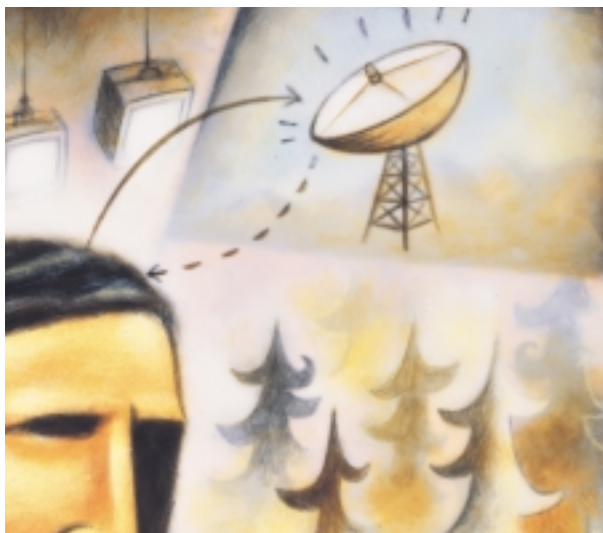
THE CHOICE CASCADE:

Salience

The first consideration in integrative thinking is salience: Which information or variables are relevant to the choice? At this stage, much potential integrative thinking dies. Overwhelmed by the number of factors coming to bear on the problem at hand, managers feel a huge temptation to relieve tension by chopping out complexity and ignoring some of the variables that cause complexity at the outset of the thinking.

For example, when economists attempt to understand the behaviour of a particular aspect of the economy, they typically declare a number of factors not to be salient in order to simplify the modeling and analysis. They perform “partial equilibrium analysis”. For example, they might model the impact of changes in tax rates on tax revenues without considering the impact of tax rates on incentives to work and invest. This is classic non-integrative thinking. One can only hope to understand the impact of tax rates on tax revenues by including, not excluding, the rather complicated and difficult-to-model impact on incentives. Modeling this additional variable causes difficulty, extra work and complexity, but the answer is not worth having without considering more variables to be salient.

Similarly, when evaluating the impact of a plant closure, a manager may fail to consider the public policy impact of the closure, because it is difficult to predict and integrate the





reactions of politicians, media and the community into the decision. The manager may fail to consider human factors when making a change to a production process, because people and their feelings are notoriously hard to model. Yet the answer produced through consideration of fewer variables is misleading and typically irrelevant at best. At worst, it may sound the death knell of the firm.

In contrast, the potentially huge number of factors that may be considered salient does not daunt the integrative thinker. Rather than minimizing the number of salient factors, he or she will embrace complexity by seeking out the last important variable at the outset to ensure inclusion.

It is critical to assess when the sensible bounds of salience have been reached — to make a robust guess as to when enough relevant aspects have been taken into account. At some point, considering yet another variable begins to confuse the choice making and adds no value. As an integrative thinker becomes skilled, he or she begins to sense intuitively when the “salience threshold” is reached and can revise this threshold as progress is made.

In addition to the consideration of inclusion or exclusion, the integrative thinker must consider the relative importance of the salient variables. This skill requires both sensitivity and discrimination. Sensitivity — the ability to perceive — and discrimination — the capacity to compare and contrast — allow managers to identify and assess salient features. As these capabilities develop, managers become capable of discerning the truly critical elements of a choice. Practice at identifying and assessing salience helps integrative managers develop a ‘knowledge bank’ of past experiences. Through this storehouse of knowledge, they gain the ability to make their initial assessment of salience quickly by category of choice and to move on to the subsequent steps.

Causality

The second task for the integrative thinker is to develop an understanding of the causal relationships that connect the variables and choices under consideration. In essence, the

integrative thinker creates a causal map that links together the variables considered salient in the first step. By taking time to identify critical relationships, the integrative thinker creates the opportunity to make a more robust choice than does the less integrative thinker who relies on an incomplete understanding of important relationships or overlooks these relationships entirely.

In addition to considering fewer variables when assessing salience, less integrative thinkers tend to view the causal relationships between factors to be linear and one-directional, e.g. *Their price-cutting influences ours*. The stance of the integrative thinker allows them to seek and explore nonlinear and multidirectional causal relationships, e.g. *Their price-cutting influences ours, but ours also influences theirs*.

The integrative thinker deals with ambiguity by creating multiple causal models and developing many alternative theories, e.g. *They may have been reacting to our new product launch, but maybe they were reacting to our other competitor's new plant announcement*. The integrative thinker will embrace mysterious elements, rather than exclude them, even though the causal relevance is not easily identified

Flexible purposing is a skill required in this step of the choice cascade (and in the subsequent step). This is the skill of maintaining a clear purpose, in this case through the difficult step of mapping out the complex causal interrelationships, while maintaining the flexibility to revise judgments about patterns of causality, even about salience as the causal map develops.

Sequencing

Deciding where and how to cut into the problem is the next step in integrative thinking. Considering all of the salient variables at once is extremely difficult, if not impossible. No one can address all the variables and the relationships between these variables simultaneously; hence, sequencing is critical.

Less integrative thinkers will often try to reduce sequencing to a manageable process. They do this by ignoring complexity and tackling one component of the overall problem first, treating this component as an isolated element. Having solved one sub-problem, they move on to the next sub-problem, considering a limited set of variables, without the benefit of a rich causal map that can guide choices about sequence.

The weakness of this approach is that it does not consider the interrelationships between the sub-problems. For example, a manager may seek to solve a particular marketing problem, e.g. *Customers appear to want more variety*. Then, when finished, they tackle a manufacturing problem, e.g. *Variety equals short and expensive production runs*. Unfortunately the non-integrated tackling of the pieces results in the manager not realizing that the solution to the marketing problem — *add breadth to the product line* — inadvertently constrained the possibilities for the manufacturing solution.

In contrast, the integrative thinker recognizes that many salient variables and the whole causal map must be kept in mind during the entire problem-solving exercise. Although sequencing is still required to manage the complexity of the total causal map, the integrative thinker cuts into the problem by bringing

some parts of it to the foreground and moving other parts to the background (much as an artist would as he or she paints a landscape). Instead of solving an isolated set of sub-problems, the integrative thinker keeps the whole causal map in mind as he or she focuses on different parts of it at different times.

A key skill is the ability to select the right cutting-in point. Not all parts of the map deserve equal attention, not all are equally easy to work with, and some are more pivotal than others. Which one is most important may not be obvious at first glance. The integrative thinker considers various options for the foreground focus before cutting in. The anxious, less-integrative thinker will tend to enthusiastically pursue the very first cutting-in point that strikes him or her and carry on as emergencies arise.

In the process of selecting a cutting-in point, the integrative thinker's approach closely mirrors that of the working studio artist. There are no algorithms for creating a work of art. The creator must manage a wide range of variables while moving toward a unique creative solution. Bringing small parts of the picture into the foreground at different times enables the integrative thinker to manage the complexities of the causal map without unproductively fragmenting the problem. The choice to treat elements as foreground is guided by prior choices about salience, causality, as well as the integrative thinker's immediate interactions with the situation at hand.

While one important creative skill is the ability to work with selected foreground elements while holding the whole causal picture in mind, another is the facility integrative thinkers have for using their experiences to revisit and possibly revise their earlier assessments of salience and their determinations of causality. This skill allows them to update their understanding of the problem and to reorder their choices about sequencing as things change and as they learn.

Resolution

The last but most critical integrative step is resolution. At a certain point after the salient variables are identified, the causal map is built, action is sequenced, and choices must ultimately be made. This represents a challenge because it isn't possible to do everything desired. There are always a few forks in the road.

At this point attitude is critical. The less integrative thinker will be inclined to see the challenge as a bind — *I can do x or y, but neither is satisfactory* — and will tend to focus on developing a strategy for coping with the bind. An example is a CEO who sees himself as too busy to deal with the internal pressures of managing the firm and the external pressures of managing the shareholders, capital market, etc., but who understands that the two worlds are inexorably linked. He sees this as a bind and decides to cope by splitting the job in two and handing off the external job to a chairperson. This typical non-integrative solution involves accepting the bind and separating two previously integrated activities.

A more integrative thinker would not see the challenge as an insurmountable bind, but rather as a tension to be creatively and flexibly managed. A CEO skilled at integrative thinking would not resort to disintegrating the causal map, but might recognize the need, for example, to act as the integrative link

between the internal and external worlds. He or she might seek creative ways to take on a thinner, but higher value-added slice of each job in order to maintain integration. The integrative CEO recognizes that tension will not disappear with this solution. Rather than deliberate an "either/or" choice, the integrative CEO chooses a course of continued fine-tuning, which makes the ideal resolution an ongoing process. This is not the same as not choosing — it is about ensuring that you are solving the right problem.

Integrative thinking assumes that all trade-off challenges are tensions to creatively manage, not binds to wrestle with and agonize over hopelessly. The associated skill is to learn not to be so frightened by challenges that the immediate reaction is to see a "this or that" bind in which both options feel like an unacceptable compromise. Integrative thinkers refuse to accept the bind and learn to hold tension and fear long enough to continue to search for the creative solution. This requires a high tolerance for ambiguity and uncertainty, and an attitude of openness to continuous optimization, rather than a push toward closure.

CONCLUDING THOUGHTS

Integrative thinking is an art — a heuristic process, not an algorithm. The integrative thinker develops a stance that embraces not fears the essential qualities of enigmatic choices. The integrative thinker is a relentless learner who seeks to develop the repertoire of skills that enables him or her to engage the tensions between opposites long enough to transcend duality and seek out novel solutions. Integrative thinkers understand that they are engaged in a creative process that avoids easy, pat, or formulaic answers. In short, integrative thinking is the management style we need if we are to solve the enigmatic problems that face our organizations in the new millennium.

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