

Thinking Right (and Left) About Innovation

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With all the attention being paid to innovation, why is it so difficult to design a successful, reliable innovation process? Why aren't we able to specify it with the same precision as TQM, Six Sigma, or supply chain management? One key reason is that innovation is a particular kind of problem that typical business thinking is not well-suited to solving. While many business problems call for relatively linear, data-driven, straight-forward solutions, innovation is a different kind of problem; "solving" it depends on two different modes of thinking and expression; one is the analytical, logical, language-speaking, left-brain mode that typifies most business thinking, but the other is a synthesizing, holistic, non-verbal right-brain mode. On balance, it is right-brain type thinking that mainly fuels creativity and invention, and left-brain thinking that mainly guides the process of value realization. While the two modes have to ultimately be well-integrated, each depends on a different supporting management process and enabling environment. Furthermore, the two forms of value, creative and commercial, need to be supported in a balanced way; otherwise they can potentially conflict and cancel each other out, defeating innovation.

A successful end-to-end innovation process is the product of both right-and-left-brain modes of thinking. In the early stages of innovation, with the focus on generating creative, frame-breaking ideas, we depend more on right-brain thinking. Later stages, which focus on realizing value from creative thinking, depend more on left-brain thinking. Employing each mode of thinking as needed is easier said than done. Companies are - for very good reasons - over-whelmingly left-brain oriented. They thrive on rational, sequential, analytic thinking processes. They are not naturally designed to support or encourage the more right-brained thinking which excels at things like pattern recognition, connecting disparate information into new configurations, and emotional intelligence. The normal left-brained habits-of-mind that are adaptive for most business thinking, and are the mode through which we describe management process, don't speak the same language as the right brain.

While brain function reality is more complex and integrated than a "right brain/left brain" dichotomy suggests, we can accept that "right-and-left brain thinking" is really a metaphor for different modes of problem-solving. A successful innovation process recognizes that, 1) the overall process requires both right-and-left brain thinking; 2) different parts of the process call for different proportions of right-and-left brain thinking, and 3) right-and-left brain modes of thinking each call for different management approaches and enabling environments. When we recognize that innovation calls for both sides of our brain, utilizing different modes of thinking at

different times, we can manage ourselves and our work environments to produce an overall successful innovation process.

Barriers to Whole-Brain Thinking

Our cognitive habits are shaped by our beliefs about how best to problem solve. Learning to use both sides of our brain has historical and cultural barriers to overcome. Until the 20th century, scientists believed that it was our left brain, with its language ability, that made us human rather than animals. The left brain, with its capacity for sequential logic and reason, was seen as the source of the scientific revolution that was transforming Western civilization. Our right brains were regarded as subordinate, primitive, and probably unnecessary. The modern corporation was born into that environment, with its disdain for the right-brain, and the kind of thinking it represents. Fredrick Taylor's Scientific Management with its logic of task standardization, and Henry Ford with his ideas about interchangeable parts and the assembly line, reflected the left-brain tenor of the times. From those beginnings, companies have been progressively designed to minimize variance and illogic in the service of predictable, standardized outputs. Depending on left-brain logic as the essential mode of problem solving is deeply embedded in our business culture.

The prominence of strategy as a business discipline also reinforces a linear left-brain orientation. Companies are driven by an essential business logic that - given a strategic focal point - management is responsible for aligning the factors of production to create value in a predictable, step-wise, linear fashion. Because deviance from the strategic path creates inefficiency and unpredictability, it is seen as value destroying.

There is also an essential left-brain conservatism in the human resources practices of the modern enterprise. They take the rather messy amalgam of individual perception, thinking, and behavior and standardize it to bring it into line with the defined needs of the company. The tools of modern HR practice including on-boarding, performance management, and training all tend to reduce individual difference and define the boundaries of value creating activity.

There are very good reasons for the left-brain bias of the modern company, but there is a price to pay when it comes to the diversity of thought required to spark innovation. A left-brain bias is inherently narrowing in its focus and methodologies. It tends to inhibit innovation by discouraging any inclination to wander outside the logically-and-strategically-determined lines. Left-brain works for continuity, but the essence of innovation is its discontinuity, its departure from conventional linear logic. The enterprise becomes the beneficiary, but also the hostage of its decisions and prejudices about value creation.

Taking Effective Action

If you're an executive, there are important steps you can take to support effective innovation in your organization:

I. Recognize that an effective end-to-end innovation process calls for a balanced approach that uses both right-and-left brain thinking.

Every innovation process involves essentially the same steps: idea creation, evaluation, development, and commercialization. Recognizing that each step demands a different problem-solving approach, a different proportion of right-and-left brain thinking to be successful, is itself, a valuable shift in mindset. By being more aware of the left-brain, logic-dominated cognitive standards and metrics we habitually apply in business settings, we can adjust our expectations to make room for more creative right-brain thinking. On a macro level, leaders have to manage the natural tension between right-brain “creative types” who may not worry sufficiently about commercial value and left-brain “business people” who won’t support any innovation unless they can clearly and quickly monetize it.

At the beginning of the innovation process, when creativity is most important, right-brain thinking plays a key role, operating with relatively little regard for left-brain logic, criticality, or reason. Promoting that kind of thinking means setting the right expectations, staffing with the right skill set, and creating an environment that is not prematurely judgmental, but that encourages illogic and surprise, and that has the capacity to recognize and capture it. When ideas need to be evaluated and developed in the service of commercial value, left-brain logic plays a progressively larger role. Multiple ideas produced in the creation phase need to be assessed for their strategic fit, their relationship to customer need, and their alignment with organizational capability; the stress is on comprehensive data, clear decision criteria, and sensitivity to potential decision bias. Every phase of the innovation process requires some amount of both right and left-brained thinking. What changes is the relative proportion and therefore the expectations and management process that enables the right kind of thinking to be done.

II. Design the innovation process to meet specific strategic goals

The strategic focus of the innovation process sets the stage for the kind of thinking that’s needed. For incremental innovation, the basic business value proposition isn’t being challenged and the business model remains intact. Any creative advances fit within an already, largely-known, value chain. Some right-brain creativity is needed, but largely in the context of parameters defined by existing business models, products, and services. Leaders should ensure that more effort comes from left-brain logic and analytic power to evaluate the fit between new ideas and the larger system they need to integrate with.

However, when the goal is breakthrough innovation, where there are proportionately many unknowns that no amount of analytic work will clarify, leaders depend on the right-brain capacity to range widely and creatively from the status quo to conjure up ideas that redefine core value propositions, business models, and offerings. The left brain at that moment may operate more like the governor on a high-performance motor, ensuring that it doesn’t spin totally out of control – ideally, without overly constraining the creative thinking on which innovation performance depends.

III. Create a climate that supports phase-appropriate innovation thinking

Business culture, day-to-day, normally supports left-brain thinking. Also supporting right-brain thinking takes more deliberate effort. There are a number of factors that

contribute to a productive climate including: information richness, diversity, teamwork, and fear reduction. Much innovation comes from the novel combination of ideas that haven't been linked before. Exposing people to a rich, varied information environment helps stimulate those connections. Workforce diversity contributes greatly to the collective capacity for innovative thinking by throwing a wide variety of perspectives into the mix. Lastly, and very importantly, people need to feel that they are encouraged to experiment, challenge the status quo, and bring everything they can to their work without censure. Fear can be a subtle, insidious factor in the workplace, and it's always destructive of innovation.

In Summary

The fundamental message about successful innovation processes is that they depend on applying different modes of thinking to solve different kinds of problems. Malcolm Gladwell provides a helpful illustration in a recent article (The New Yorker of January 7, 2007). Citing national security expert, Gregory Treverton, he discusses the difference between a **puzzle** and a **mystery**. Puzzles have relatively simple factual answers. Solving them depends on providing the specific missing information. For example, the size of the 2007 cell phone handset market is a puzzle. We can solve it with enough information. On the other hand, the impact of social networking on product marketing is a mystery. Mysteries aren't solved by simply and logically providing missing information. "Mysteries require judgments and the assessment of uncertainty, and the hard part is not that we have too little information, but that we have too much".

Successful innovation can be thought of similarly. In its early stages, it's a problem that is more of a mystery. It is not a problem solved by simply more information. It calls for a different mode of thinking that emphasizes creativity, broad holistic vision, and stretching the bounds of logic and the status quo. Later stages of the innovation process - when value capture depends on effectively evaluating and commercializing ideas - are more like puzzles, whose resolution depends on generating and applying relevant information. The lesson for executives working to design and implement effective innovation processes in their companies is that the right kind of thinking and logic need to be applied at the right stages. When the whole brain of the organization is brought to bear on innovation, companies are able to design processes that realize long-term success.