

## Sustaining Competitive Advantage

By Jane Gannon

In its second annual Global Innovation 1000 Study, Booz Allen Hamilton (BAH) sought to assess how the world's largest corporate R&D spenders can maximize their return on innovation investment. Like the findings of its 2005 study, the results reinforced the conclusion that there is no simple relationship between the level of R&D spending and corporate performance.

The key findings from this study are that "money simply cannot buy effective innovation; less than 10% of companies are high leverage innovators; companies are getting better at squeezing benefits from R&D spending; patents generally don't drive profits; and lastly, masters of the innovation value chain have an edge."

So what do these findings mean and how do they affect those of us working in the trenches of innovation of corporate America? The authors of this study, which was published in November 2006, sought to determine which companies are getting R&D spending right and then identify their common attributes.

What they found is high-leverage innovators distinguish themselves not by the money they spend, but by the capabilities they demonstrate in ideation, project selection, development and commercialization. **"If these high achievers have one thing in common, it seems to be a focus on building multi-functional, company-wide capabilities that can provide them with sustainable competitive advantage. They design their innovation investment for the long run, and create superior growth and profitability over time."**

The results of BAH study reflect and amplify the findings of both the 2006 IBM Global CEO Study and the AMA's Quest for Innovation survey, where leaders said developing an organizational strategy

*Continued on the next page*

## Increasing Signal, Decreasing Noise

By Lanny Vincent

Signal-to-noise ratio is the electrical engineering concept that describes the strength and clarity of a signal as a function of the signal's power level divided by the strength of the noise. Noise, or static, can be so great as to mask or corrupt the signal. Measuring the signal-to-noise ratio requires the selection of a representative or reference signal. With these reference signals, average signal-to-noise ratios are measured and normalized with the goal typically being to achieve a cleaner signal by filtering out the noise and thus allowing the signal to stand out better (Wikipedia).

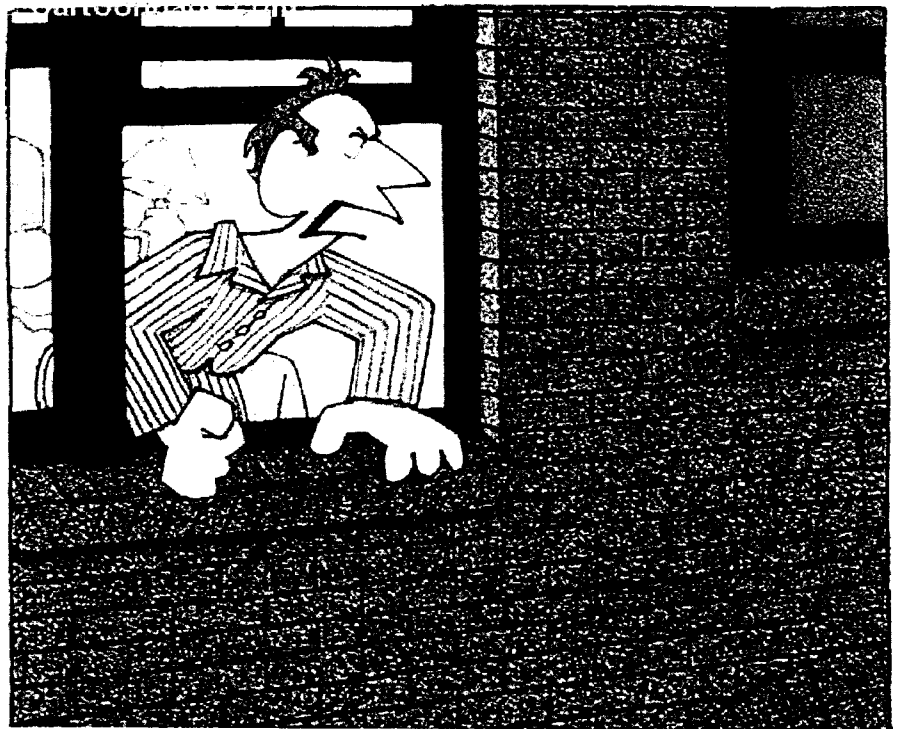
Signal-to-noise ratio is an apt metaphor for what we are trying to do in an innovation project, both early and late in the process. When an innovator is in the early exploratory challenge, the goal is to detect the presence or potential of a new signal where before most found only noise. In the invention challenge, the goal

is to clarify just what the reference "signal" (the new value proposition) is, and get it to stand out. In the reduce-to-practice challenge the goal is to consistently produce signal-to-noise ratio profitably enough to attract investors to take the next steps. And in the introduction and integration challenges the innovator must find the right channels to attract customers to the signal without frightening them.

Each innovation likely has its own native and optimal reference signal. Like a sculptor chisels out the shape he/she envisions in a hunk of marble, so the innovator carves out from the noise of surrounding context a signal that, if successful, resonates greater value and meaning with the end-user than what the user had before.

This is true for all innovators, whether entrepreneur or intrapreneur, although

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*"Hey! Turn down your damn white-noise machine."*

## Competitive Advantage

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for innovation is the single most important action they can take, and many are working to change their corporate cultures to make innovation everyone's job. Success therefore requires a cross-functional strategic approach to innovation: building a value chain that integrates R&D more effectively with marketing, sales, operations and cost management.

Vincent & Associates, Ltd.'s own reader survey in 2005 on Innovation Management Challenges revealed that cultivating the climate, people and targets for innovation and developing and managing the portfolio of innovations more effectively were the two issues ranked the "most important" issues by 80% of the respondents, again reflecting the increasing proclivity for creating a culture of innovation at all levels of the corporation.

The BAH study found that while there was no single formula for success among the high-leverage innovators, there were some commonalities among their strategies; for example, building strong capabilities in all four links of the value chain (ideation, project selection, product development and commercialization), seamlessly integrating them to provide a high level of performance over time.

Other similarities in companies like Apple, Toyota and Caterpillar, which are sited as high-leverage innovators, are they have systematic ideation processes including the involvement of senior management in the conception and definition of new ideas. "High leverage innovators generally favor flatter and nimbler management structures that make the innovation process more transparent to the executive team."

The study concludes that companies that methodically build capabilities along the innovation value chain can generate significant improvements in return on R&D spending. For a copy of the BAH survey results, go to [http://www.boozallen.com/media/file/Global\\_Innovation\\_1000\\_2006.pdf](http://www.boozallen.com/media/file/Global_Innovation_1000_2006.pdf).

## Increasing Signal, Decreasing Noise

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intrapreneurs arguably have another layer of noise to deal with—the prevailing business models and organizational culture of the host organization.

An innovation can establish a whole new set of signals in forging new connections and communications between the innovating company and end-user. Innovations not only create new value. They become new signals themselves. In fact, one of the more gratifying experiences of an inventor and/or innovator is to have their innovation accepted and "at home." When it happens it means that the innovator heard, felt or saw something (directly from the user, indirectly from the context or a combination of both) that others may have missed. Understood this way, the process of innovation—at least in the early stages—is all about increasing the signal-to-noise ratio.

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Finding the right new signals often starts out awkwardly. How often we use the phrase "working title" or make up elaborate project names, partly because we don't quite know what to call the invention at first—a symptom that the innovation is anything but at home yet.

We see examples of this all the time in invention workshops. When inventors get very intrigued with a line of thinking and/or a particular embodiment, a struggle can instantly arise. Part of the struggle is a search for the right words to describe what inventors can see in their mind's eye but lack words to describe.

This is why diagramming what is in the mind is so important and useful; particularly at times when collaborators become,

as our associate John Philipp calls it, "inventors-in-heat," and even whole new words get invented. This is one of the characteristics of novelty that makes the process of innovation so challenging. We not only have to invent the thing itself, but often the new words or phrases to describe it.

When popular culture puts an "ing" on the end of brand name we know the innovation has found a permanent home in society. "Podcasting" is a recent example (it's startling how this one happened so quickly). "Horseless carriage" was the phrase we first used in reference to what we now call the automobile.

When viewed in hindsight, the words all seem to make sense and fall into place. When we are in the midst of the process of innovation, however, it is a little different. In fact, the process of innovation can be viewed as a sense-making process, requiring innovators to discover and isolate a new signal from what others may have considered merely background noise. Metaphorically speaking, innovation is about creating new signals in the process of creating new value.

As innovators, our never ending task is to increase the strength of the new signal and decrease the noise and interference around it. □

### **R. S. V. P.**

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### **Vincent & Associates, Ltd.**

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