Learning to Accelerate Innovation Efforts

By Lanny Vincent

Speed, cost, and quality are often thought to be unavoidable trade-offs when innovating. While conventional wisdom says innovators can achieve only two of these three goals at a time, research suggests otherwise. A study by Eric Kessler and Paul Bierly* cites that more than any other factor innovation speed drives project success, is associated with superior performance, and does not necessarily lead to higher project costs.

So much for conventional wisdom.

If speed is the critical factor, what can be done to accelerate innovating efforts? The ability to go faster turns out to be partly a result of its opposite: having a good set of brakes. Productive "brakes" in the action enable innovators to ask and answer "what's the next right thing to do and why"? A confident collective answer accelerates progress.

Speed is a function of time and distance. In the context of development, speed has to do with how quickly and how well collaborators learn together. The rate at which collaborators complete each cycle of the learning loop and the "distance" they achieve in the move from one iteration of the loop to the next depends upon how efficiently they can synthesize their collective perspectives.

The bringing together of different perspectives within and between learning loops is key to controlling speed, whether the innovation is motivated by invention or differentiation, and whether the innovation is in early or late stages of development.

Dr. Allen Ward, an expert on Toyota's Product Development System, summarized the innovating process as "learning applied to creating value." The learning loop of searching, expressing, modeling and empathizing is accelerated when all the contributors are fully and freely engaged. A facilitator experienced in the innovating process can ensure full and free engagement of participants. The feedback and the "feed forward" are more closely coupled when a team has facilitation assistance, and so the rate of progress can be accelerated both within and between iterations of the learning loop. Innovating teams stay agile yet grounded in the knowledge-creation necessary for successful, substantive innovation depending upon the rate and quality of these loops.

The rate and quality of learning that occurs within and between learning loops often encounter "bottlenecks," for example:

1. The creation/invention required for

Maverick Roundtable Meets in Silicon Valley

By Jane Gannon

Presenting their best current thinking on the *Benefits of Taking a Systems Perspective on a Company's Innovating Efforts,* Bruce Beihoff of Whirlpool Corporation, Scott Smyers of Sunrise Digital Strategies, and Lanny Vincent of Vincent & Associates, Ltd. hosted a lunch and discussion on Friday, April 29 in Santa Clara, California.

The participants included more than 20 executives who are located in the Silicon Valley from companies like Logitech, Snap-on Diagnostics, Plastic Logic, Align Technology, Sony Electronics, as well as the principals from some IP law and consulting firms.
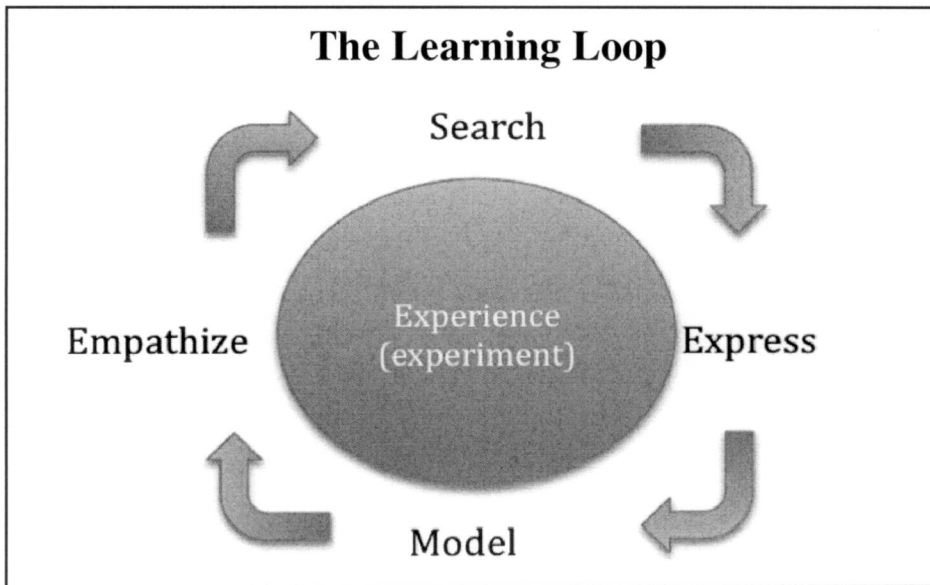
"The discussion confirmed our belief that using concepts and knowledge from the field of systems theory and science

"This is where things started getting really weird."

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Learning to Accelerate Innovation Efforts

The Learning Loop

Search

Express

Experience (experiment)

Model

Empathize

innovating can lead to **communication challenges.** The chance for misunderstanding is perhaps higher than it already is in normal dialogue because when the new is expressed for the first time, it often doesn't come out crisply or clearly.

2. The collaboration required for innovating can lead to **"group think,"** the frequent social norm that can influence a team's desire to avoid conflict and maintain group cohesion, often at the expense of productive dissent. Group think may be good for consensus, but it is not necessarily good for innovation. In effect, it is a subtle form of unconscious voting.

3. The diversity (of expertise and perspective) required for innovating can lead to **dissent.** Dissent can be either positive or negative for innovating efforts. When dissenting opinions are encouraged early on, development cycles are stronger, enabling greater advances from one iteration of the learning loop to the next. When dissent is left unexpressed, it can cripple the effort and waste more resources than time alone. However, at a certain point, convergent thinking must resolve into concerted action if progress is to be made.

4. The knowledge-creation required for innovating can erode the project's **focus.** There is always more to learn and uncertainty always lingers, especially when innovating. Sometimes it requires raising the question whether the focus, scope or direction may need rethinking.

5. Concentrated and **uninterrupted periods** of time are necessary for innovating. Time and space for experimentation, observation, and reflection are difficult for project teams and leaders to carve out. Normally project team members are engaged in other responsibilities, frequently unrelated to the project's progress.

Objective, experienced facilitation and guidance can reduce these "bottlenecks." With a facilitator, knowledge among team members is disseminated better and faster; know-how is captured and made explicit; mental and physical models are shared more thoroughly; divergent thinking is sequenced with convergent thinking; and technical competence can remain more influential than procedure compliance. Even the number and degree of uncertainties can be reduced more effectively. ❏

The research study "Is Faster Really Better? An Empirical Test of the Implications of Innovation Speed" was conducted by Eric H. Kessler and Paul E. Bierly and published in IEEE Transactions on Engineering Management in February 2002.

Maverick Roundtable

offers immediate practical insights when diagnosing issues of under-performing innovation programs" said Vincent.

While systems theory has been successfully developed and applied in a variety of contexts, our initial review of the literature reveals little if any application of systems theory to the context and subject of a company's own innovating efforts. Taking a systems perspective offers a more holistic and robust view compared to the other perspectives, while simultaneously offering diagnostic methods leaders can use to understand and uncover improvement strategies. In short, a systems perspective on a company's innovating efforts is uniquely able to accommodate significant and material differences from company to company, without prescribing formulaic solutions that may work for one company in one situation but prove ill advised for another company in another set of circumstances.

A systems perspective offers some immediate and obvious advantages. One is that such a perspective requires both an inventory of the elements that the system contains and a characterization of the surrounding environment in which the system exists. An inventory can quickly reveal whether all the elements are there. A characterization of the external ecology can reveal whether conditions for innovating are favorable or not. Perhaps the most obvious benefit comes from what it reveals to leaders—places where modest improvement efforts can have disproportionately large gains. Leverage points. A systems perspective also reminds us of the potential of unintended consequences, so the first use of a systems perspective should always be for understanding, prior to intervention.

The late Russell Ackoff, a pioneer of systems thinking, defines a system simply as "a whole that cannot be divided into independent parts without loss of its essential properties or functions." A systems perspective is to look at the whole and focus on the inter-relationships and interactivity of the parts, under the assumption that if you understand the interactions you will understand the whole. ❏