

ISBM Nuggets: New Product Development Consortium

**The Discovery Phase of Your New Product Process:
Managing the Fuzzy Front End and Getting Game-Changing
Ideas & Opportunities into the Process**

July 19, 2002
Philadelphia, PA

Supplemental Notes and Ideas

Featured Research Speaker: Dr. Bob Cooper, McMaster University.

Bob's slides can be located here:

<http://www.smeal.psu.edu/isbm/npc/npccoop.pdf>

Additional thoughts...

Bob suggests that firms prepare an analysis of what percentage of their winning ideas come from which sources—current practice; and cast forward on “where should winning ideas come from”. Analyze the difference. What's happening? Where and why are systems less than optimal?

It's very key to have a “focal collecting mechanism” for gathering new ideas. (See chart 7) This has been the critical element for many firms who have improved new product development success. Sometimes this is an individual; sometimes it's a team.

Additional thoughts on “focus groups”—see chart 9.

The “John Deere story” is a very rich one. Customers are gathered in informal groups, with competitive product, as well as the John Deere product present. John Deere employees listen to customers in and out of context and prompt them to provide information with questions like “What happened the last time you used this tractor?,” etc. John Deere engineers are there along with another important ingredient:

- Concept artists—designers with hand skills who can do quick sketches and help brainstorm solutions visually. This has been a recurrent theme in many of Bob's discussions—a sketch artist who can help conceptualize visually can have an important impact on the process.
- Another key in the “John Deere story”—the focus groups were linked to brainstorming groups, the two working together produced significant new product ideas, which lead to the “zero turning radius” tractor.

Interaction groups—see slide 10—such as are done in Kodak’s practice are interesting, because they take the linear sort of communication pathway (customer—salesperson—sales manager—R and D manager—engineering manager) and moves it to more of a circular and random process, where everyone in the chain is talking simultaneously to one another. This avoids the “telephone” problem.

The total involvement approach—see slide 11—such as carried out by Fluke Electronics, involves total immersion—24 hours a day—for perhaps several months at a time.

Bob points out that what’s often involved in these sorts of situations is just pure anthropology, ethnographic research, cultural studies—to really get inside the minds of your customers to understand their subconscious needs and wants.

A tip on in depth interviews: You need 2 or 3 people listening -- at minimum—from both the marketing side of the street, and the technical side of the street. (Different sides of the brain need to be listening.)

Also, these in depth interviews can be very tiring—and it’s a good idea to shift the burden of responsibility, to be sure that “burn out” doesn’t occur before you’ve gathered the information you need.

Another key: Immediately after the interview transcribe your results and thoughts—before you forget. A lot of the more subtle and human insights gained in an interview can be lost after a little time.

Another key: Innovative and creative customers help you push the envelope.

In the anecdote he told about Hilti Systems, construction workers were polled by phone with the key question: “Have you ever modified a pipe hanger”? 95% of them said no, 5% said yes, “I’ve got this little trick”—those are the ones selected to participate in a new product brainstorming process.

Another tip: Keep the level of management support for gate 1 at a relatively low to mid management level—unless the project is a genuinely strategic initiative requiring major funding, or has been initiated by top management.

It’s better while the ideas are young to keep things at a lower level, and turn up the volume as the idea matures.

**Featured Case History: “The NCD Model takes the “fuzzy” out of the fuzzy front end.”
Alex Slavejkov, Air Products and Chemicals.**

Alex’s slides can be found here:

<http://www.smeal.psu.edu/isbm/npc/npcslav.pdf>

Additional notes and insights:

- The term “fuzzy” is dangerous—it implies processes—especially inside engineering/manufacturing oriented firms, which are essentially out of control and can’t be tuned.

Alex has coined the “FEI” term—an acronym for “Front End of Innovation.”

The approach he outlines does admit of a wide variety of variabilities in how ideas come to fruition, but begins taking the “fuzzy” out of the process by analyzing systemically different pathways for ideas to be created, grow, and be input to this stage gate process.

A general trend seems to be that as the NPD process inside a firm gets more effective, and kill ideas more quickly, the need for more fresh and important new idea input begins surfacing loud and clear.

Identifying the weakest link in the chain is a key process—and the weakest link will be different for each idea. Each idea going through this process will have unique facets to it.

Round Table Discussion—Open mic comments from NPD Consortium participants:

- Key thought—delivered by many of the member firms—the real problem is getting “out of the box”. A firm can generate a bunch of ideas on how to take their product—as it exists now—into a family of similar applications. Looking for fundamentally different applications is the key.
 - We heard this from DuPont’s Tyvek
 - As well as Foamex
- Another key issue facing our firms is new ideas can be generated, but can they be tied to rapidly growing markets big enough to make a difference.
- Another key issue: Most of our firms generate value way up stream in a products life cycle. The real break through of product opportunities are often countered by applications that may be two or three steps away from our member firms in the value stream. Key for generating significant, winning, new products will need to involve our firms getting connected way down stream—perhaps all the way to the end user, and participating collaboratively in the creation of fundamental new ideas, which they can then take upstream into their technologies.
- Another key issue: From Timken—as firms up the value chain innovate, and create fundamentally new solutions, they often find themselves in the position of competing with their customers. This needs to be thought through in advance, and with strategic implications understood.
- Another key issue: Sales people—at least on the surface—offer a significant opportunity for customer connectivity, which could lead to break through new product development ideas.

However the general consensus in the room was this isn’t happening. Sales people aren’t trained in how to do this, not motivated to do it, not compensated when they do it, so generally no one has the expectation that they will be able to do it.

An interesting idea to explore would be experiments in how to enable and energize the sales force to be a more effective conduit of information leading to significant, winning, new products.

(A warning from Alex: Doing this might lead more to line extensions than significant new products. Be careful.)

- Another key problem at this time—the next new significant technology project may be identified, but it's very difficult to get the capital to fully develop it.

Discussion point from John Bard at Hercules:

A generation of products had been developed which largely rely on “technology push” to go to market. Also, another series of products developed on the other side of the street involve market pull. These are fairly linear extensions—no great shakes.

The real trick: To get into the middle. A more balanced approach.

Additional Insights from Bob Cooper:

Hallmark Cards does what they call “Plussing Up”.

At gate 2 of their new product development process, they invite all of their other divisions in—following a pattern set by Disney Corporation—to see—following a concept—what other product ideas could spin off from this concept—especially if there was significant management support, and if other divisions of Hallmark were involved.

Disney uses this extensively, to capitalize and fully exploit their movie properties. Hallmark is doing this now in a similar fashion.

The real trick: How do we extend this to b-to-b applications?

At Hallmark they then present two ideas around the product:

- The linear extension of the product itself, and the “plussed up” version—with extensions dependent on greater synergy across their various business units—an interesting idea for us to explore.