Mobilizing an innovation network from concept to commercialization

by **Mark A Hart**

How will you progress from a new product concept to commercialization? How will you innovate throughout development? How will you improve your ability to accelerate time-to-value?

Concept: *A clearly written and possibly visual description of the new product idea that includes its primary features and consumer benefits, combined with a broad understanding of the technology needed.*

Commercialization: *The process of taking a new product from development to market. It generally includes production launch and ramp-up, marketing materials and program development, supply chain development, sales channel development, training development, training, and service and support development.*

(Definitions from the NPD Glossary at www.pdma.org)

Typically, new product innovations are motivated by perceptions that current products are not sufficient or that they will be unacceptable soon. When the status quo is no longer sufficient, an alternative strategy is aggradation. Items are appended to current strategies. Typical approaches include:

• Incorporate popular attributes into the brand image. For example, environmentally friendly ingredients.

• Encourage communities. For example, create new Twitter accounts and develop advanced listing methods. Incorporate customer generated content (such as reviews and rating) into the product pages on your web site.

• Add perspectives from other disciplines to the development effort. For example, hire an anthropologist or a branding specialist.

• Purchase more tools. For example, incorporate idea and innovation management systems.

Unfortunately, most of your competitors are considering these approaches. Parity with functional benchmarks is not innovation.

To help you develop an innovation and launch strategy, consider the following questions:

How will you determine what customers will buy and recommend in the future? How will you craft an informed, integrated, and adaptable new product vision that will be perceived as desirable? Which product functions will be critical? When should Version 1 be available? Version 2?

What framework will guide your development efforts?

What resources will be needed? How will the appropriate talent be recruited?

How will you mobilize your development resources to achieve launch success within the project constraints?

Designing for user experience

User experience encompasses events from the buyer's first impression of your product to when it is recycled. The interactions of product attributes influence the overall experience. User experience is impacted by all the design choices including the product packaging, ease of setup, and satisfaction during use.

Creating the conditions for a favorable user experience is important because the aggregation of comments from users can have a greater impact than all of your advertising and promotion efforts.

Who should be on the team? When?

Should a user experience (UX) designer be a contributor to the development effort? When should their involvement begin and end? In some development environments, a procedure or process defines team composition during each phase of development. Additional guidance may be obtained from industry reports or case studies.

The broader questions are 'Who should be a contributor?' and 'When should they immersed in the project?' and 'Should they be assigned to the project or function as an advisor?' Some may believe that adding another expert to the team is always

prudent. Others may fear that if the team is too large, too much time will be devoted to administrative activities such as moderating disputes and developing compromises.

Teams performance and neural network models

During new product development and launch, the composition and size of the team changes as the focus progresses from evolving the product concept to commercializing the solution. As you evaluate factors that may impact team performance, re-evaluate your strategies for selecting and recruiting development resources.

Be cautious using the company organization chart as a guide to assign resources. This may constrain innovation because shortcoming in cross-functional communication within your organization may manifest itself in your product (Conway's Law).

Instead of a hierarchical team structure, consider the implications of a neural network model. In a neural network model, an individual can have from one to many connections with other resources. The connections are made and broken dynamically. The bandwidth of the connections between individuals can grow or shrink depending on the qualities of the tasks.

Coordinating development resources

Development resources can be managed by explicit coordination through planning and communication. Some organizations try to improve team performance by investing in documentation and productivity tools. For higher performance, teams seek ways to improve implicit coordination.

Implicit coordination is a process that takes place when "team members anticipate the actions and needs of their colleagues and task demands and dynamically adjust their own behavior accordingly, without having to communicate directly with each other or plan the activity" (1)

There is a reciprocal relationship between implicit coordination team situation models (TSMs).

Team Situation Models are dynamic, context-driven mental models concerning key areas of the team's work, such s the objectives or roles of colleagues. A TSM is an emergent group property characterizing a team as a whole. Sharedness and accuracy of TSMs jointly facilitate implicit coordination behaviors.

Sharedness of a TSM is the degree to which team members' situation models are consistent with one another.

Accuracy of a TSM is the similarity between the team's TSM and the product vision.

The role of launch architect

As a product concept begins to evolve with input from subject matter experts and lead users, the business case is refined and estimates are made regarding the size of the development task. As more decisions are made, subtle problems may begin to emerge.

Premature convergence: settling on the first solution instead of the best solution

Reductionism: settling on a sub-optimal solution instead of one that improves the coherence of all the development efforts to provide a favorable user experience. Reductionism can occur when representatives from one functional group assert that their needs are more important than the other functional groups.

To minimize these problems, enlist someone who has developed a capacity to evaluate the viewpoints of multiple stakeholders and to function from a systemic point of view. Identify a knowledge worker that is able to consider multidirectional and nonlinear causal relationships. Recruit someone that can analyze complex situations and synthesize creative solutions. Find an individual that prefers to design an elegant solution rather than to accept a tradeoff. This type of individual may be characterized as an integrative thinker. They may be associated with groups that promote Ambidextrous Thinking or Design Thinking. This type of person can assume the role of a launch architect. (2)

A launch architect provides coherence for the millions of ideas that contribute to successful commercialization. A launch architect specifies
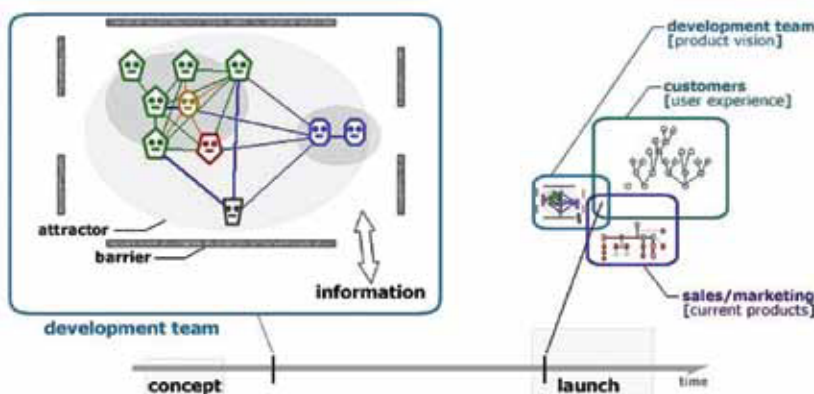
the high-level view of the:

- Composition of the innovation team
- Coordination of the team's efforts from product concept to commercialization
- Product vision
- Desired user experience that results from buying and using the product

A launch architect does not create a complete product vision or solution in one step. The process requires inputs from all the constituents. It is an iterative process that relies on prototyping and learning. The solution evolves as people interact with your prototypes and eventually your new product.

Selecting team members

There is a growing trend in new product development for an increased reliance on multi-disciplinary, geographically dispersed teams. Because of this, preferred characteristics team members include:

- Deep knowledge in their specialty and tangential skills in other areas of new product development
- Propensity to thrive in an open innovation environment that requires asynchronous coordination
- Willing to collaborate with individuals from diverse disciplines

Mobilizing an innovation network

Innovation requires more than asking team members to complete assignments. Maximizing the potential for innovation requires more than achieving superior team performance metrics.

To manage activities in an environment that requires cross-disciplinary cooperation and collaboration, it may be helpful to use the concepts of attractors and barriers. These

concepts, from the theory of complex adaptive systems, can be used to shape day-to-day activities.

Barriers set limit or boundaries. The project constraints specify many of the boundaries. Properly implemented, barriers enable the development team to self-regulate.

Attractors are the phenomena that resonate within the development team. Attractors that contribute to value should be amplified. Attractors that promote waste or delays should be dampened.

Examples of beneficial attractors that can mobilize the network may include:

- Anything that minimizes re-work. For example, if a new tool is found to be useful for capturing and sharing customer stories, it should be shared across the team.
- Anything the disintermediates the layers between data and decisions.
- Anything that clarifies how activities today will impact user experience
- Anything that accelerates team learning that results from designing, prototyping, and testing

Determining your new product innovations and launch strategies

Before launch, a dynamic team iterates to design and to implement a shared product vision. The illustration depicts a moment during product launch as the intersection of the efforts of the development team, the overall experience users have when interacting with the product, and activities of the sales/marketing organization for current products. After launch, development team members are released to begin work on new projects.

During launch, the actions of individual customers generate an

information cascade. The data **derived** from the actions of customers confirm the **stated/implied** importance of recommendations based on estimates or assumptions earlier in development.

Anticipating launch shapes our strategies and guides decisions of 'What to offer?' and 'Who is needed to develop it?' and 'How to align efforts to meet business objectives?' ∎

1. Ramon Rico, Miriam Sanchez-Manzanares, Francisco Gil, and Cristina Gibson. "Team implicit coordination processes: A team knowledge-based approach." Academy of Management Review, Vol. 33, No. 1, pp. 163-184, 2008.

2. Mark A Hart, "Who will you designate as Launch Architect." PDMA Visions, Vol. XXXI, No. 2, pp 6-7, 2007.

ABOUT THE AUTHOR

Mark A Hart is a certified New Product Development Professional (NPDP by the Product Development and Management Association). He has contributed to the development of technology products (such as measurement systems for scientists and engineers, software, computers, and training applications) that have become global leaders in their categories. He is the founder of OpLaunch, www.oplaunch.com. Twitter @oplaunch.