Leveraging the Fuzzy Front End of Projects

Brigette Brooks, director of operations at custom drug development company BioGenesis, has a new headache. Her team just finished a project that was supposed to fix expensive inventory management problems – and the results are dismal. Brigette now sees that things started to go wrong at the very beginning of the project when the team jumped quickly to solution space, rushing right past the "why" questions.

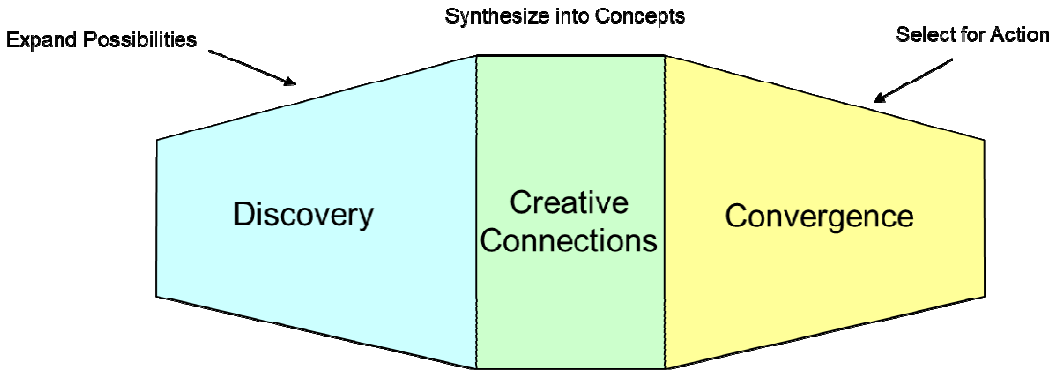
Both Serendipity and Discipline

Seeds of failure often are sown at the start of a project, during its "fuzzy front end." This time can be a swamp of inertia and confusion, or full of innovation and creativity. Innovation, instead of the swamp, doesn't happen by accident. It is a balance between welcoming serendipity and providing a disciplined framework that guides innovation activities.

Alan Gregerman emphasizes the serendipitous side in the quote nearby. He says that for innovation to happen, we must be willing to be curious, observant, and fully engaged with customers. In contrast, the diagram below emphasizes the structured side of innovation. It shows the Discovery-Convergence framework, an innovation structure that guides a team through three phases.

1. Research and creativity (discovery)
2. Synthesis and innovation (creative connections)
3. Scoping and decision making (convergence)

> *It's hard to be brilliant sitting on our butts … Breakthroughs occur when we engage the world with our senses turned on full blast and with a readiness to notice and question everything … The only skills you will need are an understanding of what is important to your customers, and open mind, and a sense of curiosity."*
>
> Alan Gregerman
> Surrounded by Geniuses, ch. 3



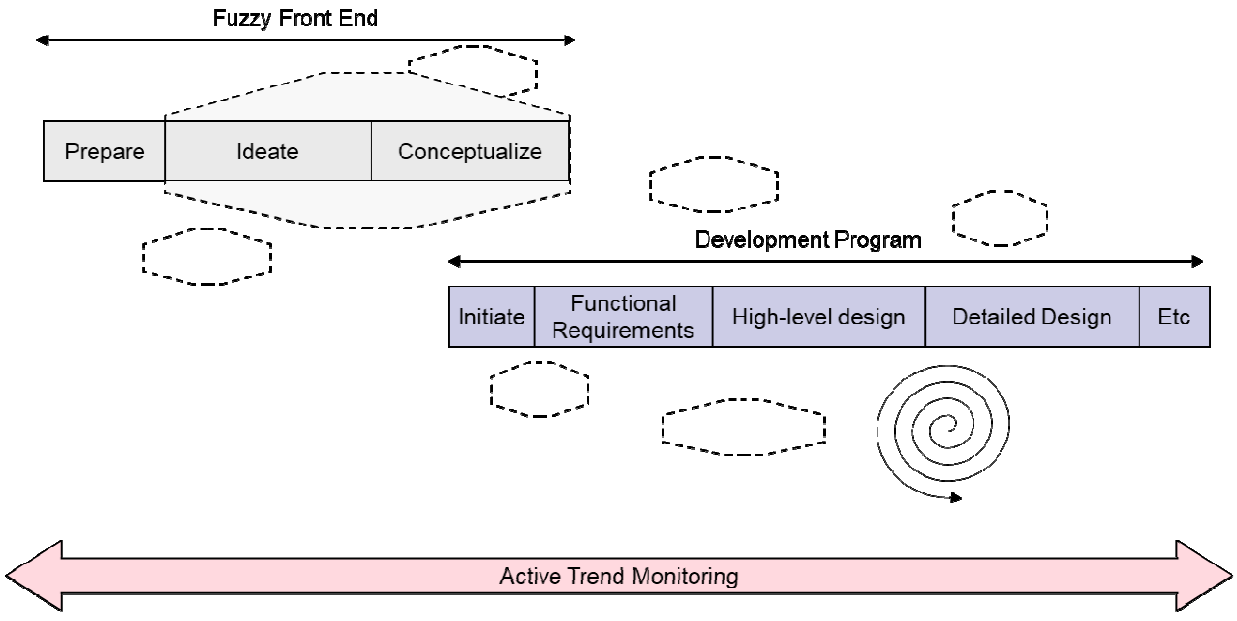
Innovation expert Jon Marshall says, "The discovery-convergence (DC) process coalesces the many considerations, facts, and goals into a well-structured and positively directed program of action." [Marshall, 2]

In particular, the discovery phase is essential because it generates breakthrough ideas that become the foundation for innovative new solutions. Without it, innovators are working from the same tired old ideas that have been recirculating, possibly for years. Gregerman says, "But beyond the retreaded concepts and modest enhancements to existing efforts, magic rarely ever springs forth …" [Gregerman, 34]. Many program and project managers find the discovery phase challenging. By personality or training they are most comfortable with convergence – making decisions and getting things done. They may view discovery as a waste of time and therefore inadvertently kill the seeds of innovation.

To foster innovation, encourage both curiosity and an appropriate framework for the fuzzy front end. This protects time for innovation and discovery but also keeps it disciplined so they don't wander aimlessly and indefinitely.

Three Step Framework

The American Productivity & Quality Center (APQC) has benchmarked some of the most innovative companies in the world, including 3M, Sony, Hoechst Celanese, and Black and Decker. Their report says, "A major challenge facing firms who seek to innovate is implementing an effective, repeatable process for the fuzzy front end of new product development." [Gelb, 6] Author Loren Gary adds, "Studies of exceptional project managers in fast time-to-market industries show that the initial phase of a complex project, often referred to as the fuzzy front end, has a disproportionately large impact on the end results." [Gary, 3]



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APQC categorizes fuzzy front end activities into three steps: Preparation or organization (chartering and team formation), ideation (selecting domain of opportunity, analyzing problems, creating insights, and generating seed ideas), and conceptualization (screening, concept development, and business case).

Note that APQC's fuzzy front end steps are a discovery – convergence framework. Multiple DC cycles – both short and long – may happen many times during a project or program.

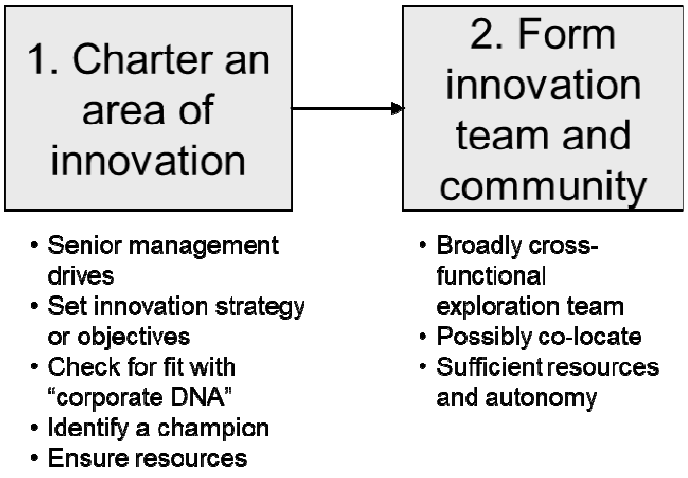
Once solid concepts emerge from the fuzzy front end, a program can be initiated to implement them. Throughout the program, other innovations will happen, often following the framework of the DC cycle. Innovative programs often use a spiral or iterative development methodology, as shown in the graphic above.

Innovative companies also supplement their fuzzy front end and program work with active trend monitoring of customer practices, technology, regulatory and legal landscapes.

Prepare

Let's look at each of APQC's three fuzzy front end steps (Prepare, Ideate, and Conceptualize). The first step is Prepare. Two major types of activities happen during this step.

1. **Charter an area of innovation:** Senior management sets the overall bounding box for the direction of innovation, setting a strategy that fits with the company's mission and culture, and ensuring that innovation activities have suitable champions and enough resources. This bounding box can be quite large. For example, 3M's innovation strategy expects every business unit to create a new product "that changes the basis of competition." [Gelb, 44] A best practice is to think outside standard categories.



   Here's an example. A company that builds flight simulators for military aircraft "could view their function as providing flight simulators to military customers. But their customers do not have a need for flight simulators. Instead, they have a need to produce trained pilots who possess the skills required to fly sophisticated military aircraft safely and effectively." (Osborne,

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54) This subtle shift in perspective allows your company to consider different solutions, better meet customer needs, and thus acquire better business.

2. **Form an innovation team and community:** Innovation is more likely to happen if the "the perspectives of the different stakeholders converge into a collectively meaningful understanding of the problem." Thus, forming an innovative team or community is important preparation for the fuzzy front end. These are the people who care most about the new project and what it will create. Early in the project, the project's community is probably more fragmented and larger than you imagine. Gather them and make them an active part of defining the project. Weave their diverse perspectives into a strong shared understanding of the specific outcomes the project should produce.

   In "Dealing with a Project's *Fuzzy Front End*", author Loren Gary quotes Bob Gill, president of the Product Development and Management Association. "Many organizations develop the plan to do the project and hope to build the community around it," Gill says. But complex projects often require input from key stakeholders before you can reach a robust understanding of the nature and scope of what needs to be done. "That's why you first want to build the community to develop the plan before you can do the project." [Gary, 3]

   The APQC benchmarking report continues, "Dedicated cross-functional teams are the most common shared practices among the participating companies. Critical to the success of all such teams are authority and autonomy with sufficient resources to produce well-researched, justifiable product proposals." [Gelb, 46]

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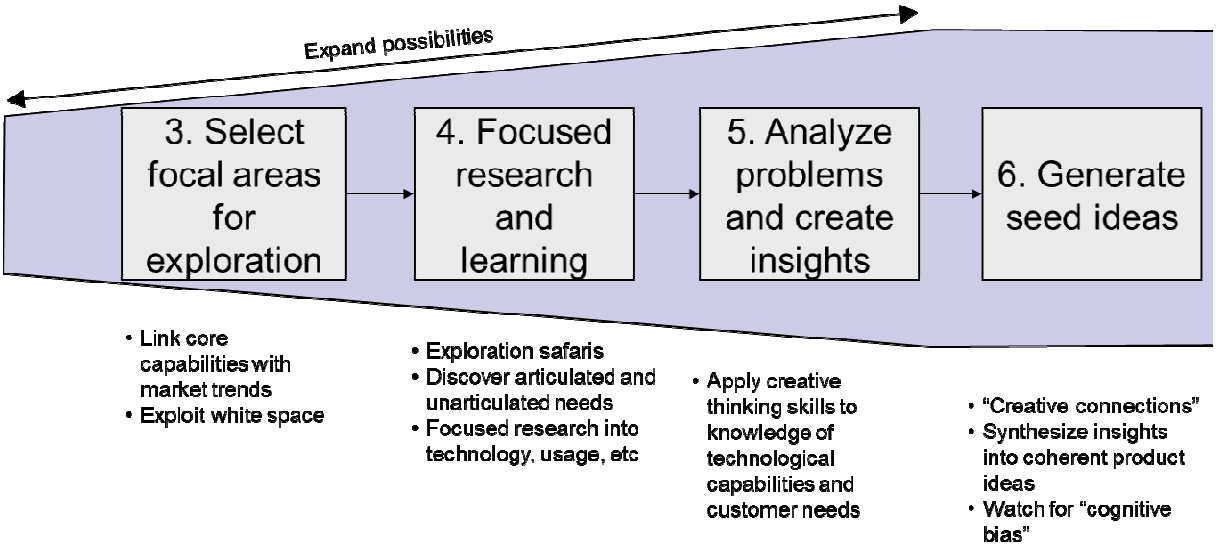
Discovery

The next fuzzy front end steps emphasize discovery – expansion of possibilities and ideas.



3. **Select focal areas for exploration:** Your team doesn't have enough time to investigate every potential avenue of innovation, so this step focuses its research and discovery energy. One great way to do this is to look at what your company is good at, and then match that with the needs of your actual or potential customers. For example, 3M exploits "white space" in their product line by using highly cross-functional innovation teams to find "undeveloped products, services, or solutions that will amaze customers and change basis of competition" or "carve out a new domain." [Gelb, 49]

4. **Focused research and learning:** Step 4 is focused research into the selected areas. This supplements the broadly targeted active trend monitoring that happens constantly in innovative companies.

   A big part of focused research is learning about the customer's articulated and unarticulated needs in the selected areas. Articulated needs are the ones that the customer tells you about, and are often found using traditional market research tools, such as surveys, focus panels, and customer site meetings. [Gelb, 49] The customer doesn't tell you about his unarticulated needs, so you usually find them by observing the customer do their work. APBQ says, "A key to the success of this process is that technological specialists must take part in the customer visits." [Gelb, 49] Listening is key.

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Uncertainty is a normal part of learning. Embrace it. Pushing to get to certainty too quickly encourages the same old ways of thinking. Instead, ask many open-ended questions to encourage new ways of looking at the problem you want to solve. Focus on stating the problem clearly and broadly. Avoid premature emphasis on "how to." That can come later, after the problem statement is well-formed.

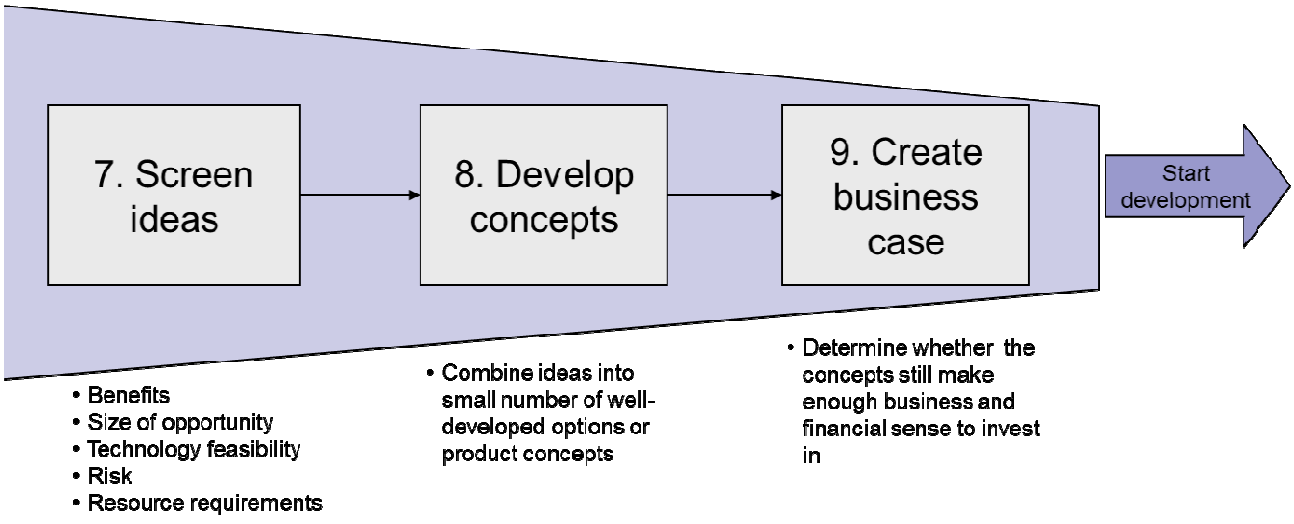
5. **Analyze problems and create insights:** This step begins the "creative connections" segment of the D-C cycle. Some organizations emphasize "constructive argument" to encourage this step.

6. **Generate seed ideas:** This is where you begin to synthesize all the disparate information you've discovered into possible solutions or trial balloons. Loren Gary warns about cognitive bias – letting initial framing assumptions focus on how to get the work done rather than on what the ideal end state should look like, thus cutting off innovation approaches. [Gary, 4] Instead encourage fresh thinking by asking what the future should look like, then work backwards.

   Many project managers recommend focusing at this early stage on *why* and *what*, rather than *how*. This helps to avoid the natural tendency to jump too quickly to solution space.

Conceptualization

The last phase of the fuzzy front end is *conceptualization*. It has three steps. All three steps narrow the possibilities from discovery into a short list of innovative concepts that will be implemented.



> "You can't just ask customers what they want and then try to give that to them. By the time you get it built, they'll want something new."
> Steve Jobs, Apple Computer

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7. **Screen ideas:** This step selects the best seed ideas from ideation. The challenge is defining the criteria for "best." Typically, the criteria include amount of potential benefit, cost, and feasibility. Ideally, ideas that pass this screen will generate a lot of value for the customer, not cost the company much, be a good match for the company's capabilities, and not be unreasonably risky.

8. **Develop concepts:** Flesh out the surviving ideas into product concepts that are more complete. Start to shift to the "how-to" questions – more detail on how the concept will be implemented. Thoughtfully shape expectations, especially of those who are most powerful, so that they stay feasible. David Schmaltz puts it memorably: "Remember your sacred duty to disappoint."

9. **Create business case:** This step checks whether the concepts still make financial and business sense before investing more company resources in bringing them to life.

Often an implementation program or project is commissioned toward the middle or end of conceptualization. These turn the concepts into real results, such as a product or service for the customer.

The Power of the Fuzzy Front End

A thoughtful fuzzy front end helps the project community define the right target and rally around it. It also stimulates them to think of new approaches to reach that target, creating protected space for creativity and innovation at the time when they can make the most difference. The next time you start a new project, take advantage of this powerful time.

References

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