



# Leveraging the Fuzzy Front End of Projects

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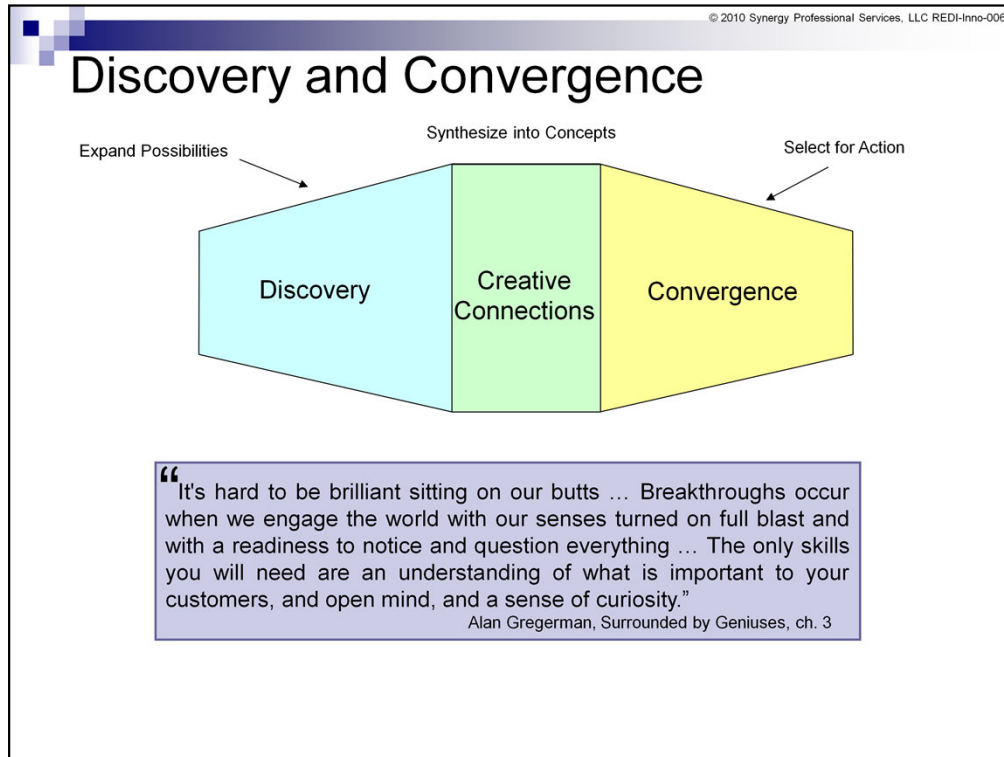
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Innovation on programs and projects doesn’t happen by accident. It is a balance between a mindset that welcomes serendipity and a framework that guides innovation activities.

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

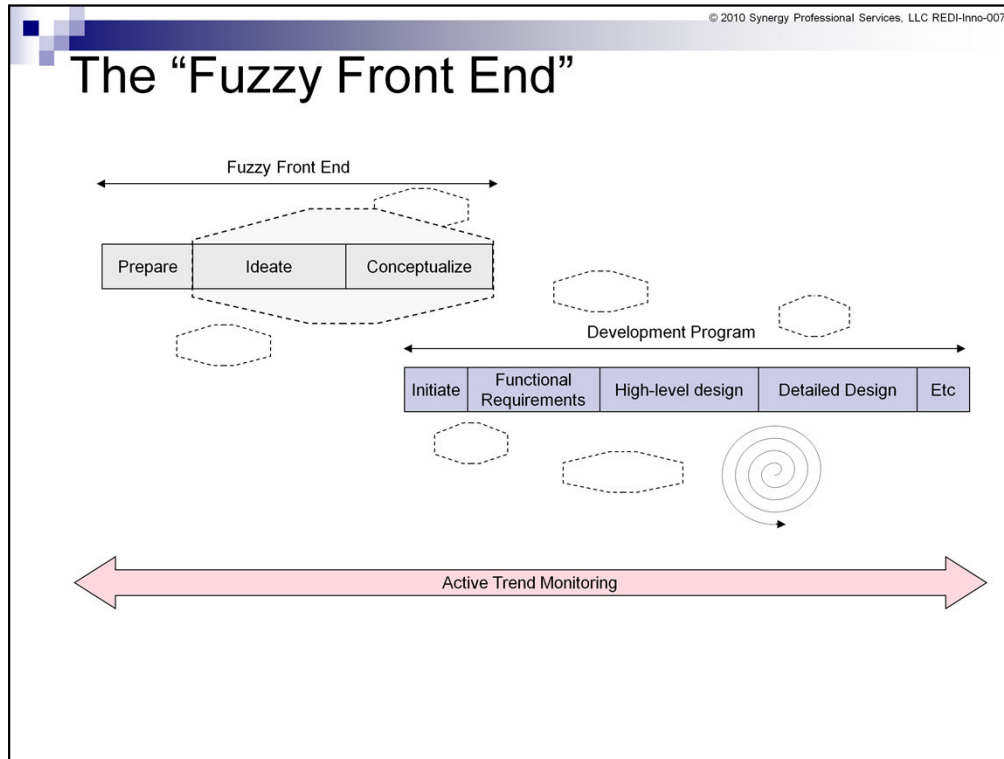
- research and creativity (discovery)
- synthesis and innovation (creative connections)
- scoping and decision making (convergence).

“The Discovery-Convergence 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.





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]

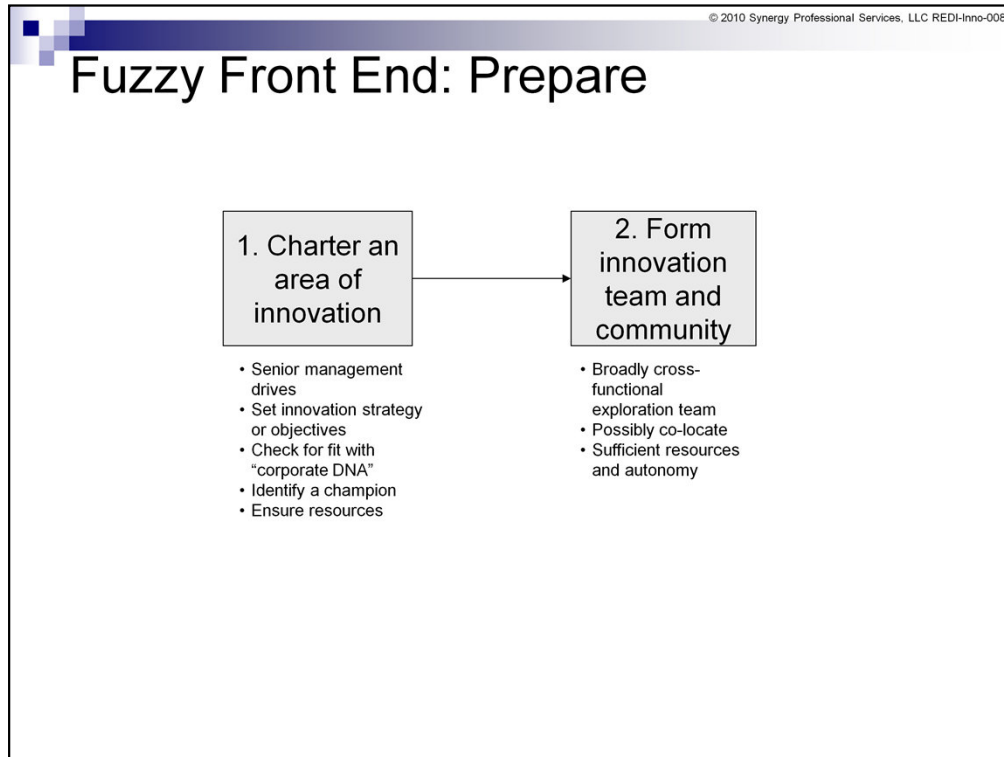
APQC categorizes fuzzy front end activities into three steps: *Preparation* or organization (chartering and team formation), *ideation* (selecting domain of opportunity, analyzing problems, creating insights, and generating seed ideas), and *conceptualization* (screening, concept development, and business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

Note that the fuzzy front end steps follow the Discovery – Convergence (D-C) framework. Multiple D-C cycles – both short and long – happen many times during a program and its fuzzy front end.

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 D-C cycle. Innovative programs often use a spiral or iterative development methodology, as shown in the graphic.

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





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.

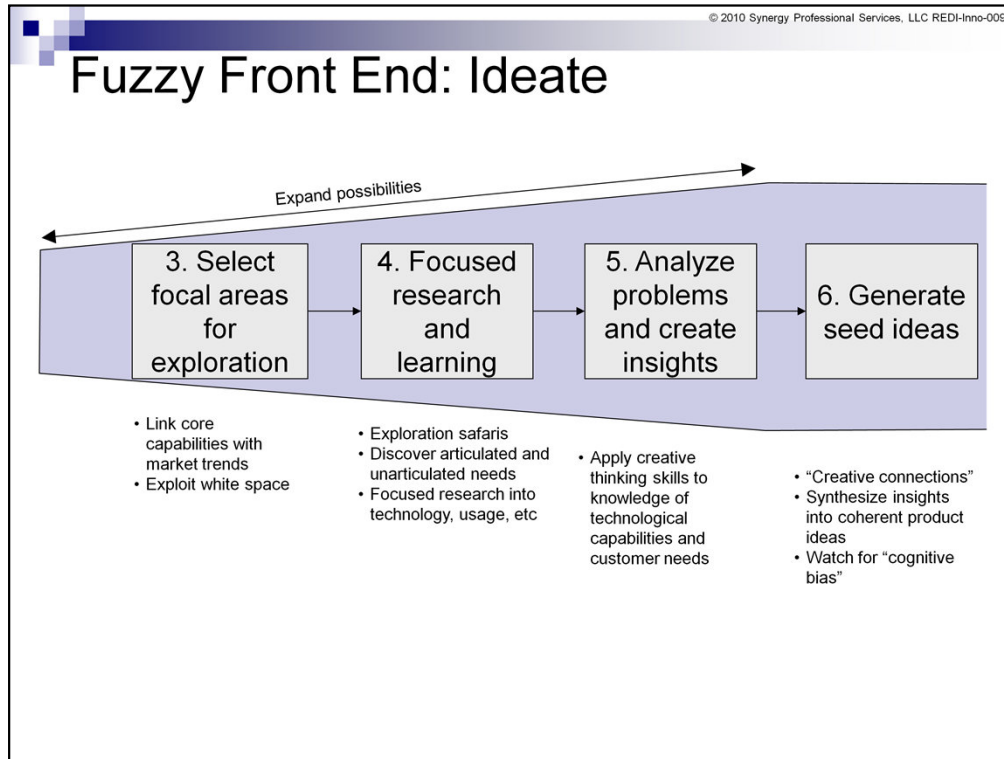
A company that builds flight simulators for military aircraft "could view their function as providing flight simulators to military customers. But their customers do not have a need for flight simulators. Instead, they have a need to produce trained pilots who possess the skills required to fly sophisticated military aircraft safely and effectively." (Osborn, 54) This subtle shift in perspective allows your company to consider different solutions, better meet customer needs, and thus acquire better business. (Steve Osborn, *Winning Government Business: Gaining the Competitive Advantage*.)

- 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. In his article "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]

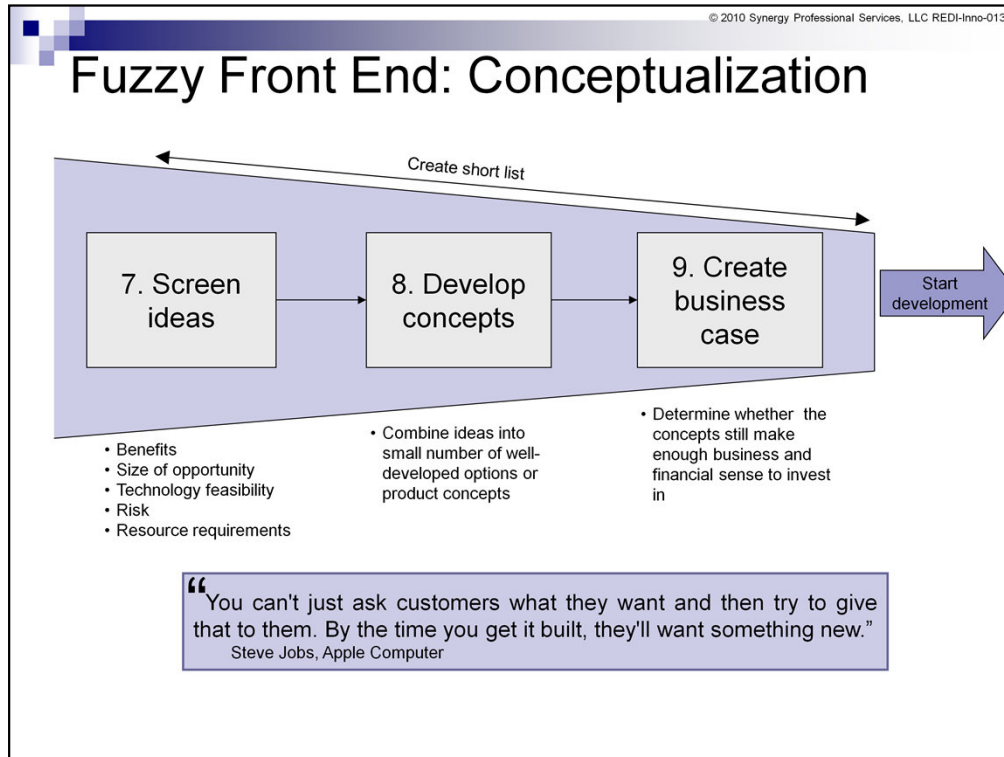




The next fuzzy front end steps emphasize discovery – expansion of possibilities and ideas.

- 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 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.
- 5. Analyze problems and create insights:** This step begins the “creative connections” segment of the D-C cycle. Some companies emphasize “constructive argument” to encourage this step.
- 6. Generate seed ideas:** This is where you begin to synthesize all of 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] Many project managers recommend focusing at this early stage on *what*, rather than *how*.





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

- 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:** The surviving ideas fleshed out into product concepts that are more complete.
- 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 a program or project is started toward the middle or end of conceptualization. It turns the concepts into real results, such as a product or service for the customer.

