# The Fuzzy Front End – UnFuzzied
## 5 Activities for Successful Product Conceptualization

The early stages of product planning earned the nickname *The Fuzzy Front End* due to the unpredictable nature of initiating new product ideas and concepts within most companies.   The process, the timing, and the outcome are all often quite nebulous and mysterious.   This is in apparent stark contrast to the next phase, Product Development, which has clearly defined processes and deliverables.     This article dives into the murky waters of this front end phase and discusses five activities to help demystify the process.

### Defining the Fuzzy Front End
There is no specific agreed-to definition of the Fuzzy Front End, because…. well, because it's fuzzy.   There is general agreement that it involves the creation of a new product concept to address an unmet market need and that it happens sometime before a formal project is created to build it.   Figure 1 depicts a graphic of this group of activities and its relationship to the Stage-Gate Process.
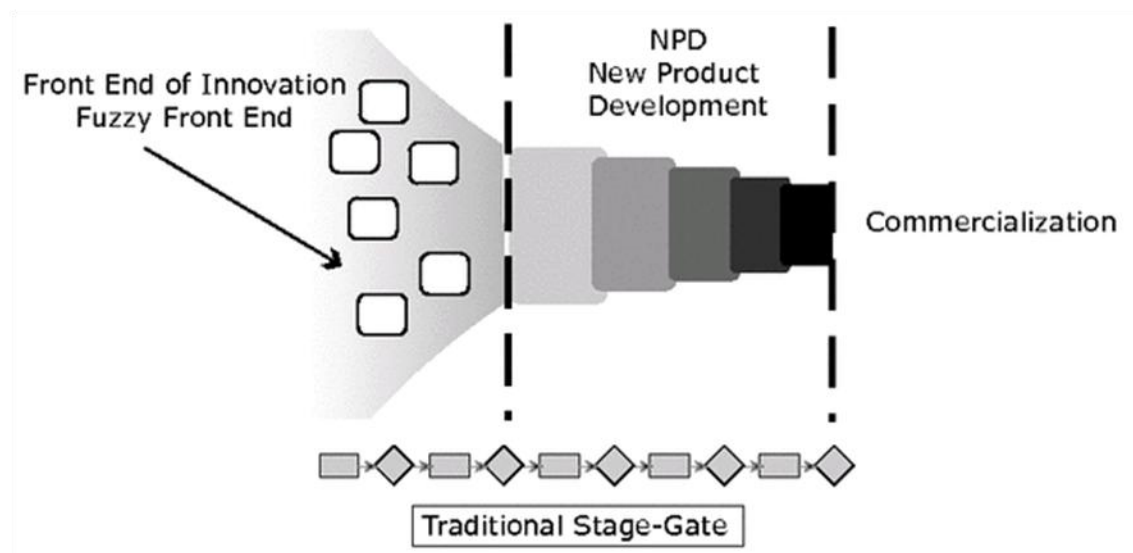


Figure 1 – The Fuzzy Front End (from www.frontendinnovation.com)

The fuzzy nature of the phase stems from the unstructured activities and unpredictable outcomes that occur.   As shown in the figure, the middle product development phase is depicted as a structured sequence of activities that are predictable.  Of course, anyone who'd been developing products for any length of time recognizes the fallacy in this characterization.   It is the rare-bird project that delivers major new product deliverables on time and on budget.   However, it seems more predictable because you know what you're attempting to do and there's a plan.  It's the Fuzzy Front End that helps gain this clarity.

## Identifying the Fuzzy Activities

There are three core and two supporting activities that need to be happening to be able to move from the Fuzzy Front End to Development.    Figure 2 illustrates these activities and each will be discussed.
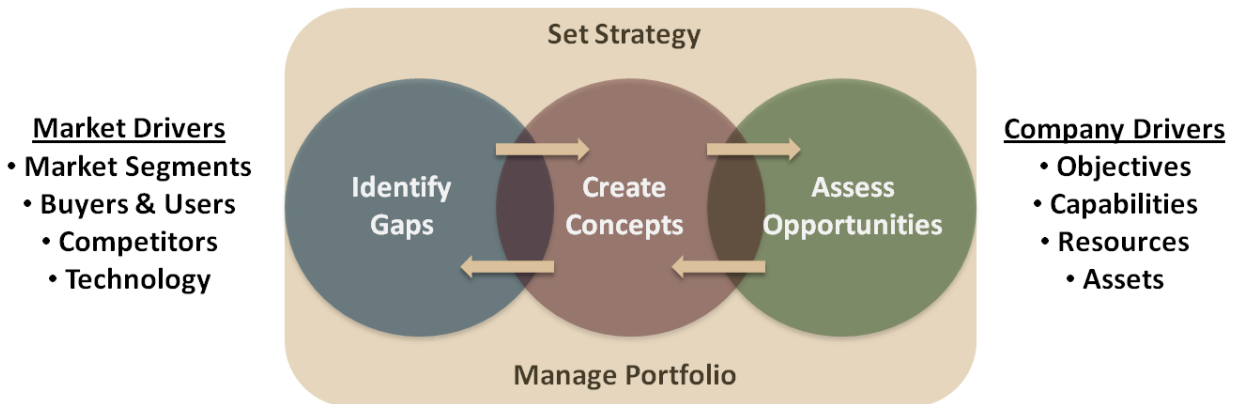
**Market Drivers**
- Market Segments
- Buyers & Users
- Competitors
- Technology

**Set Strategy**

Identify Gaps → Create Concepts → Assess Opportunities

**Manage Portfolio**

**Company Drivers**
- Objectives
- Capabilities
- Resources
- Assets

**Figure 2 - Fuzzy Front End Activities & Drivers**

Also shown are primary drivers of the overall process, both from the market and company perspective.   The arrows indicate a general direction of left to right through the activities, however iteration is often required and it is possible to jump between the activities in a non-linear fashion.

### Core Activities

First, there needs to be an ongoing contact with the market with the intent of identifying market gaps that could potentially be addressed by your company.   We'll call this activity **Identify Gaps**. To execute on this, your company must be proactively:

- Monitoring the market for macro trends and especially *changes* in them
- Keeping abreast of new technology that can *trigger* ability to improve existing solutions
- Dialoging with potential buyers and users to understand their *goals and measurements of success*
- Assessing competitive solutions for *why* the gap exists (why it hasn't been addressed)

A key success driver of this phase is the *intent to find market gaps*.   You can be doing all of the above tasks, but if you're not actively looking for problems to solve, the odds are significantly reduced that you will see them when they are in sight.   As an analogy, consider your commute to work every day.   How many green houses do you pass and where are they?  Chances are you see green houses all of the time, but they don't register until you start to actively search for them. The same goes for identifying gaps.

Another key driver is being able to measure success from the customer's point of view.   What metrics would they use as a goal to indicate the gap has been addressed, e.g. how much less time required in use, how much cheaper to buy, how much bigger or smaller something is, etc. Additionally, how important to them is solving it?  Will it impact them a little on occasion or a lot frequently?

The second core activity is coming up with a solution to the market gap identified.   This is usually considered the heart of innovation, though it can be argued that recognizing the need is

as critical to innovation as inventing the solution.   We'll call this activity **Create Concepts**.  The tasks associated with this activity are:

- Generating multiple concept ideas to satisfy the market gap identified
- Defining capabilities and usage scenarios of the product and building mockups or prototypes
- Determining the value proposition (including business model) and positioning
- Validating concepts and messaging with potential buyers and users

The value in doing this is the time and cost saved on the wrong idea or implementation.   The mockup can be developed to whatever level of sophistication is necessary to get valid feedback and balances the project risk.   If the development costs are estimated to be $100k, a rough mockup is reasonable.   If the development costs will run into the millions of dollars, is a high quality prototype in advance asking too much to avoid making a big mistake?

The Agile/Scrum software development process would seem to eliminate the need for prototyping and mockups since the purpose of the methodology is to get a product to market as quickly as possible to get real feedback.   While it certainly reduces the risk of the project significantly versus a pure waterfall methodology, there are often several pieces of a V1 product required to make it commercially operational that are not required to validate the core value prop.   The cost to deliver working software versus a nonworking mockup will be orders of magnitude higher for a similar outcome.   Maybe the trade-off is worth it, maybe not.

It is also possible for a product concept to start the whole process, such as invention of new technology or as an offshoot of other failed projects (think Post-it Notes).   While successful products can start this way, they are the minority and it has been used far too often in technology companies with dismal results.

The combination of **Identify Gaps** and **Create Concepts** is a noisy process, meaning that there can be a lot of turmoil and angst.   The reason is because you trying to achieve clarity as to what you need to do and this can be messy, unpredictable and require lots of iterations and rework. Figure 3 presents a good depiction of how the process typically goes.
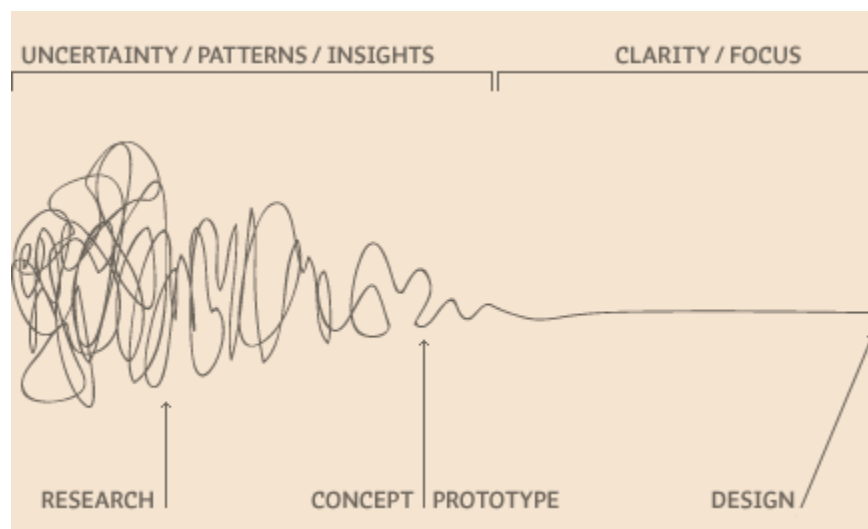


**Figure 3 - Fuzzy Front End Progress, From Uncertainty to Clarity (from www.centralstory.com)**

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The last core activity is assessing whether pursuing the opportunity makes sense for the company, appropriately called **Assess Opportunities**.   The concept needs to be analyzed for whether it is the right bet for the company in terms of direction and capabilities.  Tasks in this activity are:

- Assessing the market attractiveness – market size & growth, competitive landscape, revenue potential
- Developing the business case - defining the development & commercialization strategy including estimated cost, time, and risk to build, launch and market the product and the profit potential.
- Assessing alignment to corporate and product strategy goals and objectives, and to corporate assets and capabilities
- Assessing the likelihood of success – marketing timing, market readiness, value chain & ecosystem support.

### Supporting Activities

The 2 supporting activities of the Fuzzy Front End are more strategic and operating at a company level versus a product or project level.   These are necessary to set guide the activities identified in creating a viable solution.   The first supporting activity is **Set Strategy**.    The deliverables of the activity are:

- Define a vision of the company business and strategy  (and what you are not going to do)
- Define company and product objectives that are measurable and have timeframes
- Define who is responsible for delivering what

The reason for this is to limit options and to force a focus on what's important by providing guidelines for decisions and prioritization.   It's tough to define the right product if you don't have clarity at the company level as to the goal    When a company has difficulty in getting new innovations to development or delivering winning products, it's is often because there are not clear company objectives and responsibility defined to deliver them.

The second support activity is **Manage Portfolio** and is for executives to actively move promising projects forward and stop less promising ones that are consuming valuable resources. Deliverables of this activity are:

- Prioritizing projects with respect to company and product objectives and capabilities
- Allocating resources required to move projects through their needed phases
- Assessing project progress and stopping those not meeting corporate goals

It is not uncommon for companies to assign projects within the organization and then leave the project teams to fight for their own resources to accomplish their goals.   Perhaps the strongest teams survive, but not necessarily the best ideas.   More often, nothing happens.

### Summary

The activities associated with the Fuzzy Front End of developing products are not so mysterious, but can be unpredictable in their outcomes and timing.   The purpose is to get clarity on what you're developing and why before jumping into development and to have some confidence in the expected product outcome.    The core activities are **Identify (Market) Gaps**, **Create Concepts**, and **Assess Opportunities**.    The supporting activities of **Set Strategy** and **Manage Portfolio** are for the executive team to help guide the selection, prioritization and resource allocations for the project.

**Additional Reading**

There is a movement underway to replace the name "Fuzzy Front End" with "Front End of Innovation", with the focus on removing the mysterious aspects of the term fuzzy with activities that are proactive and predictable. There is a lot of good material published by Dr. Peter Koen, a professor at the Stevens Institute of Technology and there are now annual FEI conferences in the US and Europe sponsored by PDMA and IIR. This article leverages some of this excellent material (though it's our belief that the new name is unlikely to supplant the old one, just because it's boring). www.frontendinnovation.com

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