

## Prototypes Are More than Models

**By understanding prototyping and manufacturing you can be a more effective entrepreneur-inventor.** Many people with great ideas are ready to build a prototype without considering their options. During the product development process, it is important to know when it is appropriate to prototype and at what level. You want to learn from your prototype so that you can either move forward in development or move on to something new.

**Design and engineering are key components to a successful prototype.**

Although there are machine shops that can produce a model of your idea, you want to obtain the most from your prototype. Prototypes help to explore the functionality and characteristics of your product. Whether it is a simple proof of concept or a sophisticated prototype, it is important to gain valuable insight into your product. Understanding the materials, design, and cost of manufacturing are critical for successful product development.



### Types of Prototypes

- Proof of Concept
- Virtual Prototype—Rendering
- Appearance Model
- Functioning Prototype

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## Reducing Risk and Increasing Your Odds

**One approach to reducing the reliance on chance in product development is to achieve greater understanding of the consumer.** It is beneficial to develop a sense of how the target consumers approach their tasks, what problems they face, what annoys them, and what delights them. This insight will make it possible to identify opportunities for new products and services that will stand a greater chance of success. Your products will excel in the marketplace because they fulfill an unmet user need or desire.

**The purpose of Front End Research is to identify what problems to solve.** This type of research is a collection of methods including observational research, opportunity analysis, and other techniques designed to get into the mind of the consumer.

In many ways, trying to innovate without specific problems to solve is like answering a question that nobody asked. It's always possible to create a new gadget or feature, but if that gadget or feature doesn't connect with a user need or want, then the innovation effort is likely to be unprofitable. Whenever user needs are not obvious, Front End Research becomes critically important. It helps to focus innovation in the right direction, and it helps to remove some of the chance and risk associated with new product development.

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