

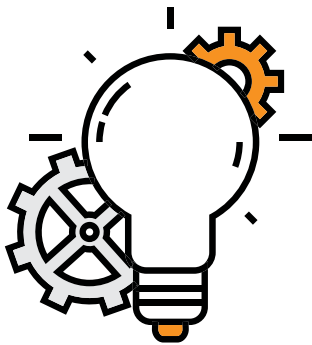


Three Important Elements of Product Design and Development

WHITEPAPER

Simbex

When it comes to product development in the medical industry, it is crucial to determine the consumer need, understand the target market, and consider the entire process from beginning to end. By focusing on the customer and remaining immersed in the prospective environments, product design and development partners can offer new and unique benefits to the innovator and ensure adaptation as markets and technologies advance. The crucial aspects of product development from idea generation to analysis are further explained below.



1. Launching Ideation

Often times an innovator has an idea for a game-changing technology, as they have witnessed a void in the marketplace, but they might not necessarily have the skills to develop the product. In this instance, the development partner is responsible for performing additional market research and identifying the appropriate technologies to implement in a strategic, cost-effective manner. The development partner should also ensure the product will be easy to use for consumers and has a strong chance of success in the marketplace. They need to deeply understand what the market is searching for, how the device will be used, and how it will fit within the prospective environment in order to build the right product, at the right size and price, with the right technology.

Innovators approach development partners at widely different stages in the innovation process. Some have an initial concept floating in their mind while others have an early prototype and some have a developed product that was introduced to market, but was not successful. When a product launch does not go as expected, the development partner can be supremely helpful in understanding how to repurpose or repackage the capability in a way that could be more useful to the consumer. Both parties need to understand which parts of the process have been executed and how they could be improved.

The early stages of development are about analyzing risk and positioning a product for optimal success. This does not always mean creating a new and improved version, but includes analyzing the challenging aspects of a project and breaking through some original barriers that would have prevented 100% success in the market. It is crucial not to go beyond this point until the innovator has determined potential barriers across the entire spectrum. Without this detailed initial brainstorming and investigative process, there tend to be mistakes and inaccuracies in the development of the product.

2. Three Important Elements of Product Design and Development



2. Understanding the Market

After the initial conversations have taken place between the innovator and the development partner, a detailed analysis of the target market is essential. Even in very small markets, there are critically important products that are going to change the industry for the better. With a small market, product developers need to be extremely strategic throughout development. With a \$2 or \$3 million market, the developer has to understand that they cannot spend \$5 million developing a product. The product has to be produced in a way that allows the company to make a reasonable profit.

Regardless of the market size, the process and questions remain similar. There is a tendency to look at the total addressable market to estimate the size of the potential opportunity, but the focus should remain more on how the market will be penetrated. The entry point and the potential barriers need to be firmly understood. For example, if a nurse is going to utilize a product, the innovator must understand how the product will fit into the nurse's environment and workflow. In addition, the innovator must understand the purchasing process and the needs of the buyer. The technology is not a large consideration at this point, as the environment and the needs of the market require analysis. It is about getting people to buy the first few devices, gaining traction, and then growing with the market.



3. Defining the Whole Process

The entire development process needs to be a holistic progression that considers many elements, such as what does the market need, when do they need it, and how could they use it. It is not necessarily about creating the smallest product at the lowest cost, it is about looking at the entire picture and both ends of the process. This ensures all the relevant areas have been covered. Ideally, the process includes equal devotion to technology development, understanding consumer needs, and profitability.

The product developer should be involved very early in the project so the relationship between the innovator and developer truly forms as a partnership. It is important for the developer to think of questions and potential hurdles the innovator may not have thought about. The early discussions spur a creative environment where different ideas can come together. Having the involvement of different individuals with different backgrounds is key. Involving individuals with technical, business, and clinical research perspectives can assist in a deep investigation and discussion of an idea. By combining complementary expertise, the development partner can offer the best level of support at each stage of the project and in turn move it along faster. Clearly, the satisfaction comes at the end when the idea comes to life and is in use by patients and clinicians.

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Simbex is a product design and development partner in the medical device and consumer health space. As an established business that has been focused on medical device and consumer health applications for more than 15 years, the company is offering solutions to challenging and technical ideas. Their diverse team has a broad understanding of the market with cutting-edge product knowledge, science, data, and analytics for tackling complex ideas and creating successful products. Their development process includes an in-depth brainstorming session and an early definition of the development process from start to finish. Over time, the company has evolved into a commercialization engine that creates their own products, assists others in the development of their products, and guides innovators through the commercialization process.

The Simbex team has a wide range of expertise in product development, consumer needs, customer needs, regulatory environments, and other aspects that are essential in understanding medical product development. A superb collection of creative engineers and data analysts recognize all aspects of product design and development. They bring together broad expertise and experience that combine to make a very well-rounded team for supporting every endeavor. The brainstorming sessions at Simbex are lively and productive, as the group understands the importance of analyzing every aspect and projecting potential challenges and ways to overcome those obstacles.

The industry knowledge of their experts allows them to understand the market and technologies. They are skilled at analyzing entry points and projecting the way the technology will fit into the consumer's environment. Simbex supports the development of products in both small markets and extremely large markets. The team understands that every step is essential and requires special attention. One project they have commercialized is called ActiveStep. The technology was introduced by a researcher at the University of Illinois, Chicago, who had been working for decades to try to understand why people fall, and how the falls could be prevented. The researcher realized they needed a development partner to implement this fall-prevention technology. Simbex worked vigilantly to understand the needs of the tool and then built a treadmill-based device that aids in fall prevention, reflex training, and balance training. The entire process required many elements, from understanding the technology and investigating the market to learning what the market needed and would pay for.

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Simbex truly understands the importance of the initial process and the criticality of properly brainstorming, analyzing the prospective market, and planning for the entire development process early on. The company has experienced many successes in the medical device industry because of their preparedness, experience, and passion for developing critical technology. Immersed in the industry, they stay motivated by the possibility of helping the community. Simbex is committed to their mission of transforming ideas into game-changing solutions.

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