

Helping a Tiger Change Its Stripes

Manufacturers can help an existing product reach its full profit potential by taking a look at the internal and external causes of poor market performance through the product redevelopment process.

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Things change quickly in the medical and biotechnology markets. Companies are often trying so hard to compete that they simply keep churning out new products—and forget about the products already on the market.



But there is a way to breathe new life into an underperforming product. Product redevelopment identifies and corrects the underlying causes of poor product performance. It is an often-overlooked solution to a problematic device. Although product redevelopment cannot fix problems such as a poorly performing market or an obsolete technology, it can be used to reach out into new markets or to apply cost-effective design changes.

Redevelopment is a less expensive process than original product development and will often take less time to provide results. The process of redevelopment can be done in-house or through an outsource firm that specializes in product turnaround. Each method requires various courses of action, and both require a change in thought process for the manufacturer. By considering redevelopment of an underperforming product, a company is embracing the potential best use of its resources.

Investing in Redevelopment

Product redevelopment looks for ways to improve an existing product's performance by addressing problems and determining a method to improve profit. Because the process focuses only on problem areas, a relatively small investment can yield a significant increase in return on investment (ROI). Also, in terms of comparing possible company investments, product redevelopment should cost only a fraction of developing a new product.

Redevelopment is different from normal product development because with redevelopment, the goal is to identify and make the most effective product changes without starting over and without losing what has already been developed. Every action from redevelopment should directly increase the bottom line. Redevelopment means taking small, profitable steps that will increase overall profitability without a full-blown product redesign.

Product redevelopment is not the same as creating a next-generation device. It's normal during a product lifetime to make several next-generation products. Redevelopment casts a wider net. For example, a next-generation instrument may go after an upcoming market, while a redevelopment program goes deeper into existing markets. Delving into an existing market may mean only adding a few small features or even removing some for a more cost-effective product. Also, redevelopment may identify markets a company would not normally enter.

Who Does the Redevelopment?

Product redevelopment can be performed using in-house employees or accomplished by a team of outside experts. In-house employees, especially those who developed the product originally, operate quickly because they know the particular market served by the company. They also have the product history readily available, so design decisions can be realized rapidly. Some parts of a redevelopment project may also be integrated into an ongoing internal quality system.

There are, however, some drawbacks to doing in-house product redevelopment. In-house engineers and marketers usually prefer to work on the next big product and not on older products—especially when the existing product uses older technology. There is also product-based bias inherent in every organization. Many times, internal politics and vested interests can color an analysis, destroying the objectivity required to gain optimum results.

Successful product redevelopment requires an unbiased look at the basics of the market the product serves, as well as a look at markets the product could be serving. For example, it is common during redevelopment to challenge the underlying assumptions about certain product features or how customer interaction demonstrates the value of those features. Incorrectly interpreting the areas that cause underlying problems can quickly lead a project astray. People experienced in redevelopment are more likely to see a situation objectively than in-house staff can.

Outside product redevelopment companies don't have to overcome any historical bias; they focus on future results. They provide a fresh set of eyes with diverse industry experience, multidisciplinary technical expertise, and an objective market viewpoint. Product redevelopment teams must have personnel available who are experienced in a wide variety of disciplines, especially the engineering and marketing aspects of the process. Firms that specialize in redevelopment focus only on making a product successful. Keep in mind, however, that an outside firm may take longer to start corrective action. And finding a good partner requires thorough research up front by the OEM.

When hiring consultants for redevelopment, there are three main criteria for choosing a particular contract firm: its breadth of industry experience, technical capabilities, and marketing expertise. If a company decides to use in-house experts for product redevelopment, it needs to keep in mind that the process often requires the experiences of people from outside industry, and it may be worth it to consult experts from other related fields.

When to Redevelop

Ideally, product redevelopment is a continuously occurring process. The best opportunity to begin redevelopment is shortly after a product release, while all the key marketing and engineering players are still available. Unfortunately, right after a product release it seems counter to the esprit de corps of a company to look critically at a new product. It may take some time before sales figures begin to show that a product is not reaching its full potential. Therefore, a good time to start the redevelopment process could be a year or so after product release. After a year, the company can see how competitors respond to the product and where the existing market is headed. Often companies perform product redevelopment before discontinuing a product to see if the product might be worth keeping. Although it is smart to start early, product redevelopment can be initiated whenever a company feels a product is not performing as desired. For the most part, a product will benefit from redevelopment. However, there may be situations where the manufacturer feels a product is as successful as it can be. In that case, it would be a waste of time and money to invest in redevelopment. Firms must carefully and honestly consider each product's potential.

How to Redevelop

Start with an Audit. The best way to start the product redevelopment process is to conduct a full objective audit of the product's situation. An audit surveys every aspect of a product's features, perceived benefits, cost and price structure, markets served, legal considerations, manufacturing, support operations, sales, and distribution channels.

The first stage of the audit begins with a wide-ranging interview with all the players on the product team. Beside key engineers and marketers, this usually includes key sales people and, if appropriate, customers. The second stage usually involves collecting external information from published reports, reviews, and interviews with industry experts. Finally, competitive information is gathered and collated. The competitive information should demonstrate where the product stands in the markets it serves, and where competitors and customers see its market position. Combined with information from the company sales team, this information will help identify and quantify product shortcomings.

Prioritize. Based on the information collected, the redevelopment team suggests areas that are part of the underlying performance problem. For example, sales people might report the reasons for lost potential sales. Customers could be asked why they chose a competing product. The team draws up a list of ways to address those problem areas. Although it is usually too early to detail each approach, the list can be prioritized by each item's estimated cost, its relative cost-benefit ratio, or its likelihood of success. Such prioritization is critical since the audit phase must justify the subsequent phases proposed before any additional redevelopment money is invested. Once the priorities are established, decisions can be made about budgeting the redevelopment process. This will determine which areas are to be addressed, and to what extent.

Follow-Through. To ensure that resources are expended efficiently, follow-through activities should focus on the problem areas selected. Most redevelopment project details are unique, but their general nature falls into one of the following categories:

- Redesigning to address feature shortcomings.
- Updating the product's look and feel.
- Investigating different markets and applications.
- Exploring cost reductions in design.
- Trying alternative manufacturing methods.
- Looking for partnerships and licensing deals that will extend a product's reach.

To ensure regulatory compliance, redevelopment should be treated as a continuation of the original development project. Each step should be documented and the logic recorded in the appropriate project book to satisfy ISO, GMP, or other regulatory requirements.

What to Expect from Redevelopment

Redevelopment will not always guarantee success. It's possible that the competition or the market is different from what was originally thought. Under optimal circumstances, the final result from redevelopment is a clear understanding of the best direction for the particular product. A thorough redevelopment effort must look into a wide range of possibilities and explore them with enough detail to discover opportunities and rule out dead ends. The most common result of redevelopment is cost reduction and product enhancement. However, sometimes the best redevelopment result is not cost reduction, but a cost increase that opens new markets and yields greater ROI.

Redefining the Product: A Case Study

A company that sold environmental chambers exclusively for use in biological-related tests noticed that sales had been flat and wondered whether anything could be done to increase sales in a mature market. The chambers created an oxygen-free environment with sealed-glove access and space for storage of reagent bottles and other small items. The ante-chamber design allowed for convenient input and removal of samples. The company sold its product exclusively to the medical and biological testing industries.

The company decided to hire an outside company to redevelop its chambers. After meeting with key company personnel, the outside team explored new markets for the chambers. Experts from the semiconductor industry pointed out a niche market for small cleanrooms and it was apparent that with only a few minor changes the chambers could be adapted to sell into that market. Experts in clinical lab design pointed out that by making small changes to the antechamber, laboratory technicians could easily interact with robotic clinical chemistry systems used in labs throughout the world. Experts in medical manufacturing indicated that small robots could be designed to make the chamber into a platform for assembling FDA-approved devices.

Another way to expand the chamber's usability was to offer options to integrate commercially available systems such as data-logging instrumentation, radio-frequency identification instruments, bar code scanners, and filters to meet EPA standards.

A preliminary sales brochure was shown to focus groups to demonstrate how the new design could target specific markets. Before building the new product, preliminary marketing research identified key customers and market potential was quantified.

The product redevelopment process identified several options that management could evaluate based upon estimated costs and rate of return. Engineering cost reductions were the most obvious choice and could be started immediately. New market opportunities took some time to develop, meaning that the rewards for redevelopment were not immediate. But the company was able to reduce costs by upgrading fabrication technologies because of the increased production volume.

The company had no experience in these new markets and wanted to remain focused on its core business. Not every option was implemented, but in some areas manufacturing and sales agreements were negotiated to provide modified versions of the systems. The engineering redesign enabled modularity in construction; the common base module was manufactured in large numbers and different options were added as needed. Partner companies provided accessories and add-ons to meet their own specific business goals. This allowed the firm to gain economies of scale for the basic components of its chambers and increased revenue without a large capital outlay. The end result was more revenues with higher profits.

Watching Trends

Product redevelopment can hinge on how well companies can recognize relevant industry trends and understand how those trends affect business. Large demographic changes are easy to plan for. Less-publicized changes must be uncovered for a product to reach its full profit potential.

For example, consider situations where emerging biotech therapies and traditional small-molecule pharmaceuticals are addressing the same medical condition. There is a wealth of published information and the industry is well aware of the competition between these two sectors. Less well known are the advances in the growing biomedical device industry, which may also be addressing the same medical condition. Device companies should ask how their new products will compare financially with biotech therapies. And if a device company sells into the biotech market, it should be aware of pressures from new competitors. For example, arterial fibrillation affects over 2 million people annually. There are three competing technologies targeting this disease: surgical, pharmaceutical, and implant devices. But there are also new therapies using adult stem cells that could cure arterial fibrillation. Advances in any one area will affect the others. Product redevelopment can help quantify these risks so they can be addressed.

Conclusion

Product redevelopment is appropriate at any time during a product's life cycle, especially before retiring a product. The product redevelopment process analyzes a product's performance by focusing on its features, design, construction, marketing, and sales. The goal is to maximize profits by leveraging what has already been invested. Every action from redevelopment should directly increase the bottom line.

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