



# DESIGNING PRODUCTS

for

*SELLABILITY & MAXIMUM ROI*

by Susan Loconto Penta & Michael J. Goldberger

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## CREDITS

**Midior** is a strategy consulting firm that helps innovators become more successful and established enterprises become more innovative. Midior has pioneered a disciplined approach to the challenges of building and sustaining innovative organizations. We believe that excellence in innovation is a key competitive advantage for businesses hoping to thrive in the 21st century. Our goals are simple - to increase the leverage of our clients' products and services. Midior effects change in our clients' organizations by helping them to become more effective, with a greater likelihood of achieving marketplace success with each new product or service.

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Prior to founding Midior in 1997, Susan co-founded and launched new ventures in the high technology industry. More recently, Susan co-founded Midior Ventures LLC, a pre-seed stage fund and established MommaZone Inc., an online directory for busy mothers. Susan holds a BSEE degree from Worcester Polytechnic Institute and an MBA from The City University Business School in London England. Susan is also an aspiring chef and some of her favorite inventions include Cuisinart's Handy Chopper along with the WireO binding system. Susan can be contacted at [slpenta@midior.com](mailto:slpenta@midior.com)

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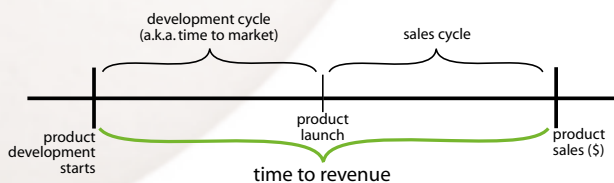
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### time-to-revenue

Increasingly, in all industry sectors, product life cycles are incredibly short - often shorter than a product's development cycle. So, when a new product is launched, it is critical that you make every day count toward producing revenue. Unfortunately, many companies are still following the conventional, linear process of developing, testing, launching a product, selling it, figuring out how customers are using it and revising it to match those requirements. This process takes too long. To be successful, developers must build a product that the sales channel is equipped to sell, and customers are ready to buy on day one that the product is available. In order for that to happen, the product design team, at the time the product is being developed, must understand how customers will use the product, what the sales force will need to sell it, and what the barriers to market acceptance may be.

Our research and experience has shown that time-to-market is a very narrow and deceptive metric. In fact, we look at "time-to-revenue," which includes the time to develop a product plus the marketing launch and sales cycle. In a research study of more than 100 venture-backed technology companies, the results showed that a product is three times more likely to fail because of delays in the sales cycle and market acceptance, rather than delays in the development cycle.



### customer-focused design

A good example of this phenomenon is the "fast lane" concept being introduced at many toll highways around the country. The original premise was that traffic congestion would decrease and cost savings would be realized if cars equipped with a transponder passed through a designated lane at the tollbooth, without a

It typically takes **4** releases to get a product "right." Decreasing time-to-revenue means you have to get there on the **first** release.

cash transaction taking place. The technology works well, yet in many states the program is still considered to be a flop. What went wrong? A small percentage of commuters adopted the new technology when it was introduced because the benefits of the new system were not widely communicated prior to the system launch, and transponders were not easily accessible. In fact, traffic congestion actually increased because lanes dedicated

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to the new system took away capacity and people caught in the fast lane without a transponder, tried to cut back into the traditional lanes. The concept and technology were good, but delays in the sales cycle turned what could have been a brilliant innovation into a public relations debacle. Time-to-market for the new system was not a problem, but it was the time-to-revenue metric that tells the whole story.

- During the development cycle, **sales tools** and **demos** should be given *equal* priority to **development** milestones.
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In an R & D intensive environment, the engineering team needs to focus on customer requirements early in the product development process, to assure that the product is easy to sell and easy to buy. For example, designing a product demo for a software application or creating a user interface or packaging that tells the whole story and helps buyers visualize how the product will benefit them, should be given equal priority with design specifications and test plans. Today's successful product design teams can design for sellability just as they have been accustomed to designing for testability and manufacturability.

### *Design for Manufacturability*

- > Easily Testable
- > Modular architecture
- > Understand steps in manufacturing process and map product design accordingly

### *Design for Sellability*

- > Easy for sales person to demo
- > Customer can easily see how it plugs into existing environment
- > Understand steps in sales cycle and map product design accordingly

Designing a product for manufacturability says that the product has to work equally well the first time and the 1,000<sup>th</sup> time that it is produced. By the same token, if a product is effectively designed for sellability, the first sale should encounter as little resistance and happen as efficiently for the sales rep as subsequent sales. Direct broadcast satellite receivers or dish-network TV is a good example of a technology that is inherently a very complex system, yet was designed to be easy to sell.

Some of the sellability requirements that were designed into the product were its size - it had to be the size of a pizza box so that it was easy to carry home and could sit on top of your TV. The new channels to be offered had to appear in a familiar format so that they could be visually scanned just like traditional cable channels. Although the new system could offer higher resolution, it was designed to be compatible with the existing installed base of TV sets. And finally, you didn't have to take home an engineer to install the new system; it was truly user installable. For all these reasons, the ramp-up of dish TV sales has been rapid and an innovative technology has been quickly accepted.

### overcoming barriers to acceptance

**T**he key to delivering successful products is to design for sellability so that your sales cycle is as short and efficient as possible. In doing so, organizations frequently encounter four barriers to sales that are characteristic of technology products, particularly those in emerging markets.

There are 4 critical barriers to sales for new products:

- > Integration
- > Information
- > Organization
- > Change in behavior

Attention to overcoming all 4 barriers in parallel with development will decrease the time to revenue.

### *the integration barrier*

New products are usually a component of a complete solution and therefore must be integrated into an existing system that the customer already has installed. Your engineering team needs to have a precise understanding of what is required to deliver the whole solution in a way that is useful to your customers.

A good example of a new technology that was not easy to integrate with existing system was MP3, a digital music format that is being used to download music from the web. While this was and still is a very hot technology that has received much interest, and controversy, in the press, usage has been limited to the early adopters. In this case, the early adopters are hard-core computer hobbyists and music enthusiasts who have the time and persistence to overcome the integration obstacles. While most of the talk about MP3 was initially about the copyright and licensing issues associated with this format, there was also an important integration issue that needed to be addressed if MP3 was to be successful. MP3 was not initially integrated with the way that most people listen to music - through their home stereos, car stereos, Walkmans, etc. To listen to music using MP3 technology, a user had to search for a file on the Web, download the file, and listen to it on their PC speakers.

Alternatively, the user can purchase a special purpose MP3 player that connects to a PC and allows music to be downloaded through another piece of software. If people wanted to use their existing stereo equipment, the data needs to be moved onto a CD or other "compatible" device. That requires a CD recorder for the PC, plus additional software to convert the file format. Either way, technical know-how and a lot of time were a must to try MP3 technology; a sure deterrent to rapid market acceptance.

If the benefits of a new technology are too hard to reach because of difficulties in integration with a technology already in use (in this example, standard PC technology plus the Web), inevitably the sales cycle will be extended and mass adoption may take a year (or, worse yet, may not happen at all). It is important to make sure the product plan and design team consider the whole system and the ease of integration into that system is a critical functional requirement.

### *the information barrier*

In today's world, where more and more products are service or information based, it is often the case that information about a product may have to substitute for trying the product itself - either because the product doesn't exist (yet), or because substantial investment is needed to try it. Therefore in order to get the sales cycle rolling before the product is launched, the vendor must provide information about the product that can substitute for the product itself during the sales cycle.

In fact, the quality of information about the product becomes as critical to sales success as the product itself. In this scenario, flawed information can be just as devastating to sales as a product that doesn't work. Good information is particularly critical to the introduction of an innovative product or technology in an emerging market - in contrast to the introduction of a new version of an existing product, where customer familiarity can be assumed.

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Automobiles can provide a good example. In beginning the process of buying a new car, buyers can go to the showroom to see it and take a test drive. They don't need to learn how to drive a new way or to wait until new "compatible" roads are built to enjoy it. If interested in next year's model because the engine will deliver greater performance, for example, they can get precise information about it and buy with confidence - even if that model does not exist yet.

Many products are impossible to "**test drive**," so buyers rely on ***information*** about the product and **demos** to ***drive their purchase*** decision rather than using the **real** thing.

In contrast, let's consider an enterprise software application, such as ERP (Enterprise Resource Planning). It may be impossible to "test drive," because it would need to be customized with an organization's data and business processes (a rather expensive proposition, both for the vendor and the customer) in order to demonstrate any real value or to provide a "relevant test drive." To evaluate an ERP application that impacts many functional areas, a customer would have to replace their current systems with the new software and allow many different people to try it. That type of evaluation is unlikely to take place because it is too risky and disruptive to an organization's day-to-day business operations.

Therefore, buyers are forced to rely on the information provided by the vendor about the product, in the form of documentation or a marketing demo, to reach a purchasing decision. If the application is brand new, it may be impossible take a look at it at another customer's installation. Typically, organizations view generating information about the product to be "Marketing's" responsibility, yet the engineering team must be held equally accountable. Product demos, beta testing, and understanding how the customer will use the product, are all parts of the development process and cannot be treated as an afterthought. Overcoming the sales obstacle related to available information about the product prior to the sales will require a fundamental cultural change within engineering organizations. No product can be considered complete until the user perspective is built in.

Another example of information about the product substituting for the product itself is the data books that sit on any engineer's office bookshelf. In a competitive market, design decisions often depend on which book has the most complete and easily accessible information. Many a vendor has been selected based on the quality of information presented, rather than on the inherent superiority of their product offering. Intel could never have been so successful in gaining market share for their microprocessors, without publishing volumes of detailed information well ahead of general product availability.

### ***the organization barrier***

When the sales and implementation process cuts across boundaries in a customer's organization, the sales cycle becomes more complicated. Different functional areas will look for different benefits from a product and will have different criteria in evaluating the system. A good example is the database-driven automation of catalog production that is being sold to large mail-order companies and manufacturers with large purchasing catalogs. In the past, the answer was a departmental solu-



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tion based on desktop publishing, the benefits of which were sold directly to the production department. Today, a more integrated approach, often web-based, offers benefits not only to production people, but to the merchandising department as well. These two departments look at the system in very different ways. The production people will look at measures such as catalog pages produced per hour, or flexibility in making changes, while merchandising is concerned with selling trends and revenue per square inch on a page. The new, presumably better publishing system, must be sold in a way that clearly demonstrates that the system approach is superior to the point solution offered in the past. At the earliest possible stage of product design, engineers must appreciate the changed dynamic that will occur in the selling process and design the product or service in a way that will make the benefits easy to demonstrate to different departments within an organization. It is easy to assume that knowing the technical application of a new product or identifying a market segment where it will be sold is enough to succeed. An organic approach "embeds" marketing into the design process so that the roles of influencers and decision-makers in the sales process are also familiar concepts for engineers.

To succeed with products where the sale will cross organizational boundaries within a customer's organization, vendors need to cross their own organizational boundaries between development, marketing and sales professionals. Cross-functional teams must be established and encouraged to create tactical programs that will overcome potential complexities in the sales process. These teams need to be in place and communicating effectively right from the outset in the design phase of the product. Assembling the key players when the product is in beta test and ready to launch is too late.

Engineering management must articulate the importance of active participation by engineers in this process early on. Too often, technical professionals regard their time spent in discussions about customer acceptance and marketing issues as time taken away from the all-impor-

tant design process, when in fact, it can mean the difference between commercial success or failure for a product line. The counterpoint is also true. Sales and marketing managers are often reluctant to initiate direct contact between engineers and customers (or prospects), perhaps for fear that they will derail the sales process by asking too many questions. Quite the opposite is true. A thorough understanding of the customer's perspective should never be harmful to the design process as long as feedback is acted on selectively, based on business rather than technical justification.

Business metrics can be based on factors such as growth potential for a product or a piece of functionality, and alignment factors with the company's core business or strategic direction.

Overcoming the information barrier will require a fundamental **change** to the engineering **organization.**

### *the change-in-behavior barrier*

Are you asking your customers to change their behavior or current way of doing business to realize the benefits of your new product? An important consideration in product design is how users may be forced to work differently with a new technology, than they were accustomed to interacting with the solution that is being replaced.

Digital X-ray technology for the medical profession is an example of a new concept that has not delivered on



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promised benefits because designers failed to anticipate the human engineering aspect of how users would have to alter their behavior in using the new system. The promise of digital X-rays was reduced cost of film, a huge expense for hospitals and clinics. An additional benefit was the ability for a doctor to bring in additional expertise as colleagues at different locations could view the digital X-ray in real time.

In theory, digital X-rays can be stored electronically and viewed on high performance monitors - with new software tools for enhancing image quality, contrast and resolution. Higher performance and lower cost - it should have been a slam-dunk. However, radiologists had a hard time adjusting to looking at, and trusting, an image on a computer monitor, rather than the familiar film negative. So they would "print" the digital X-ray in order to view a piece of film, continuing the behavior they were comfortable with. The result was greater use of film because electronic storage (a new and better feature) made it so easy to make additional copies at multiple locations. The overall result was the opposite of what the new technology was designed to do. Hospitals had higher costs (the digital system plus more film being used) and no performance improvement because doctors were still looking at film.

The idea of digital X-ray technology was not a bad one, but early on in the design process the human behavior factor needed to be recognized and addressed. A cross-functional team of engineers, sales and marketing professionals brainstorming a solution months ahead of the time users would actually touch and feel the technology, could probably come up with a proactive tactical program that would diminish behavioral issues as an inhibitor to market acceptance.

Often, a new technology needs to gain a "critical mass" of users, before the product becomes widely acceptable. A way to drive toward critical mass might be to emphasize an application of the technology in a situation where the benefit is so compelling that it overrides

behavioral preferences. In the case of digital X-rays, real-time access to information could be most critical when a patient is in the operating room in a remote hospital, and consultation is necessary with experts located at other locations. Highlighting such an example to potential buyers could help accelerate the sales cycle for vendors of the technology.

### maximizing ROI

**T**he focus on "time-to-revenue" versus "time-to-market" combined with product design founded on sellability offers a new perspective and demands a fundamental change in how product development organizations view the design process. The traditional approach of expecting a product manager to simply decide what features will be included in a product is too limiting a view of what is required to assure marketplace success.

A lengthy sales cycle should be seen as a possible symptom of a product development and launch process that can be improved. It does not, however, imply that the product concept is bad or doomed to failure. Many organizations give up too early, resulting in technology sitting on the shelf, cancelled projects and wasted investments. This process can be high in both frustration and expense to an organization.

By adding a focus on the concept of designing for "sellability," your engineering team can feel that it has made a significant contribution to delivering a winning product (and business) for their organization. By recognizing and putting a plan in place to overcome the 4 critical barriers to sales, in parallel with development efforts, companies can prepare their customer base to buy their products on the first day they are available. All of these actions will serve to improve your product delivery process, decrease time to revenue & maximize ROI.