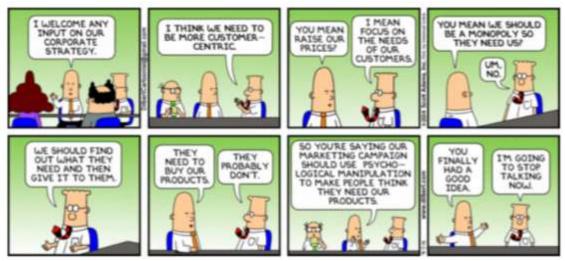# Market-Driven Product Definition (MDPD)

Executive Summary

Since 1990, Product Development Consulting, Inc. (PDC) has helped companies efficiently and predictably build market-winning products and portfolios using customer-centric innovation. The cornerstone of its offerings is an approach called Market-Driven Product Definition (MDPD®), which builds on the rich and deep expertise of PDC's principal consultants, honed over years of real-world experience. This white paper offers an introduction to the MDPD process for executives and managers interested in improving their success rates with new product introduction.

Scott Adams' Dilbert; used with permission

Introduction

The problems that lead to product failures are not new[1]. For years, companies have sought to improve profitability by adopting the business management strategies and philosophies *du jour*. But most of these strategies and philosophies place the company and its products—not the customers' requirements—at the epicenter.

Contemporary authors, consultants, and top management spout phrases such as customer orientation, customer-driven, listening to the voice of the customer, becoming more customer-centric, customer awareness, and customer retention to emphasize that the customer and market drive the business.

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[1] The commonly cited statistic for product failure rates—usually around 80 percent—may be too high (see the discussion here), but even a lower number of 35 or 40 percent is hardly stellar.

In reality, however, a yawning gap exists between how well senior managers *think* they address customer concerns and how well they actually do so, making for what could be called a customer-centricity gap.[2] With inaccurate perceptions of their companies' commitment to customers, senior managers can hardly be expected to support additional efforts to systematically identify customer needs. Further, the range of variables related to customer-centricity are somewhat amorphous and difficult, if not impossible, to measure, while quality can be quantified and easily measured in defects, yield, warranty repairs, returns, and customer complaints. This helps explain why companies have not addressed the customer-centricity gap with the same enthusiasm they've applied to conquer quality problems.

Closing the customer-centricity gap must start with adopting a customer-centric product definition process. Much of the literature, while describing customer-centricity in detail[3], offers little guidance about how to identify and capture customer requirements and translate those requirements into successful products—in other words, *defining the product*. Many books, web sites, and workshops cover the phases of the product development process—prototyping, manufacturing, testing—that follow product definition.

But the problem begins much earlier, at the front end of the development process, when companies conceptualize and plan the product.

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[2] Adjunct Professor Christopher Hart from The University of Michigan Business School studied 17 divisions, ranging from cellular service to defense systems, of a multibillion-dollar company and confirmed the existence of this gap across all divisions. Senior managers rated themselves A- in customer priority. As the level of employees dropped, perceptions and ratings dropped as well, to a low of C-.

[3] Strategy& (formerly Booz&Company) offers a nice overview of the characteristics of a customer-centric company (*The Customer-Centric Organization: From Pushing Products to Winning Customers*, by Matthew Egol, Paul Hyde, Frank Ribeiro, Andrew Tipping; Originally published by Booz & Company: July 7, 2004).

> **The goal of market-driven product** definition is to define a product that will have value to customers and lead to market success. While the recipe for product success may be simple—delight the customer by creating a product that fills a unique market need better than competing solutions—the simplicity of the idea belies the complexity of actually carrying it out.

Product development must incorporate customer-centricity at the earliest stages of the product development process when the company decides what product it will create and for whom, and what features will entice customers to buy the product.

Product Development Consulting, Inc. (PDC), a firm devoted to helping companies optimize processes throughout the product lifecycle, from strategy to product retirement, has worked in a wide range of industries since 1990. Its consultants have seen the inside of the product development process at hundreds of organizations. As a result, PDC developed an approach that not only bridges the enormous gap between theory and practice, but also begins where the process must: at the very beginning.

The current state of market-driven product definition

The phrase "the customer is always right" dates back at least 100 years[4]. But only in the last twenty years or so have companies seized on pleasing the customer as a strategy for success. During this time, customer relationship management systems arose and evolved and *voice of the customer* became a familiar phrase to product developers interested in creating products that more closely match what customers need and will value.

There are several problems with the typical approach to gathering and using the voice of the customer (VOC) to define a product.

- Customers don't always know, or can't always articulate, what they want.
- What customers *say* they want may not provide a useful blueprint for creating a product.
- Some methods used to gather the voice of the customer (e.g., surveys, focus groups, informal meetings) are not deep or rigorous enough to yield useful information.
- Without a meticulous process for transforming the customer's voice into customer requirements, and the requirements into an accurate product definition, VOC is just a lot of words.

A market-driven approach to product definition encompasses not only a focus on the customer, but a broader focus on the evolution of the market and the competition. Weaving these threads together with business strategy results in a more successful product. Often you may not know at the outset exactly who your customer is, particularly if you are entering a new market space. The process of defining that market is iterative, a back-and-forth between your strategy, your core competencies, and customer reality.

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[4] According to the site http://www.phrases.org.uk/.

Why business as usual doesn't work

Consider some typical approaches to gathering data about customers:

- In-person customer interviews about current products
- Focus groups with customers and/or non-customers
- Surveys of customers (or non-customers) online about areas of pain
- Data from CRM or other automated customer systems
- Anecdotes from sales staff about customer problems
- Monitoring of social media sites

An informal survey of product development professionals revealed that a large percentage of them rely on in-person interviews, customer surveys, and anecdotes from sales staff. These methods may offer interesting viewpoints and supplementary data, but none provide the rigor that allows for a creation of a defensible strategy *that can be backed up with investment*. Let's look at some of the flaws inherent in each approach.

In-person customer interviews about current products.

The drawback here is the focus of the interviews. Interviewing customers in person, particularly in their work or home environment, is the gold standard for obtaining a rich set of data to work with (see ethnographic research, below). But just as important as the interview venue are the questions and the way they are asked. Too often, in-person customer interviews focus on what's wrong with the current product or service the customer is using. This approach is likely to close off promising areas of innovation before the product definition process even begins. In contrast, asking open-ended questions about the customers' broader challenges with getting their jobs done or being successful opens up opportunities for defining solutions to problems that customers didn't even know they had.

Focus groups with customers and/or non-customers.

It's wonderful to get non-customers involved. And the focus group can be useful for certain types of research, evaluation, and feedback. But whether with customers or non-customers, the focus group is not optimal for gathering customer data. The focus group setting is artificial by design and does not allow for the kind of spontaneous observation that can be such a valuable component of in-person research. Nor does it allow for the development of trust. How likely is someone to open up about past failures among a group of strangers? Yet it's often those personal discussions that yield the richest fodder for beginning to define a product.

Surveys of customers (or non-customers) online about areas of pain.

Asking about areas of pain can be a great way to explore the obstacles that stand in customers' way. However, the survey format closes off further discussion and exploration. Surveys usually provide limited choices. Even when surveys offer text boxes for exposition, the researcher can't follow up to explore an idea or concern in more detail.

Data from CRM or other automated customer systems

CRM and other marketing automation systems are often essential, especially for large companies managing millions of customer interactions. Data mining and analysis can provide invaluable insights about customer interactions. As a data source for product definition purposes, however, marketing automation systems suffer the same drawbacks as customer interviews and online surveys: they focus exclusively on customers and they do not allow for open-ended discussion.

Anecdotes from sales staff about customer problems

If you have a human sales force interacting with customers, you absolutely want them to develop relationships with, understand, and empathize with those customers. But too often, individual anecdotes—especially if they relate to large accounts—send product development teams scurrying to satisfy an individual customer's need, which may or may not align with the company's strategy and with the needs of other customers. Stories from sales staff can be a starting point or adjunct to rigorous research, but cannot form the sole basis of a company's product direction.

Salespeople also pay a lot of attention to what is happening *now*. And that makes sense: their job is to make money today, on products that already exist. Their conversations with customers often delve into what is lacking in their company's offering versus the competition. This data may help them sell, but it doesn't help your product designers envision the *next* product, one that solves a currently unsolved problem with strong differentiation.

Monitoring of social media sites/crowdsourcing

Along with CRM systems, methods of monitoring social media are a necessity these days, especially for large companies. Companies sometimes use the voices and ideas captured in social media as a method of crowdsourcing. The thinking is that if many individuals are talking about a particular problem or suggesting an idea, the idea must be important or worth pursuing. Unfortunately, the potential distortions introduced by social media, and the fact that you can't vet sources, makes this an unreliable method of data gathering for defining new products.

Note that we are not suggesting that companies should *not* use these methods of listening to customers, but that such methods should not form the sole basis of a program to capture the voice of the customer for product definition purposes.

Strategy must come first

We have to say a quick word about *strategy* before we move on to a deeper exploration of effective methods for capturing and translating the voice of the customer.

Our purpose here is not to assist with the formulation of a corporate strategy. Scores of other books and articles are available on that subject and there are many approaches to doing so. In general, however, developing a strategy involves some combination of setting objectives, analyzing corporate strengths and weaknesses, analyzing the market and

competitive landscape, formulating the strategy, and implementing and assessing the strategy.

The important idea is that the results of creating an initial strategy help define both an *innovation space* that provides direction to the company's innovators and a *market space* that puts boundaries on which markets to explore. Strategy suggests what kinds of customers to talk to and in what areas you need to gather information. Your strategy tells you whether you are going to solve a customer problem by making computer components or surfboards. You then conduct systematic research of customers, prospects and technologies *in this innovation space* and build a portfolio of opportunities—a database of problems from which to draw on to develop products. Strategy is sometimes embodied in a road map, a document that captures where you're going. Destinations on the road map may become products or projects.

In short, strategy helps fit the company into an existing market landscape and provide a path for moving forward.

Make metrics a forethought, not an afterthought

Metrics make poor policemen—numbers alone don't change behavior. And while almost every company attempts to measure its product development efforts in some way, very few are satisfied they are measuring the right things. The goal of any metrics initiative should be to allow a capable leadership team to make early, informed decisions.

This means metrics must be baked in from the beginning, rather than being tacked on at the end. Most measurement activities are an afterthought, following the development of a product or the launch of a program. Metrics often are based on nothing more than the feeling that a particular measurement seems relevant.

> Metrics make poor policemen.

Now flip that approach on its head. *Start* with the outcome you're trying to achieve rather than with the actual measurement. Are you trying to be the number-one provider of cell service, by market share, in the Northeastern United States? Are you trying to become the sole supplier of high-end chocolates to boutiques in large cities? Are you aiming to produce the most reliable fan motors for the automotive industry? These questions must be asked and answered at the top-most level of a company *before* you begin developing your product or service.

The answer to the "What are you trying to do?" question is your goal. Easy enough. What's not so obvious is that the goal of the *company* is not the same as the goal of the R&D department, or of the marketing director, or the customer service rep. This doesn't mean the goals conflict with one another. In fact, herein lies the key: the goals must be aligned while not necessarily being the same.

Metrics also come into play at the level of individual product requirements, as discussed later in the section below on requirements.

Putting the buzzwords to work

VOC, customer requirements, ethnographic research... if your job involves creating or marketing products, you are no doubt familiar with all of these terms. In this section, we dig beneath the surface to look at how all these ideas can fit together to help you create a product that will delight your customers.

Voice of the customer and the importance of the interview

We all like having conversations with customers, but a *conversation* is a two-way information exchange that can skim the surface as it shifts from topic to topic. By contrast, a *structured interview* takes a subject below the surface with the use of probing questions, follow-up probing questions... and then more questions. The interviewer maintains a laser-like focus on the topic at hand and doesn't share his or her own perspective. This technique requires discipline and usually means training anyone who is expected to conduct such interviews.

The content of the interview is important, too. Unlike a conversation—which often concerns familiar products and services customers already use—the structured interview process should inquire about *problems*, not *products*. Talking about problems naturally pushes us outside our comfort zone. Depth—and a little discomfort—is required to uncover problems people aren't talking about yet.

Ethnographic research

Ethnographic research has its roots in anthropology and social science, but increasingly, businesses are taking note of its value in market research. It's one thing to *ask* customers what they are doing, thinking, and feeling. It's quite another to directly observe what they are doing—and from that, begin to paint a picture of the world they live in and what stands in their way.

This approach to "living in the customer's world" often yields insights that form the foundation of completely new approaches to problem solving. In the case of a hospital struggling with document management, interviewing nurses about their experience might get you answers such as "I can't find my patient's records when I need them" or "The doctor was annoyed because she received the wrong medical chart." Observing the nursing staff, however, would reveal rich details about their movements throughout the hospital, patient interactions, time spent on the computer, and other details that paint a much broader portrait of the document management challenges they face.

> Ask the customer to paint a picture

The potential problem with ethnographic research—especially if you rely on it as your major method of gathering information about customers—is that it gives you a time-limited view of the customer's environment. Unless you essentially live with a customer for an extended period of time, you may miss events or activities that, while they don't occur all the time, are important contributors to the customer's experience. Combining one-on-one interviews with ethnography provides the fullest view. You can ask the customer to paint a picture of their most trying day, the most unusual situation they found themselves in, or the last time they encountered a particular problem, ensuring you don't miss a crucial area of research.

Requirements

Ultimately, you need to end up with a list of actionable requirements that you can use to begin to define a solution. But making sense of so much data about customer needs can seem overwhelming. If you've conducted your interviews right, you'll have many pages of transcripts. You may have hours of video and notes about direct observation of customers. Without a methodical process for distilling all this data, you'll never figure out what you have—much less what's really important.

Images provide a powerful tool for understanding the voice of the customer. An image is nothing more than a brief story about what it's like to be a customer. For example, a nurse who uses injection supplies for a pediatric clinic might tell you about the stress of a day in the clinic. The image that helps you crystallize that customer problem would be "I've got a mother jiggling her baby to help calm it and I can't get her to keep the baby still long enough to give the shot."

Once you've distilled images from the transcripts of customer interviews (and yes, we recommend recording all interviews so you have an objective, word-for-word record of what customers said), you can go back to the transcript a second time to cull additional problems that might not initially have been expressed as images.

> **What makes for an actionable requirement?** One that
> - is stated in subject-verb-modifier form
> - includes measurable but not restrictive targets (e.g., "minimum amount of time" instead of "2 minutes")

Translating data into requirements involves a number of steps, including
- reducing the number of images to the critical few;
- constructing an image diagram (a shared image of the environment, customer, and problems);
- distilling images and customer problems into requirements; and
- reviewing the initial customer interviews to be certain you've captured all the significant customer pain points.

If all of this sounds abstract, consider the simple example below for a persistent problem: getting help through a call center. The images help you broaden the voice of the customer to multiple spaces.

VOICE OF THE CUSTOMER	IMAGES	CUSTOMER REQUIREMENTS
"I'd like to get to the person who is going to help me the most and the most quickly."	"I need an answer NOW but I got transferred six times." "I got stuck in voice-mail hell—every button I pushed got me another recording. Where are the real people?"	Customer can obtain help quickly. Customer can obtain help with the minimum number of interactions. Customer can get problem answered by interacting with a real human in a maximum number of instances.

This is also the time to employ *measurable* criteria to evaluate different ways of meeting customer requirements. You can use SMART (***s****pecific,* ***m****easurable,* ***a****ctionable,* ***r****easonable,* and ***t****imely*) metrics for all your customer requirements—and on competitive products—to help you determine what solution is best in class today. Survey respondents will indicate whether they want a requirement met better than, or at least not worse than, it is being met today. These survey results can help you form a conservative definition of today's best-in-class solution.

With measurable requirements in hand, there's one more step before moving ahead with generating solutions that can prevent you from pouring resources and time into the wrong areas: surveying to validate and prioritize your requirements. There are many ways to do this, including Kano surveys and importance rankings. It's beyond the scope of this paper to describe in detail how to scope your R&D investment. The important thing is to pause and gather additional feedback before you charge off into the solution generation phase. Why? Because *re*-doing a product—or tweaking requirements once you have begun production—is always more costly than getting it right in the first place.

Brainstorming/solution generation

The final part of the process of customer-focused product definition, sometimes referred to as *ideation*, involves creating a manageable set of solutions in a form that's easy to evaluate. It matters less how you arrive there—through common practices such as solution brainstorming and storyboarding or more esoteric ones such as TRIZ and future mapping—than that you evaluate the ideas that arise, often at the level of individual requirements. Bringing customers into the process again, using techniques such as conjoint analysis and value mapping, can be incredibly valuable at this stage.

The importance of a cross-functional team

Too often, responsibility for product definition rests exclusively in one functional area of the company such as product marketing. While delegation and specialization sometimes makes for more efficient operations, this is not the time to separate different divisions into functional silos. No single department—be it marketing, engineering, sales, quality control, IT—should have exclusive access to or ownership of customers. You need a cross-functional team to gather insights about customers. Otherwise, your efforts can devolve into territorial disputes. The marketing director insists "his people" have their fingers on the pulse of the customer while alienating the engineers, who feel they know what customers want because they make the product.

> No single department should have exclusive access to customers.

The benefits of assembling a cross-functional team to be involved all the way through the product definition process include 1) deeper understanding by everyone of why certain decisions are being made and 2) the ability of teams to make informed decisions down the line when faced with the inevitable need to make trade-offs.

Conclusion

This paper provides a brief look at the many success factors and some of the steps for moving towards a customer-centric approach to defining products.

The MDPD process is a robust and thorough method of uncovering expressed and—more importantly—unexpressed or latent customer desires and needs. It provides a detailed framework and develops factual criteria for evaluating new products (and competitors' products) against customer requirements. It's a process that begins with the customer and allows the development team to deeply empathize with the customer. And it lets *what customers value* drive the organization to develop the right products, at the right time, for the right price, in the right place.

If you're interested in moving toward a more customer-centric product definition process such as MDPD, the most important first step is to make the commitment to do so at the highest levels of management. From there, you can prioritize and work through the steps to implementing it. Making the shift requires a commitment of time and resources—but the payoff comes in products that arrive to market faster, more closely match the future needs of customers, and increase profits by providing superior value.

Since 1990, PDC has helped companies create market-winning product portfolios using customer-centric innovation management. PDC's services span the product development spectrum, from portfolio management and voice of the customer to product definition and metrics.

Working with PDC, you'll not only develop a deep understanding of your customer's beliefs, desires, and environment, you'll apply the data you gather to answer the trickiest product development questions.

See PDC's web site at **www.pdcinc.com** for more.

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