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John W. Mullins

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In January 2005, Kenn Jorgensen and Cassian Drew, two British entrepreneurs who were passionate about rock climbing, wanted to know if their sport could be adapted for use in exercise facilities. Indoor climbing walls already existed, but

they were used by serious climbers in urban areas as substitutes for outdoor rock formations that weren't easily accessible. What if a new kind of low-impact, high-tech exercise regime could be created that was done on climbing walls just a few feet off the ground in ordinary fitness studios with ordinary ceilings, invigorating music and a spirited instructor — but with walls equipped with climbing holds?

“A surefire winner,” said one of their rock-climbing buddies. “Not a chance,” said a female fitness aficionado who worked out three times a week in a nearby gym. Jorgensen and Drew decided they needed to confirm or refute what they thought they knew about their innovative idea: bringing climbing concepts to fitness studios. More crucially, though, they set out to try to discover the unknown unknowns — the “unk-unks,” as such unknowns have long been called in engineering and project management circles. In other words, they sought to identify things *they didn't know they didn't know* that could derail the new venture they were considering.

In a series of interviews with fitness operators, the would-be entrepreneurs made a number of discoveries. First, it turned out that mirrors, which were found in most fitness studios, were superfluous to the studio operators and their customers. There would be no reluctance to replace them

with climbing devices. Second, fitness studios were concerned with maximizing the use of their facilities throughout the day. Rooms that served multiple purposes could earn revenue in multiple ways. What's more, the typical fitness studio spent roughly \$56,500 each year on capital expenditures, more than enough to tear down the mirrors and install the proposed climbing holds.

This information represented good news for Jorgensen and Drew. But all these lessons learned were *known* unknowns — things they knew they had to ask about. As their thoughtful questioning built trust with fitness operators over a series of meetings, Jorgensen and Drew continued their questioning. They were searching for unk-unks — barriers or customer needs that they had yet to uncover.

As things turned out, there was one such unknown, and it caused Jorgensen and Drew to abandon their business idea. It turned out that the profitability model in fitness studios revolved around a simple metric: operating cost per participant per class. The target was roughly \$1.50 per person per class, including the instructor's time, any other variable costs and the amortization of any fixed costs to equip the facility or the customers. The maximum acceptable cost was about \$1.88 per person per class.

This unk-unk was serious enough to send the two would-be entrepreneurs back to their day jobs. They realized that the economics of equipping the studios with climbing holds would make their exercise concept prohibitively expensive, even if they amortized the costs over 15 years — far too long for a trendy market like this one.

Discovering Unk-Unks: A Problem Every Innovator Knows

“It's what you don't know that can kill you,” is a saying that savvy innovators understand. The problem for most innovators, whether entrepre-

How innovators identify the critical things they don't even know that they don't know.

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neers or managers in established companies, is not coming up with new ideas; ideas are fairly easy to come by. The real challenge for innovators is to establish empathy with the customer, to get out of a seller's mindset and into a user's or customer's mindset and to find a way to uncover what the customer really needs.

Understanding latent — but often very real — needs that customers are unlikely or unable to readily articulate is crucial, but it doesn't happen

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automatically. Prospective customers often cannot consciously identify the problem or concern until they see its solution, especially for radical innovations. And radical innovations, while riskier than more evolutionary product improvements, are where the real upside of new product development generally lies. The dismal failure statistics for new products suggest that this issue is not one that has been resolved.

Why is discovering the unk-unks — learning what you don't know you don't know, or what your customers don't know *they* don't know — important? If customers already know they need what you plan to offer, they've probably already told someone about it, including your competitors. Many of the most exciting breakthroughs that innovators bring to market are innovations that customers haven't known they needed. "Why didn't I think of that?" is a common refrain after such breakthroughs appear. To the extent that you can find some sort of customer pain that others have not recognized or found a way to address in the arena where your innovation seeks to play, you will have an opportunity that's far ahead of the mundane product improvements or product-line extensions that your competitors are pursuing.

For more than 10 years, I've been studying how entrepreneurs, new product development teams and venture capital investors assess opportunities. I've found that many entrepreneurs and new product developers, having been advised that evidence of customer demand is necessary in their business

plans, decide that the quickest and easiest way to tackle this requirement is to formulate a survey and distribute it via the Web, asking a number of questions about factors that they hope will show what people might like about their idea. That approach is problematic, for several reasons.

First, since innovators often are already convinced that their idea has merit, their mindset isn't one of discovery or learning; it's one of proving why their idea will work. That is not a good approach to learning about what the customer really needs. Second, evidence from successful venture capital portfolios indicates that what is likely to work in most new ventures isn't the Plan A that the business plan so lovingly articulates. It's a yet-to-be-discovered Plan B. Third, there are at least three common reasons

that Plan A is unlikely to succeed: Either the initial target customer is not the right one or the initial product is not what customers will buy or the economics of the original idea simply won't work. In many cases, the initial plan will have problems for all three reasons. An entrepreneur's well-intentioned survey may well be asking questions of the wrong people, about the wrong product and about what is quite possibly the wrong pricing model.

Conventional market research techniques such as surveys are useful for reducing uncertainty by clarifying what the consumer's response will be to factors already identified. Surveys and focus groups simply are not designed to resolve the kinds of uncertainty that the new product or new venture context entails — uncertainty about who the customers are and what they really need, and uncertainty about what technology can deliver.

The Long Interview

What innovators need is a systematic way to uncover factors or issues whose identity they don't yet know. The long interview, a well-established technique in social science research, is an excellent tool for this purpose. For additional detail, see G. McCracken, "The Long Interview" (Newbury Park, California: Sage, 1988). Much of the interviewing approach in this article is based on the methodology described by McCracken.

The long interview technique can draw out answers to key questions innovators need to ask — including questions they don't even know they

should ask. The long interview differs sharply from more traditional guided interviews, which typically have lengthy checklists of clearly focused questions and seek direct answers to questions that the interviewer knows to ask. In a long interview, the idea is to ask only a few open-ended questions that let the respondent go where he or she may. A series of prompts — barely questions, since they are so short — are then used to encourage the respondent to say more about a theme just mentioned, or to address — again, in an open and nondirected way — another topic that’s on the interviewer’s mind but has gone unmentioned so far. Ideally, a long interview should be conducted in person, because respondents will generally talk longer in person and will give the interview their full attention.

How can innovators use the long interview technique? Suppose you have an idea that you think is truly innovative and could help your organization grow. You’ve probably already talked with lots of people about your idea. If so, you’re off to a great start. Or perhaps you’ve kept your idea so secret, out of fear that it might be stolen, that you’ve been unwilling to let it see the light of day — a risky approach at best. If you are like most innovators, though, chances are you’ve made one or more of the following mistakes that will have limited what you’ve learned from whatever conversations you’ve had:

You’ve let your enthusiasm show through. Doing so is great for selling, but it can limit the amount of honest feedback you’ll get when your purpose is to learn rather than to sell. Most people don’t like to disagree in the face of an innovator’s enthusiasm.

You’ve focused on your idea rather than on customers’ concerns. Rather than asking first about the customer’s needs or any shortcomings, unmet or poorly met needs in the way they do things now, you’ve jumped right into “me” or “my idea.” Doing so can inhibit your learning about alternative solutions to the customer’s problem, some of which might be simple modifications of your idea or even something completely different.

You’ve asked leading questions. Suppose you ask, “Do you think this method is faster?” The

implication that it is faster will prompt some people to agree, whether they’ve really thought about it or not.

You’ve asked questions that can be answered with a “yes” or a “no.” Such questions tend to close off the conversation, rather than keeping it open to see where it might lead.

The long interview technique addresses each of these problems and serves two key purposes. First, it lets you seek answers to questions you already have without biasing the respondents. Second, it encourages prospective customers to tell you things you do not know to ask and that they would not otherwise think to tell you. That helps you discover the unk-unks — the important factors you don’t know you don’t know.

Planning the Long Interviews

To conduct some fruitful long interviews to better understand your prospective customers and their needs, you first need to construct an interview guide, which is easily done in a page or two. Start by creating two lists: What you think you know about your idea and its use — and what you know you don’t know and want to explore.

Preparing these lists serves two purposes. They will provide some structure for your interview and thus enhance what you learn from it. Furthermore, acknowledging what you think you know and don’t know will help you remain detached enough from your own assumptions to learn.

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Note, though, that the two lists don’t begin to address any unk-unks, since a list of unk-unks, by definition, cannot be created at this stage.

With these lists now in hand, you’re ready to develop your interview guide. (In fact, you are almost done, although you’ve barely started.) Your interview guide will consist of five elements:

1. A brief introduction and some opening biographical questions to put the customer at ease.

2. A few (probably just two) “interview-driver” questions. These are broad, open-ended questions to encourage respondents to tell you two things from their own perspective. With the first interview-driver question, you want to learn everything that’s relevant to respondents about the occasions in which they might use your product or service. Note, though, that this first interview-driver question is not really about your product. It’s about the respondents: their attitudes, motivations and be-

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havior on such occasions. With the second interview-driver question, you want to learn everything that comes to a respondent’s mind — not yours — about your concept.

3. “Dig-deeper” prompts for each interview driver. There are three kinds of dig-deeper prompts. First, in an in-person interview, you can simply raise your eyebrows, following something the respondent has just said. Maybe they’ve suggested — much to your surprise, as you hadn’t thought of it before — that it would be good to add a particular “Feature X” to your product, a topic about which you’d like them to go deeper and tell you more. A similar dig-deeper prompt is to repeat a word or phrase the respondent has just said — “Feature X?” — with a questioning tone. A third alternative is to ask, “What do you mean, Feature X?”

The purpose of these dig-deeper prompts is to get respondents to tell you more about whatever they just mentioned. It might be a topic that’s already on your lists of what you think you know or don’t know, but go ahead and listen to what the respondent has to say so he or she can either confirm or refute your current knowledge. Or it might be something not on your lists — an unk-unk, something you don’t know you don’t know. You are hoping to glean from your interviews the one or two of these unk-unks that may dramatically affect your thinking and perhaps reinvent the category in which you will operate.

4. A number of “dig-wider” prompts. These include elements from your lists of what you think you know and don’t know, preceded by the phrase, “What about ...” or occasionally “What if? ...” For example, if you are exploring consumer needs around a new concept in Internet banking, some of your dig-wider prompts might look like this: “What about interest rates? What about moving your money? What about safety? What about mortgages?” Note how short these questions are. By using as few words as possible, you aim to encourage the respondent to keep talking.

5. Some of what I call “out-of-the-box” prompts. There are two kinds, each beginning with “What about ...” or “What if? ...” The first kind of out-of-the-box prompt is what McCracken calls a “contrast prompt.” Use these to ensure that all the alternatives are fully examined. The key word in contrast prompts is usually “not.” For example, “What if this food product is *not* meant to be eaten at meals?”

The other kind of out-of-the-box prompt is an “exceptional incident prompt.” Use these to explore nonobvious uses or situations where your idea may have utility. For example, you might ask, “What about any crazy or unusual uses for this product?” Here, the purpose is to get your respondents to stretch their thinking in ways neither you — nor perhaps they — had previously thought of. You may find some more unk-unks this way, too.

What You Can Learn From the Long Interviews

From your first interview driver and its subsequent prompts, you’ll learn much about how your idea might or might not fit into your intended users’ current attitudinal, motivational and behavioral patterns. You might find your idea fits quite nicely, or you might find there’s a mismatch. You might get some ideas for adjusting your concept to make it fit better if you are generally on track. You might also find there’s something — an unk-unk — the customers need more than what you were thinking about, and this may prompt you to redirect your innovation efforts entirely.

From your second interview driver — the one focused directly on your idea — and its subsequent prompts, there are several kinds of likely outcomes. One is that the respondents will have given a “thumbs down” to your idea. While this result does not necessarily mean you should abandon your idea, it suggests caution and an increased risk. If this is the kind of reaction you hear, you may decide to pursue something else that looks more promising.

Another possible outcome is that you get concrete suggestions about how to improve your offering to give it more utility or appeal, perhaps based on one or more of the unk-unks you’ve discovered. Alternatively, if you are lucky or especially insightful, you might get rave reviews that indicate your idea is a potential success. Whatever the outcome, rarely does an innovator fail to get useful feedback from an exercise like this. Such feedback can help further develop the offering.

Can Unk-Unks Really Be Discovered?

It’s worth thinking retrospectively about whether an unk-unk that was identified after a product was launched could have been uncovered earlier. Take, for example, the success that Silverglide Surgical Technologies, based in Boulder, Colorado, has had in selling its innovative nonstick electro-surgical instruments to neurosurgeons, plastic surgeons and doctors in other surgical specialties worldwide. Silverglide’s recent success belies the difficulty the company faced in bringing its first such instrument, a ball-shaped surgical probe, to market.

Silverglide’s founders had obtained rights to the probe and to its proprietary nonstick technology and saw its potential applicability to cauterization in surgical procedures, an application they knew something about. With an innovative product in hand and with some understanding of what they saw as a surgical need, they set about refining and marketing the probe — a perfectly sensible thing to do.

However, while surgeons who tried the probe liked the fact that it didn’t stick to tissue and was effective in cauterizing blood vessels to stop bleeding during surgery, using a probe just wasn’t how they were accustomed to operating. Only after struggling to build any meaningful sales volume with the probe did Silverglide’s founders discover

that what surgeons really could use were electro-surgical forceps that were truly nonstick. For many surgeons, forceps were the bread-and-butter tool they used more than any other. But sticking tissue was a source of real frustration. Only when some early users of the Silverglide probe saw its nonstick properties did they articulate their need for reusable forceps with similar properties. Silverglide’s nonstick technology was good, said the surgeons, but Silverglide was selling the wrong tool.

Could a series of long interviews have identified this unk-unk much sooner? Could nonstick forceps have been Silverglide’s Plan A instead of Plan B? It seems likely that a series of interviews with an initial interview-driver question targeted at the tools surgeons use would have uncovered their frustration with their current forceps. With proprietary nonstick technology in hand, Silverglide’s product development efforts then might have been directed toward forceps, rather than toward refining its probe. And a second interview-driver question targeted at surgeons’ reaction to the ball-shaped probe might well have raised questions about their likelihood of using a tool for which they had not been trained — a real unk-unk, as things turned out.

Unk-Unks: High-Octane Fuel For Shaping Your Idea

Like most promising innovations such as Silverglide’s nonstick surgical instruments, your idea does not simply await a “go” or “no-go” decision. In all likelihood, it awaits further developing, cajoling and shaping into something that’s better, faster or cheaper that customers will love. Twenty or so long interviews can provide the fuel to jump-start this process. Try doing some, and see how many unk-unks you can discover. Find out just how much you don’t know you don’t know.

John Mullins is associate professor of management practice at London Business School. He is the author of The New Business Road Test: What Entrepreneurs and Executives Should Do Before Writing a Business Plan (FT Prentice Hall, 2003). Comment on this article or contact the author through smrfeedback@mit.edu.

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77 Massachusetts Ave., E60-100

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e-mail: smr-orders@mit.edu