In order to generate new ideas, remain competitive and unlock breakthrough innovations, Phil McKinney argues that we need to ask more questions. Most recently vice president and chief technology officer for Hewlett-Packard's (HP) $40 billion personal systems group, McKinney retired in December 2011. During his nine-year tenure at HP, McKinney founded and directed the company's innovation program office. In his new book, Beyond the Obvious: Killer Questions that Spark Game-Changing Innovation, McKinney argues that you have to ask "killer questions" to test your assumptions and break through what you know -- to find out what you don't know.

Below is an excerpt from Chapter 1: "Why Questions Matter," which documents the thought process that led to the idea of killer questions.

One day when my kids were still little I was sitting in the car with my daughter Tara. She was about four years old at the time, and as we drove down the street she noticed the curb along the side of the road and got curious about it. Suddenly I was fielding question after question about curbs. Why did we need them? What would happen if there weren't a curb? What were they made of? What's so good about concrete? What's concrete made of? Every parent has had a similar experience, but that afternoon sticks in my mind because it was one of the first times I turned to one of my kids and said, "You know what, I don't know the answer to that. Why don't you find out for both of us?"

When we got home Tara ran to her room and started to try and figure out the answers to the questions. She was excited to find the answers because I hadn't known them, and I'd passed on the responsibility of figuring them out to her. What I realized at that moment was that the natural curiosity of kids gets lost over time. As adults we use our education and past experiences to solve the problems we face rather than relying on questions. It's these historical assumptions of what works that prevents organizations from generating new ideas. After all, you can't change your core beliefs about your organization or industry unless you change something in your perspective about your business, industry, your customers or yourself. Think of it this way; if you want to start generating new output you first need new input. And the only way to get new input is to either find new sources of information and inspiration or find new ways of looking at the same existing information you've been looking at for years.

There are many ways to generate new input, but the most effective is to learn to ask the kinds of questions that can lead you to a real discovery. This is true both of the kinds of questions you ask other people, and the ones you pose to yourself. It's also true both in the straightforward semantic sense (you need to be able to use words in order to phrase an effective question) and in the larger philosophical sense (you need to know how, why and when to ask the right kinds of questions).

In that moment with Tara I realized there was a difference questions can make in the discovery process. Learning how to effectively phrase, ask and use questions became one of the pillars of my innovation philosophy.

**The Power of Questions**

I've been fascinated by the power of questions, either good or bad, for my entire professional life. The more I thought about them, the more I began to notice how people used them. I started to see how some people had the innate ability to formulate and pose questions that propelled others to make investigations...
and discoveries of their own, and some people had the less desirable ability to shut their listeners down with bad questions, poorly asked. I believe that a good question is one that causes people to really think before they answer it, and one that reveals answers that had previously eluded them. I began to think more about how an individual could learn to ask good questions and avoid the pitfalls of asking bad questions. I also wondered whether a poor questioning technique could become a crutch, something that allows you to believe you are accomplishing something positive, when in fact you are doing the opposite.

As I listened to my children ask challenging questions of each other I realized I had taught them a profound skill. By passing on a love of questions I'd shared my belief in the importance of getting out there and proactively making our own discoveries about the world. My children weren't afraid or ashamed of not knowing an answer; instead they were invigorated by the process of finding it. I compared this attitude to the converse one that I'd seen throughout my career, namely employees who felt compelled to agree with their superiors or believed that saying "I don't know" would adversely affect their career. These men and women would have benefitted greatly from simply being empowered to admit that they didn't know, to ask good questions, and to seek out the relevant answers.

**Bad Questions, Good Questions**

The more I started to look at questions, and how essential they are to fostering creativity and innovation, the more I realized that there are *bad* questions and there are *good* questions. And within those good questions, some just aren't relevant to the process of ideation. The key to using this book is to develop the ability to separate the good, useful questions from the bad ones. Here's a quick guide:

**Tag Questions:**

During my search, I realized that some of the most important questions to avoid are ones that don't really ask for a response at all. For example, tag questions. Tag questions are statements that appear to be questions, but don't allow for any kind of answer except for agreement. A tag question is really a declarative statement turned into a question, and used to get validation for the speaker's "answer." Family members, authority figures, or executives who want to appear to care about the opinion of another person, but really want their instructions carried out without discussion, often favor tag questions. A tag question can show that the speaker is either overly confident of his or her beliefs, or so insecure that he has to bully others into agreeing with him. Either way, his phrasing of the question shows that he is not willing to consider an alternative point of view. You're not actually being asked for an opinion, simply for a confirmation that you agree with them. When lawyers use tag questions in a legal setting, they are sometimes referred to as leading the witness, the questions being posed in such a way as to guide the person in a desired direction, and that is how you should think of a tag question as well.

That presentation was fantastic, wasn't it?

The new brochure will be based on the last version, won't it?

Tag questions can be incredibly damaging both to an individual and to an organization because they shut down the creative process. Say you've been tasked to come up with a new product but your boss asks you to verify that "the new concepts that you are coming up with aren't going to be too different from the old ones, right?" By asking this question, she has taken away any power from your team to go out and do something really new. The fundamental point of asking a question is to get information, input, or ideas. Any question that restricts people from feeling free to honestly answer it is offensive; it reduces the quality of information you're going to get and makes the person being questioned feel that they are being dismissed.

Typically, a person who uses tag questions is a manager who believes that his role is to be directive. However, by doing so he misses out on the potential power of a team. Look at the way you communicate with your co-workers; if you find yourself asking tag questions ask yourself why. Do you doubt their ability to come up with their own answers, or do you already have an answer in mind that you would like them to validate? If you are simply looking to get validation for what you already want or believe, this runs counter to every philosophy about generating new and innovative ideas. When I'm working with a team, I'll always use a series of questions to see what they come up with, even when I already have an idea in mind of what the answer may be. Even if I give them that answer, it's always presented as a challenge...
for them to come up with something better.

**Factual vs. Investigative:**

After more searching and studying, I came up with two basic categories of good questions: factual and investigative. So, what are the differences between them? The objective of a factual question is to get information: "Do you want coffee or tea?" "How many units did we sell last week?" "Is there gas in the car?" You may not know the immediate answer to a factual question, but you know how to find it. There is no real discovery required beyond expressing your opinion, making a call, or looking at the gas gauge. Factual questions serve an important purpose in allowing us to communicate with each other and exchange information. They are limited in their ability to do anything more nuanced than gather information.

An investigative question, on the other hand, cannot be answered with a yes or a no and is much more useful for our purposes. By definition, it is a divergent question, meaning that there is more than one correct answer (unlike factual questions). It cannot be answered with one phone call, or a quick check at some stats or figures, and forces us to investigate all of the possibilities.

**The Socratic Method:**

So how do you generate some good investigative questions? One of my starting points is the Socratic Method. Socratic questions are, in their simplest definition, questions that challenge you to justify your beliefs about a subject, often over a series of questions, rather than responding with an answer that you've been taught is "correct." A well-phrased series of Socratic questions challenges you to think about why you believe your "answer" to be correct, and to supply some sort of evidence to back up your beliefs. At the same time a Socratic set of questions doesn't assume you are right or wrong.

When using this method, Socrates would lead his listener to a deeper understanding of his own beliefs and how and why he justified them. When a student attempted to fall back on a belief prefaced by "I've heard it said that such and such is true," Socrates would gently push further, asking him what he himself actually thought, until the student finally got to the heart of what he thought and believed. Socrates would also find contradictions in a student's expressed belief, and ask him questions that forced him to consider these contradictions. Ultimately Socrates' goal was to help the student unveil his own thoughts and his own beliefs, and see them clearly for the first time. It was only by finally articulating one's own thoughts and bringing them into "open air," that the student could fully understand the depths of his own knowledge.

Socrates believed that knowledge was possible, but believed that the first step toward knowledge was recognition of one's ignorance. It's the same in the idea-generation process; the first step to freeing yourself to find innovations is to recognize that the knowledge you currently have is insufficient, and that you need to go out and discover new information that will lead to new products or concepts.

My interest in the Socratic Method, and the glaring gap I found between Socrates' method of teaching with questions, and the way innovation and ideation is "taught" today, started me down the path of searching for specific questions that would challenge others to find opportunities for new ideas--questions I now call Killer Questions. It took me a while to determine them, but in the end I hit upon the old engineering standby: find something that works, and figure out why.

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