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Rainone's Rules

By Mike Rainone

Let's think about happy accidents for a change, instead of the train wrecks.

I believe that innovative companies win when times are tough. Let's talk about enhancing your innovation odds. In this environment, it might be useful to think about happy accidents for a change, instead of train wrecks.

A while back, CBS Sunday Morning had a wonderful segment about how many of today's most interesting products came from happy accidents – otherwise known as serendipity. Penicillin, Post-It Notes and Velcro were created by people who stumbled upon the ideas while looking for something else.

Martha Teichner, the Sunday Morning correspondent, cited Dr. Morton Meyers book, "Happy Accidents: Serendipity in Modern Medical Breakthroughs." Meyers says, "Serendipity refers to looking for one thing and stumbling over something else that proves to be of greater value." He goes on to say, "What serendipity means is misadventure, an inadvertent observation, a happenstance that a sharp, open mind can exploit to find its true benefit."

With all due respect to Dr. Meyers, I contend that there isn't any misadventure about it. Most serendipity comes from well-intentioned pursuits, not blind error. What is required is that sharp, open and prepared mind that recognizes that somewhere in your results, lurks something else of greater importance. To that end, here are some of Professor Rainone's lessons on enhancing creativity:

Lesson #1: Keep your mind open. Prepare to make seemingly unrelated connections.

Post-It notes exist because of a problem that could be solved with failed glue. Researchers were trying to create much stronger glue, but ended up with the weak adhesive we know today. It didn't solve the problem at hand, but 3M scientists later found a use for the glue - in notes which could be temporarily attached to a wall (or in my case, a computer monitor).

In product development, we call this "bottom of the funnel" serendipity, because one looks at the bottom of the funnel after a solution has dripped out to see what you can do with it. While the entire discovery was quite innovative, the true genius was in the recognition of a connection between the technology and a problem, namely a seemingly useless adhesive and a need for temporary attachment methods.

Lesson #2: Make sure the problem is well-stated. Exhaustively prod the statement and potential solutions for incorrect assumptions.

At the heart of genius product creations is "top of the funnel" serendipity. Getting the right drop out of the bottom starts with what's put on top. When we create the proper conditions during the development effort, we increase the odds of making a groundbreaking discovery.

The best product developers start with a well-defined problem, or as the famous inventor Charles Kettering once stated, "A problem well-stated is a problem half-solved." This is like shaping the funnel to seek the right solution. In practice, "shaping the funnel" can be accomplished with preliminary market studies, product need explorations, ethnographies and other tools.

Lesson #3: Include collective knowledge over a wide range of areas during ideation and development sessions.

In my experience, maintaining a vast database of current technology and drawing on exceptional talent from a broad range of disciplines provides tremendous insight and fuels inspiration.

"Serendipity can be planned, prepared for and enhanced."

The best breakthroughs are technology-based, and having a wide repertoire of technologies to look at enhances the chance that a solution can be found. Working across industries is also a great way to look for "odd" solutions. Even then, the critical piece of finding the breakthrough is the openness to recognize that an application of the technology can solve the problem.

Lesson #4: If something doesn't work, dig deeper.

Too many times, engineers toss a solution because they assume that a certain technology can't work. It sometimes seems that those classically trained in the sciences as well as hardcore engineers are hell bent on proving that something can't be done. They are unable to dig past the obvious solution and look for a twist.

While I work in an engineering function, my early training was as a clinical psychologist. I later did doctoral work in cognitive science. A clinical psychologist never takes a patient's words as absolutely true without question. They always look beyond the "net" of explanations for meaning in a stated "fact." The more I worked with engineers and scientist, the more I realized that they had a net for their technical explanations, as well. I found that as I dug deeper into their reasons why something couldn't work, the easier it was to prove them wrong.

Lesson #5: Make room and innovation will come.

It has been 40 years since the Post-It Note was invented. Since then, serendipity as a product development process has almost died.

Most Fortune 500 companies feel it's too expensive to have research and development teams engaged in non-directed pursuits, and they've slashed their R&D budgets, or eliminated R&D as a function.

Sadly, as corporations reduced or eliminated design engineers, the new product pipeline — which also had happy accidents — shut down. In recent years, a growing awareness of this loss of innovated edge has given birth to "open innovation," which is a fancy term that means to "go outside" for innovation assistance.

The fallacy is that most of these discoveries were accidental. With the right tools and mindset, serendipity can be planned, prepared for and enhanced. To do so, however, it must be cultivated and given room to flourish. The results will speak for themselves.

Mike Rainone is the co-founder of PCDworks, a technology development firm specializing in breakthrough product innovation. Contact him at mrain1@pcdworks.com or visit www.pcdworks.com. PDD