The Fractured Art Of Innovation

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On the subject of invention, there have been two long-standing camps: those who insist that creativity cannot be forced, and those who insist that process and tools drive strong innovation. Solve your innovation challenges by understanding that both camps are correct.

If you have never found yourself arguing whether innovation is a spurious, inspired calamity of inspired creativity, or if it is a process with structured tools and a disciplined approach, then you are either not a product development professional, or you have been working in an isolated closet for too long. The argument has been raging for generations.

The strange thing to me is that I don't understand why there is an argument at all. I believe that both sides of the issue are correct. The real solution to filling in the gaps of our innovation skills and methods is not to choose sides, but to ensure that we have a healthy balance of both perspectives. Quickly, let's examine them.

One camp resists the institutionalization of innovation. It insists that creativity cannot be forced, but comes from inspiration, which happens when it does. One cannot simply instruct or demand a creative solution to a difficult or impossible problem and expect it to appear according to a timetable. It's a fair position and easy to support.

The other camp insists that simply waiting around for inspired ideas is foolish. Trusting to luck is no way to run a business. With the correct identification of opportunities and needs, and some marriage of ideas and technology, new and exciting solutions and offerings can be produced. It's also a fair position and equally easy to support.

Which camp do you prefer? Before you answer that, let's shoot holes in both.

There is an old saying to the effect that an artist's curse is a blank canvas. In other words, without any ideas or inspiration to work from, it's difficult to create something wonderful. The same can apply to product or solution creativity. A blank screen is of little help.

This is where tools and methods like TRIZ and Value Innovation, to name two, can come in handy. Formalized tools and methods can help identify where opportunities for new ideas are needed. They can define problems to solve, or provide a plethora of inputs or concepts from which the creative juices may be squeezed.

That said, just because we use a tool like TRIZ or apply a structured methodology like Value Innovation, we cannot count on an inspired, revolutionary idea to manifest and solve our challenge according to our timely desires. There is still an element of creativity and art that must play out.

It's true for invention, innovation, and every other form of problem solving. We must be creative, and we must use methods and tools to inspire or drive that creativity. However, overly structured, high-pressure, excessively disciplined approaches can stifle creativity more than inspire it. There must be a balance.

There are three ways, according to the laws of the universe, to achieve balance.

1. Apply equal measures of each.
2. Apply none of both.
3. Compensate for a lesser amount of one by giving it greater leverage.

For the sake of brevity, we'll ignore #2 as not helpful, and we'll leave #3 for each of us to ponder on our own.

We can have a good discussion by discussing some options for applying equal measures of both systematic approach and inspired creativity.

There are many, many books, Web sites, and consultants out there that provide systematic approaches and tools toward problem solving and innovation. Without discussing an array of choices, consider that a robust innovation culture or program should include the following elements.

- A means of engaging customers and identifying opportunities to make things easier/better for them.
- A means of evaluating opportunities and making business decisions to develop a select few.
- A means of filling the “blank canvas” with elements, thoughts, ideas, or resources to fuel the creative process.
- A means of addressing risk, reducing from impossible, to improbable, to feasible, to promising, to production.
- A means of capturing ideas and lessons for future use/re-use so that the “trimmings” are not wasted.

I used the word “means” for every bullet because I don’t want to limit us to thinking that some of these elements are tools, or methods, or processes. There is some of each for every element. Entire books have been written concerning solutions for these. Chances are you are already incorporating some tools or methods to enable your innovation activities. Take a look and see that you have all the bases covered. If not, go shopping.

The creative side of problem solving and innovation is less discussed, though there are resources available to us on the subject. Again, rather than trying to capture what entire books try to describe, we’ll simply address a few fundamental principles.

Most will agree that creativity is a process that at least requires some participation from our subconscious minds. The subconscious works most effectively with our conscious when we are relaxed and in the proper mood. The creative process is also something that works most effectively if it is continuously practiced. That’s right, it should be treated just like a skill.

Let’s talk first about relaxing and setting the mood. I know, every engineer and technical-minded reader just rolled his or her eyes. Bear with me. I won’t go metaphysical, I promise.

It’s hard to be creative, for most of us anyway, when we are stressed. Timetables and “are you done, yet?” demands don’t help. We all know that we can’t take as long as we want to invent. “If it ain’t broke it don’t have enough features,” is no way to win the innovation war.

Here’s the trick. Put your creative activities on a schedule with reasonable time limits. Allow for and plan for iterations and repeats of exercises, brainstorms, and proofs-of-concept. It is a fallacy that creativity is a linear process. It is not. It is cyclical and iterative. Make it so.

While keeping the creative process to a time schedule, do not interfere with the creative process by trying to force it. Don’t do the “invent faster” or “are you done, yet?” thing. Let it be. If you can make it fun, that’s even better.

For engineers and artists alike, inventing and creating is fun. It’s why we became engineers in the first place. Let it be fun. Do everything you can to make it fun. Here are some simple and practical ways.

- Ensure that everyone has ample opportunity to share their ideas, with positive, constructive feedback – eliminate negativity.
- Let ideas be crafted into models, proofs-of-concept, or prototypes (on the surface this sounds expensive, but crude examples excellently enhance problem solving and communications and can accelerate the process; it’s a worthwhile investment).

- Encourage contests or friendly competitions, just keep it friendly and constructive.
- Ask for more, but do not show disappointment when you only get a little (we want to pull or draw creativity without shutting it down).
- Let people go over the top with their examples (if someone wants to put bug antennae on their model, or color it a strange pattern, there's no harm).
- Allow for a certain amount of levity or fun in the environment (let individuals decorate their workspace or keep fun toys).

Let me comment on a couple of these in particular. I worked for several years in a business that developed door locks and security devices. When a product design reached the prototype-and-test phase, we got in the habit of sending a working example to our various engineering teams with a challenge. If an engineer could defeat the device he or she would get a $50 gift, either cash or gift certificate.

We all understood that out efforts were not to interfere with duties. It didn't matter; we all participated on our own time, more for bragging rights or rivalry than for the $50. It was a great practice, it inspired a great deal of creativity, and it identified a fair number of potential weaknesses soon enough before production that they could be rectified. Contests and challenges can drive a great deal of creative thought.

Some managers and executives are of a mind that the work environment should be professional and consistent in appearance. It presents a preferred image and helps keep people focused. Take a cue from sports coaches and professionals around the world. People perform best when they are relaxed and focused, not when they are stressed and focused. If a specific appearance must be maintained, make exceptions when the creative process is engaged, or allow the process to take place in a set-aside area which can appear any fun way the team wants while it is inventing.

Don't forget that creativity, or at least the practice of calling upon it on demand and making use of it, is a skill. Like any other skill, the more we use it, the more proficient we become. Look for ways to encourage creative problem solving in the work place. It's best if the creativity is focused on business valuable endeavors, but it doesn't need to be that way.

Here are some simple and practical ideas to get people into the creative problem-solving mode on a regular basis.

- Make every engineer's second project a challenge to produce inventions or innovations for the business (this is what they work on when they are waiting for something on their first priority project – instead of a second product development project).
- Put a decent chess set on a table in the break room.
- Put a wood, metal, or other spatial "separate-the-pieces" style puzzle on a table in the work room.
- Send out a thought exercise or puzzle in the e-mail each week with some incentive for people to respond; maybe the first person to solve it gets a priority parking spot.
- Challenge engineers or developers to tear-down and theoretically improve upon legacy products or competitor products.
- Hold competitions for the best brain teaser invented by a team member.
- Issue challenges for the most inventive, the most original, and the most feasible design of some every-day object (mouse traps, pencils, bike locks, door knobs, TV remotes, flashlights, etc. – the more commonplace the greater the challenge).

The above are all real simple ideas that can be used in many ways. Every team has its own personality and some of these ideas will catch on better than others. Try some or make up others. The point is, that creative problem solving isn't just about product development or process improvement. However, the skill is fairly universal. Solving problems in games is not much different than solving problems in business or engineering.

Another benefit of the regular injections of creativity games or challenges is that it tends to improve the fun factor of the work place and relieve stress at the same time, which as we discussed, also facilitates the creative

process.

Take a good look at your innovation practices. Is it highly structured, or could it use a little more method to rein in the madness or drive more ideas? Is your team highly creative, or could your practice use a little more inspiration?

The key to a truly powerful invention, innovation, or problem-solving, program is a balanced combination of process-driven idea productivity and creative inspiration and expertise. Enhance your innovation by examining where your program has gaps and fill them with appropriate tools, processes, skills, or environmental elements. Fix the fracture between method and inspiration and enjoy the magic show that ensues.

Stay wise, friends.

If you like what you just read, find more of Alan's thoughts at www.bizwizwithin.com [1].

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