

# Innovation vs. Invention



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There is no question in my mind that with appropriate management, we can improve the levels of innovation and creativity within organizations. There is no magic here. Innovative people are no more ‘born’ than Olympic gold medallists or virtuoso musicians. Yes, some of us are gifted with more initial aptitude, but as music and sports show, the ‘natural’ or the ‘child prodigy’ frequently does not graduate to the top level. Hard, focused and appropriately-directed work trumps natural talent in virtually every case. The question is, where to focus? Let us start by looking at the anatomy of the beast.

Today, we have a comparable example in **Apple** and **Dell**. Apple is now below **Acer** in PC market share, but they have beautiful, design-intense systems. Dell’s computers, on the other hand, are boring and have virtually no technical or design innovation. But Dell’s process has given them a dominant market share. Some business publications (e.g., *Fast Company*, Jan. 2004) have come to the dubious conclusion that this says that innovation may not be all that it was cracked up to be. Of course, what they miss are two things: (a) the distinction between innovation in product and process, and (b) the following rule, which I

relied on their previously successful formula of efficient process, but boring design, Apple has triumphed on both fronts in their iTunes and iPod product lines. Apple not only dominates the music market, their sales in that sector now exceed those of their PCs – transforming the very nature of the company, to the point where the tag-line on their new iMac computer is, “From the company that brought you the iPod.” This, despite the iPod being launched only in 2001 – 24 years after their first computer, the Apple II, in 1977!

Let’s look at another aspect of all of this, the difference between ‘innovation’ and ‘invention’. The closer one gets to Route 128 in Boston and Silicon Valley, the more it seems that people confuse the two. Too often the obsession is with ‘inventing’ something totally unique, rather than extracting value from the creative understanding of what is already known.

In a recent study, the **U.S. National Research Council** tracked a number of telecommunications and computer technologies from first conception to the point where they reached a billion dollar industry. The key thing to note is that the average time from invention to market was 20-plus years. So much for fast moving tech sector! Which brings us to one of the most insightful quotes that I have encountered, from **William Gibson**: “The future is already here. It is just not uniformly distributed.”

Here is the business lesson: innovation is far more about prospecting, mining, refining and adding value to ‘gold’ than it is about alchemy. Rather than focusing on the invention of the ‘brand new’, one might better strive for creative insights on how to combine, develop and leverage

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One key lesson that I took away from **Lester Thurlow**’s book, *Head to Head*, is the observation that, “Innovation in process trumps innovation in product.” Thurlow was contrasting the research investment strategies between the U.S. and Japan in the post-war years. His observation was that the U.S. took a materialistic approach to their investment, focusing on products, while the Japanese focused on process. His observation was that while the U.S. invented DRAM, the VCR or the LCD, it also incurred the highest up-front costs, while the Japanese reaped the primary profit due to their superior processes of manufacturing and distribution.

have decided to decree: innovation in process + design trumps innovation in process alone.

This, of course, should be obvious, but it sure went over the head of the *Fast Company* writers. If you want to compete with Dell, ‘all’ you have to do is match or exceed their innovation in manufacturing and service, and do so with innovative products.

To find an example that illustrates this, we need look no farther than, yet again, Apple. Forget their PC business for the moment. In the music business, in which both Dell and Apple are competing, Apple is the hands-down winner. While Dell has

what is already out there, but hidden, or not understood.

So now we come to the big debate: who is a designer, and who should be a designer? For a start, let's look at the most recent book, *Emotional Design*, by my friend **Don Norman**. It has an epilogue entitled, "We Are All Designers". To this I say, "Nonsense!" We are no more all designers because we chose the colours of our walls, and furniture arrangements, than we are all mathematicians because we can count change when we go to the corner store. If we were all designers, then that would imply that design already pervades our entire business process, so there would be no need to be having this conversation. Design would not be an issue.

So if we are not all designers, and yet design is important to business, then how do we incorporate it into our process?

Rotman Dean **Roger Martin**'s view is that design is relevant at all levels in business, and I agree. However, while essential, design itself is clearly not sufficient. Design expertise must be complimented by expertise in other distinct disciplines. The complexity of today's business and the ecology within which it functions demands high standards of depth and competence among a broad range of specialties, of which design is (an all-too-neglected) one, but only one of many. In light of this, I think that Martin's statement [from his article, "The Design of Business", *Rotman Magazine*, Winter 2004], "Business people don't need to understand designers better: they need to be designers," requires qualifications. The main risk is that it will prompt readers to swing the pendulum too far in the direction of some new bandwagon called 'Design' at the expense of doing what really needs to be done.

Here is why. Design, like accounting, law, etc. is a distinct and very specialized discipline. Designers think differently, yes. Their cognitive style is appropriate for the type of work that they do. But remember, other work requires other cognitive styles. A design mentality in those cases may be just as much a liability there, as their cognitive style is a liability in a design studio. For example, it would be a disaster to have a designer running a software engineering

organization; likewise, it would be an equal disaster to have an engineer running a design organization. Herein lies the problem. Nobody would dream of the former. It is obviously absurd. On the other hand, the latter is the norm (to the extent that there is a design organization).

My problem with Roger's statement is that it is too close to that of Don Norman. When everyone is a designer, the term risks losing all meaning, and we risk – yet again – discounting the specialized skills of the designer, while at the same time diluting the skills of the manager by making them a second-rate designer.

**Alan Kay** was one of the lead people at **Xerox PARC** back in the 70's. I met him around 1978, and he is responsible for my

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long association with PARC. One of the most important things that I have heard him say is this: "It takes almost as much creativity to understand a good idea as to have it in the first place."

The statement hit close to home and helped me understand the problems with the corporate culture within which I was working at the time. From the perspective of the innovator, here is what this said to me: that it was not enough to simply have great ideas. If you wanted the ideas to come to fruition, you had to spend as much time directing your innovation and creativity to fostering a culture of creativity and a receptiveness to innovation within the company, as you spend on the ideas themselves. If you do not, don't be surprised or disappointed if they come to naught.

From the perspective of the executives, shareholders, or the board of a company, there is a key lesson in all of this. Fortunately, it is far easier to learn than

"how to become a designer," and it is this: success in capitalizing upon design and innovation is primarily a cultural thing, and shaping corporate culture is an executive responsibility.

Why is **Apple** still in business? Because on his second day – not month, not week – **Steve Jobs** called in key analysts and told them exactly how he was going to do it: through design. He took the lead, from the top, and then executed brilliantly.

Now compare your own organization to Apple. Is design leadership an executive level position? Do you have a Chief Design Officer reporting to the president? My view is that if you do not, you are not serious about design or innovation. Furthermore, you are telegraphing this fact

to all of your employees, along with a clear message that they need not be either. As a result, you might as well fire all of your creative people, since you are setting them up to fail anyhow.

As an executive, of course you have to have creative and innovative ideas. But at the top of the list should be ones that reflect (a) how important innovation is to the future of your company, (b) the role of design in this, (c) a recognition that innovation cannot be ghettoized in the research or design departments, since it is an overall cultural issue, and (d) an awareness of the inevitable and dire consequences of ignoring the previous three points. .

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