

How well beaten is the innovation track?

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Abstract

This paper takes a fairly light-hearted look at what it can mean to be an innovator, but with the positive message that it's well worth the effort.

Introduction

If beauty is in the eye of the beholder, so too might be the image of the innovator. The perception of any innovator is likely to depend on his or her personal characteristics, the environment, and the nature of the change that the innovator wishes to introduce.

If we like the innovator as a person, feel excited by his or her suggestion, and we can see how to implement it, our perspective is likely to be positive. When referring to this person, we might use words such as: brilliant; outward looking; collaborative; or thinks "out of the box".

At the other extreme, if the innovator has poor social skills and we feel that his or her idea will cause disruption and might unsettle us, our perspective is likely to be negative. When referring to this person, we might use words such as: fanatical; unable to focus; disruptive; or "a loose cannon".

Note that the quality of the idea will not necessarily determine our perspective. Bad ideas can get a good press, just as good ones can be "rubbished" for the wrong reasons.

The purpose of this paper is to see whether the innovator can follow a well-beaten track to his or her goal, or whether assistance is needed along the way. Although this paper does not set out to examine the philosophical nature of innovation and creativity, our perceptions of the person can be coloured by our attitudes towards his or her end-product, the innovation itself.

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The nature of innovation and creativity

Just as we have our own views about innovators, both individually and as a species, we will almost certainly differ in how we describe the concept of innovation. Nevertheless, the majority of us will argue that every innovation must involve novelty.

However, to be innovative, an idea has to be more than just novel. An innovative idea makes a tangible difference in the area to which it applies. Although this requires us to make a value judgement, the distinction is essentially objective. The good news is that the innovator has a fighting chance if his or her ideas are judged objectively.

"A great idea or brilliant new technology that never influences or effects change simply doesn't matter"

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It is sometimes said that an innovation or invention requires a creative step or jump, which invites questions about the nature of creativity. Attempting to answer those questions is beyond the scope of the paper, so I will confine myself to asserting that creativity is a significantly broader concept than innovation, but is nevertheless susceptible to the tangible difference test. The exercise is to debate not the tangibility, but the merit of the difference!

The fate of some ideas

Just as the way to Hell is said to be paved with good intentions, we can say that the track to innovation is strewn with premature judgements. These are usually characterised by assertions such as:

- That won't work.
- We've tried that before.
- You won't get away with that.
- That's obvious, isn't it?
- We don't do things that way.

I have to confess to one particularly bad example of this myself. During my PhD I relied on nuclear magnetic resonance (NMR) spectroscopy for identifying reaction products, so it was quite natural for a biologist friend to ask me about using NMR to characterise solid tissues. Having pointed out all the difficulties, notably the lack of resolution, I forgot about the idea. What did I miss? Magnetic resonance (MR) scanning, no less!

Improving the chances

We have already noted that the perception of innovation can depend on the environment into which the ideas are injected. While it might seem obvious that we need a tolerant environment, the latitude has to extend to accepting that even good ideas can fail.

"A culture that deems a single failure an indelible mark on a person's career will likely have a difficult time innovating, because there is no innovation without risk, experimentation and occasional failure."

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A young journalist challenged Thomas Edison, "Mr. Edison, why do you keep trying to make light by using electricity when you have failed so many times? Don't you know that gas lights are with us to stay?"

To this Edison replied, "Young man, don't you realize that I have not failed but have successfully discovered six thousand ways that won't work!"

On October 21, 1879, after thirteen months of repeated failures, Edison finally succeeded in finding a filament that would work.

Innovators are agents of change, so we also need an environment that is able to tolerate change. That requirement will almost certainly challenge those who are comfortable with their existing situation: they are likely to resist innovations that disturb their comfort.

"It is not the strongest of the species that survives, nor the most intelligent ... It is the one that is the most adaptable to change"

Charles Darwin

A listening environment is not only helpful, but encouraging too. Busy people focus on their short-term tasks and, in doing so, might lose sight of their real goals. Listening to the person with the new idea might help us to refocus.

This point is neatly illustrated by the cartoon that shows a king, clad in chain mail and wielding a sword, stating that he has a battle to fight and so cannot spare the time to talk to a salesman, who is standing nearby. The salesman has a machine gun ready to be demonstrated.

Two more L-words complete the picture: we need an environment that encourages both Learning and Lateral Thinking. The former provides the food for innovative thinking; the latter stimulates the creative jumps that take us to ideas that make a difference. Moreover, lateral thinking not only helps us to see past our assumptions and entrenched practices, it also improves with practice.

Improving the rewards

Innovating should be fun, and it can be fun, even great fun. Solving problems is a rewarding experience that can only get better if we enjoy the experience. How can we enhance our enjoyment of innovation?

Trying alternative techniques can be both enjoyable and productive, especially if the problem we are trying to solve seems to be intractable. Numerous techniques have evolved for tackling creative blocks, generating fresh ideas, and evolving innovative solutions. A full survey of these alternative approaches is beyond the scope of this paper, but we can classify them into two broad categories:

- Problem restatement techniques, which enable us to consider the problem from a different perspective. For example, we might select a subset of key words from the problem statement, generate a set of related terms and then construct a solution description from a few of those terms selected at random. I am using the word "problem" in a generic sense, such that it includes the lack of fresh ideas. When faced with that sort of "problem", we often resort to "brainstorming", but how often do we vary the manner in which we conduct that exercise in idea generation?
- Personal state changes, whereby we try to alter our condition to one more conducive to innovation and creative thought. Many factors can contribute to attaining such a productive state, for example: personal surroundings; appropriate background music; stillness or activity. It is the personal nature of these factors that is important. To exploit our own capacity for innovation, we need to learn for ourselves how we can transfer ourselves into a productive state both swiftly and easily. Therein lays the challenge and the fun.

In the search for personal satisfaction, we should not forget the tangible rewards for innovation. The best-known of these is the patent, the formal recognition of an innovative idea. It is all but axiomatic that an invention will be an innovation, but a great many innovations do not qualify for filing as patents.

"In reality, invention has always been as distinct from innovation as rivers are from oceans: one clearly flows into the other."

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Recognition can take on many guises, but maybe the most rewarding is to be regarded in that positive light that earlier we described with terms such as brilliant, outward looking, and collaborative.

Conclusion

Innovation can be fun and it is indeed well worth the effort.