

Project Innovation

by Michael O'Brochta, CIA Retired

Let's start with an easy question. What is Thomas Edison best known for?

The invention of the light bulb. Of course. The year was 1879. Maybe you are familiar with a version of the famous response of his when asked by a reporter about the experience for trying so many bulb filaments before finding one that worked, "How did it feel failing 1,000 times?" Edison responded, "I didn't fail 1,000 times; I found 1,000 ways that didn't work."



And that is why I am here today. I am here to talk about what I consider to be Edison's most important work. Not the incandescent light bulb. Not his 1,000+ patents, even though he remains the most prolific inventor in American history. I am here to talk about something with far-greater and longer-lasting impact. Something that has a direct relationship on success as project managers. Something I will say, without hesitation, was the single biggest contributor to my successful career at the CIA and as a consultant. Not surprisingly, it has been at the center of whatever successes I have experienced in my volunteer roles as well. Why, just recently, I was told it is the reason I was selected to be President of the Kiwanis Club of Roanoke, which, by the way, is one of the largest of the 15,000+ Kiwanis clubs world-wide.

I am here today to talk about innovation. That's right: innovation. According to the *Merriam-Webster Dictionary*, "the action or process of coming up with new ideas, methods, or devices." The word "new" is key. A synonymous word, "unique," according to the Project Management Institute, appears in the definition of a project, "a temporary endeavor undertaken to create a unique product, service or result."

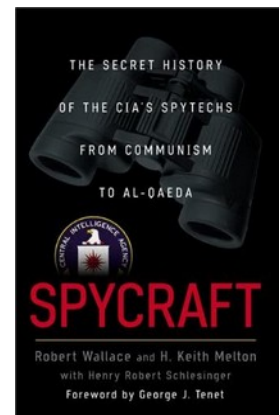


Here is the straight line logic connection. Projects are unique, which means they center on doing something new, which requires some level of innovation to accomplish. Said another way, "There can be no project success without innovation." You can quote me on that. You can also check out "The Project Manager of the Future" *Pulse of the Profession 2018* report from the Project Management Institute for myriad statistics to support this viewpoint.

I will illustrate the power of innovation in project management with a CIA story. Then, I will come back to Edison.

This CIA story was documented by Robert Wallace and Keith Melton in their 2008 book titled, "Spycraft." Keith Melton founded the International Spy Museum in Washington, D.C., where, by the way, a couple of the projects I worked on are on display. Robert Wallace is the former director of CIA's Office of Technical Service, where I worked on what I was told at the time was the most technically advanced miniature electronics project the CIA had ever undertaken.

In the early 1980's, I was the youngest and least experienced member of a small project team. The project leader's idea, his innovation, was centered on overcoming the limitations of the current document copy technology. You see, copying documents was an important undertaking for the CIA. It was also risky. Consider for a moment that important secrets in those days were written down in hard-copy documents, sometimes classified, usually sensitive, and always with restricted access. These documents were in the possession of foreign entities, sometimes governments, sometimes others. Unsurprisingly, the document owners were not interested in handing them over. Since borrowing or

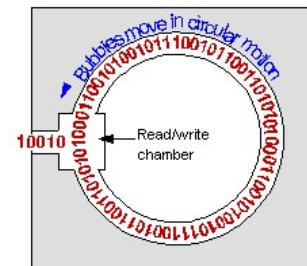


stealing the documents left an obvious physical sign of the compromise, copying them with a camera was the preferred way to go.



That is where much of the risk occurred. Not only was sneaking in to and out of a location quite risky, but being in possession of film copies of the documents after they were photographed was also quite risky. Getting caught with compromising film images of those kinds of documents would be difficult, if not impossible, to explain. Furthermore, the process of transferring that compromising film to others for processing and forwarding for analysis presented additional risks. Dead drops, the espionage tradecraft practice of passing items between two individuals that avoided direct meetings by using a secret neutral location, could be compromised.

Here is where the innovation came in. Our project's goal was to develop a pocket-sized, filmless camera. Remember, this was the early 1980's. Rubik's Cube debuted, Mt. St. Helens erupted, Post-It Notes came on the market, and Jimmy Carter was President. The innovation was to replace the film with a linear array of imaging sensors from the emerging CCD (charged coupled device) technology. This technology had recently been deployed on the KH-11 spy satellite and had eliminated the need for film capsules to be jettisoned from the satellite and parachuted to earth. All we had to do was to shrink the large imaging satellite-sensor array into a pocket-sized device. Rhetorical question – was that innovation or was that insanity? And, by the way, while at it, develop a solid-state memory capable of storing 4 megabits at a time when the best commercial memories were capable of no more than 16 kilobits, a 250 times increase. We did that with magnetic bubble memory technology. And then, transmit the contents of that memory wirelessly to a secure location. Don't forget, it had to be battery powered. In effect, in the early 1980's, we were building a working cell phone digital camera.



From that moment on, because of that successful innovation, my career took off. Similar innovation stories played out countless times throughout the CIA. Some of them were technical, as that story was. Many of them were not technical. The point is the same, project success requires innovation. Which brings me back to Edison and what I feel is his most important work. As I have stated, I don't think it was the light bulb. I do think that Edison's most important work was the process of innovation. Let's hear it for the institutionalization of innovation and for the creation of an innovative workplace culture.

Edison created a state-of-the-art, 60-person research laboratory. Often called an "invention factory," the Menlo Park laboratory in New Jersey was an audacious undertaking. Edison's goal was to create at least one small invention every week and a large, society-changing one every six months. Remarkably, he met those goals with room to spare. He did that through what is now a well-understood method often nicknamed "the Edisonian Approach." He is quoted as saying, "When I want to discover something, I begin by reading up on everything that has been done along that line in the past; that's what all these books in the library are for. I see what has been accomplished at great labor and expense in the past. I gather data of many thousands of experiments as a starting point, and then I make thousands more."

My wish for each and every one of you, when you find yourself as a member of a project team or as the project team leader, is that you find yourself in an innovative project culture. Start with reading, as Edison did. When you do, I believe success will follow.