

Preconceptions About Inventors and Product Innovation Businesses

“Genius is 1 percent inspiration and 99 percent perspiration.”

–Thomas Edison

The national economy is in a state of collapse. Following a period of unmatched economic growth during which this country saw unprecedented expansion of the business base accompanied by an abnormal growth of speculation in the finance and banking sectors, the country was plunged headfirst into a catastrophic state of economic recession. The trigger moment for the sudden collapse was the failure of a national banking firm of impeccable reputation. The immediate consequences of the collapse included dramatic contraction in key business sectors, devaluing of goods and services, and a general state of timidity on the part of the investment capital groups in the country.

Against this backdrop of economic crisis an unknown inventor found good cause to start a business around a singularly clever idea. Much like the wild flower seed that defies logic to find root in the rarified air of the high alpine tundra, this idea took hold and a business started to grow and flourish around it precisely at a time when all economic forces seemed to be allied against such an enterprise. Imagine seeing twenty years into the future and the economic crisis has passed giving way to another era of economic expansion and growth. In this expanse of time, the invention has triggered the development of an entirely new market and the company has grown to become one of the most successful publicly traded companies in the country.

Is it possible that just such an idea is being conceived of or such a business is being launched at this moment? If history is any guide to the future then the answer is yes.

You see, the scenario just described actually happened in this country over 130 years ago. The economic crisis was the so-called Financial Panic of 1873², the unknown inventor was Thomas Alva Edison, his invention was the incandescent light bulb, and the company that he founded to commercialize that invention would come to be known as the General Electric Corporation, which by 1896 had succeeded in becoming one of the first twelve publically owned companies registered on the newly formed Dow Jones Industrial Average. Indeed, Edison's story of invention and business development is now well accepted as one of the most remarkable examples of how ingenuity, coupled with good business practice, can overcome even the dourest of economic climates.³

A bad economy can mean good business

The purpose of this chapter is to prepare a clean slate upon which to begin building insight into the world of *product innovation business* – where the business is about developing and marketing new inventions. As someone who has chosen to read this book, you are someone who might already have a degree of insight into business and/or the processes of invention and product innovation. However, unless you have already built such a business yourself and succeeded in the enterprise, you might also carry with you some baggage in the way of preconceptions that bias your views and could stand in the way of gaining a better understanding of this realm of business.

So, to start with I want to challenge a commonly held belief that it is a bad idea to start a new business during a down economy. Although this belief is valid for some business sectors (e.g., I wouldn't think of starting a construction company in today's flat real estate market), this adage is simply not applicable to the world of product innovation business. Edison proved it 130 years ago, and countless other innovators

² From: *The Great Republic by the Master Historians, Vol. III*, by Hubert H. Bancroft (ed.), [http://www.publicbookshelf.com/public_html/The_Great_Republic_By_the_Master_Historians_Vol_III/panicof1_hd.html]

³ Stacy Perman, "Recession Lessons," *Business Week*, [http://images.businessweek.com/ss/09/04/0410_recession_lessons/index.htm]

including electronic giants Bill Hewlett and David Packard, software king Bill Gates, and cable-TV magnate Ted Turner, have repeated the pattern of launching hugely successful product innovation companies in depressed economies.

A depressed economy provides a fertile environment for invention and product innovation. Economic depression forces people to re-evaluate old norms and consider new alternatives. Old markets built on old products and technologies tend to erode in rough economic times and give way to new markets built on new product paradigms.

In this way, the Financial Panic of 1873 gave way to an economic revolution⁴ that created many new markets for goods and services, including a new industry that made Thomas Edison rich and one that we all take for granted today – the electric utility industry.

Inspiration versus perspiration

Thanks to Thomas Edison's archetypal invention, the cartoon metaphor for the moment of invention is a light bulb usually depicted glowing brightly in a thought bubble above the would-be inventor's head. Sometimes the moment of invention is just that – a moment. Sometimes, it consumes a larger expanse of time – more like a dimly lit bulb that is gradually brought to life by a steadily increasing electrical current. Regardless of the elapsed time of the event, I prefer to think of the moment of invention as the moment of *conception* because *invention* sounds so final as if all the hard work has been done! Whereas *conception* really alerts us to the fact that, to be blunt, the work has just begun!

If you have kids, like I do, then you can't help but immediately think about them when you say the word *conception*. You automatically associate *conception* with the instant at which your life changed. Kids are a life-altering experience, plain and simple. Few of us who have kids

⁴ *The Age of the Economic Revolution, 1876-1900*, by Carl N. Degler, Glenview, IL (1967)

actually knew how much energy and time they would take before we had them. Maybe this bit of deception is part of nature's plan – right?! The point is that parenthood can be described as moments of unparalleled joy interspersed among hours of unparalleled frustration! In a similar way, nurturing a new invention from concept to market-ready product involves an almost unfair balance between joy and frustration.

Thomas Edison's classic quote, which is recited at the beginning of this chapter, represents a *rough-order-of-magnitude* – accurate to about a factor of ten – estimate of where efforts must be focused in order to bring a new invention to the market by building a business around that invention. Sadly, only a relatively small fraction (maybe between 1/1000 and 1/10) of one's time and creative energies are going to be devoted to that thing that probably brings the inventor the most joy – the inspiration that leads to creating a new invention. The overwhelming majority of time and energy will be invested in addressing a vast array of business challenges that would otherwise prevent the invention from ever seeing the light of day as a viable product.

A wealthy acquaintance of mine who invests money in product innovation businesses told me once that, on average, only 1% of the total price of most products that are currently in the market is devoted to the research and development of that product. The remaining 99% is consumed by manufacturing, distribution, marketing and sales, etc.! As an inventor and engineer myself, that number is humbling. It kind of makes me think that I should have studied a different field in college, like maybe marketing and sales for example!

Whether you chose to take it from Thomas Edison or my friend the business financier, the fact remains that the part of the problem that we inventors tend to enjoy the most – the inspiration that gives way to a new invention – represents a small fraction of the total process that is necessary to create a good, and money-making business enterprise out of a good idea. We love our inventions and ideas as sincerely and completely as a parent loves his or her child. However, in order for an invention to see the light of day as a marketable product, it HAS to be matured through a protracted period of “adolescence” and “early adulthood.”

If you are an inventor and you interpret Thomas Edison's quote as a warning sign: “Beware – all of the fun is over once you've come up with

the idea,” then my best advice for you is to very consciously and intently ignore your creative ideas before they ever get out of your own mind and into someone else’s mind. There is no dishonor in walking away from your own thoughts. For all I know, there might even be a section of psychology entirely devoted to this type of behavior in inventors (something that portrays denial as a healthy defense mechanism, I suspect).

Regardless of psychological norms, if you read Thomas Edison’s quote and feel depressed, then I say stop reading this book right now. Put it quietly on the shelf and walk away. Better yet, put a \$1 sticker on this book and sell it at the next garage sale. You will sleep better at night. You will have a happier marriage – with or without kids. Most importantly, you will never have to suffer through the life-altering experience that all successful inventors suffer through – solving the challenging puzzle of how to turn their ideas into practical, and marketable, products.

If you are not an inventor, but are interested in the world of product innovation business, then I walk you through this brief exposé on the psychology of inventors to help you appreciate an often-misunderstood element of successful product innovation businesses. The very force that inspires an inventor to create something new and to launch a business around that idea – passion for the invention – is also the force that can destroy the business.

Passion is a volatile commodity that breeds parochialism and elitism, and if left unbalanced by good business sense, passion alone will undermine the efforts of inventors and entrepreneurs who wish to capitalize on their inventions. Most inventors develop an attachment to their creations as strong as the paternal attachment that a father has for his son. However, almost all inventions must evolve substantially if they are to become commercially viable products, and few inventors have the instincts to entrust their inventions to others who have the experience to thus evolve the invention into a product.

If I could paraphrase Edison’s famous quote in a way that might steer the inventor and would-be businessperson in a direction to properly focus her passions and energies, I might paraphrase the quote as follows:

A successful inventor derives about 1 percent of her joy and passion from the inspiration that created the invention, and about 99 percent of her joy and passion out of the perspiration associated with bringing that invention to the market.

It's not as concise and memorable as Mr. Edison's version, but I think it's a bit more practical and helpful to an inventor and would-be businessperson who is standing at the moment of conception of a new idea, and trying to mentally prepare herself for the challenges of converting that idea into a profitable business. I believe firmly that most inventors who build successful companies around their inventions not only find joy in the moment of conception of the idea, but they find joy in the hours, weeks, and maybe years of time they spend in mastering the process of bringing that idea to fruition in practical products.

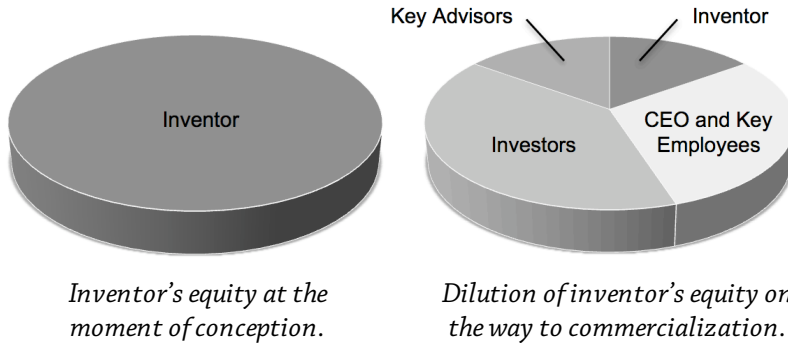
It is well known that Edison himself derived enormous pleasure and satisfaction out of the drudgery of turning a good idea into a practical product.⁵ In fact, after several years of painstaking work and prior to discovering a truly practical version of the light bulb that could be turned on and off thousands of times without burning out the filament, he happily reported with a grin:

"We have not failed. . . We now know a thousand ways not to build a light bulb!" – Thomas Edison

A financial consequence of the 99% perspiration rule is that the inventor will most likely have to give up a substantial fraction of his ownership interest in the invention in order to entice others to join in the enterprise. The following pie charts depict how the inventor's ownership will dilute from the entire pie to a small piece of the pie as the invention is matured from concept to product. Other people who will gain a piece of the pie might include key advisors who help to structure and guide the enterprise (e.g., members of a Board of Directors), investors who provide cash to move the enterprise forward, and finally key employees

⁵ *Edison on Innovation: 102 Lessons in Creativity for Business and Beyond*, by Alan Axelrod, John Wiley and Sons (2008)

of the business who will collectively provide a significant portion of the 99% worth of perspiration necessary to bring the invention to market.



At first glance, this dilution of ownership might seem unfair. After all, the inventor created the idea without the help of all of these people. Why should they benefit so substantially from his genius? Well, this is the price that must be paid for the 99% worth of perspiration that nurtures any invention from conception to commercialization. Few if any inventors have the ability to do it all themselves. Even Edison diluted his personal ownership in all of his inventions in order to build a massive corporate empire that ultimately made him wealthy beyond his original dreams.

Do you have to build a business to cash in on a new invention?

For the most part, this book is built from the single cornerstone assumption that you, the inventor or would-be entrepreneur, wish to make money by building up some type of business enterprise around a particular invention. Through the course of this book I will discuss the general problem of building a successful product innovation business enterprise and highlight several specific scenarios through which you might capitalize on a new invention. However, before we invest the time to explore all of these details, it is important to address the very basic question: do you have to build a business to cash in on a new invention?

In short, the answer is no. In fact, it is quite common for inventors to sell their ideas to others who might lack their flare for creativity but who