

## **Business Psychology for Digital Startups: Basic Economics Advice for HBO's "Silicon Valley" Characters**

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This article takes the position that digital startups are often carried out by skilled programmers, who may lack business skills and organizational skills. I argue that knowing some basic managerial economics and decision-making skills can help the new startup get up and running, and possibly progress into a solid profit-making company such as Apple or Dropbox. While there are emerging companies that claim to mentor or "incubate" such startups, the claim is not always the case. The innovative programmer with a marketable idea must assemble a team, which often runs like a labor sweatshop combined with a lot of emotion and dedication.

The digital era has spawned a multitude of related startups. These have included Dotcoms, Ipad and Google Apps, Facebook, Dropbox, Twitter, Pinterest, Internet crowd funding, Groupon discount coupons, and ways to harness social media for economic benefit. Siegele (2014) writes that digital startups are emerging with an astonishing variety of services and products, as well as changing the notion of what a firm looks like and acts like. The digital startup trend has now become a global movement, encompassing many of what Siegele refers to as integrated "ecosystems". Hundreds of startup schools and thousands of "accelerators", and working teams, plug their ideas into these ecosystems. Seasoned programmers with previous startup success provide mentoring and guidance in the form of "incubators", live-and-work situations in which programmers collaborate around the clock to launch the next winning program or service, and hopefully profit. Most programmers are in their 20's and 30's, and their visions are realized by toiling over their laptops, creating computer code. There are multiple ecosystems, and programmers travel to these and work their craft as well as develop their entrepreneurship.

There seems to be a socially constructed assumption in the digital era that all it takes to become an entrepreneur is being able to write computer code. Code has been developed into systemic modules that perform different functions, and these building blocks can be combined and recombined in multiple applications. Siegele writes that the 2008 economic crisis has

impacted millennials (those born after 1980), and these folks generally doubt they will ever find conventional jobs. So it makes good sense for them, computer code savvy as they are, to go it on their own or join a digital startup effort. Millennials are already seeing the proof of digital entrepreneurship around the globe, and this is giving rise to a new wave of entrepreneurial spirit. Siegele cites a recent study that surveyed 12,000 millennials in 27 countries, and two thirds of them see the opportunities in becoming an entrepreneur. However, if all one needs to be a successful entrepreneur is computer coding skills, there will be inherent challenges and these are in the realm of business, organization, and economics. Zwilling (2012) writes that for digital startups the cost of entry is so low that the competition will also be right there with you in "full force" and states, for example, that 150,00 new websites are created every day. Zwilling cites statistics that with such competition nine out of ten digital startups will fail. The current ratio of Internet failures to millionaires is one thousand to one. Zwilling also calls for startups to have a sustainable business strategy to avoid such failure.

If such ventures actually become firms then the goal will be to maximize profits (Baye, 2012), and such firms would be well advised to understand Porter's five forces of competition, particularly given how many startups are seeking to occupy the digital business sphere. Low entry costs make for a lot of competition, and much of the digital competitive positioning will be about providing substitution for existing products and services or using a differentiation strategy (see Porter, 1980). Groupon, for example, provides an easily accessible digital substitution to discount coupons clipped from newspapers. Craigslist provides an easily accessible digital substitution to newspaper buy-and-sell ads as well as making other kinds of connections; Ebay.com operates similarly, replacing the local newspaper buy-and-sell ads. Plentyoffish.com provides a free connection service for dating and romance, also a substitution for now outdated newspaper ads and phone ads. The reader will see as s/he examines the Silicon Valley case that the Pied Piper team has created an algorithm that will be a substitution for the MP3 digital audio encoding format, and potentially kick off a billion dollar industry.

### **What this Article Does**

I begin this article with an introduction to the general business strategy used by programmers seeking to make their ventures into digital startups. I follow this with the case of Silicon Valley television show, its fictional "Pied Piper" firm, and the firm's main characters and as it seeks to launch as an LLC. Following that I review the CEO Richard's leadership struggles as chronicles in the first four show installments. I then provide a commentary on this situation using some basic managerial and microeconomics concepts and how these could improve the situation for both Richard and the team. Following that I discuss the need for sound decision making in the Pied Piper firm, starting with Richard, and follow that with an introduction to the

Six Step Model proposed by Samuelson and Marks (2012) for sound decision making. I then introduce the highly successful firm "Dropbox" as a benchmark for digital startup success.

### **General Business Strategy for a Want-to-be Digital Startup**

The general business strategy of young digital startup programmer/entrepreneurs looks something like below, and can be considered as an exercise in naivety if carried out without proper guidance and decision making skills.

1. Innovator discovers an idea for his programming skills and sees it as a potential money-maker
2. Innovator starts developing the program (or in the above case the algorithm)
3. Innovator invites others to live and work together on turning the idea into reality (incubation)
4. The entrepreneurial team works on development (ie, coding a software product) and starts creating a media/community buzz, often with a website and perhaps some Internet Crowd Funding
5. The goal is to get the project to some level of rollout, at least a prototype
6. Ultimate goal is often to attract big \$\$ investment or buy-out from high tech giant
7. Innovator then either sells off the company or operates the company in a partnership
8. Everybody involved gets rich

On the surface there is nothing wrong with the above strategy. It holds a lot of hope, some magical vision, and the great energy and faith in possibility that young entrepreneurs often exude. However we can determine quickly that this is a partnership and most business advisors know that most partnerships fail once the reality of hard work and little initial pay sets in.

### **Case 1: Silicon Valley Digital Startup Team for "Pied Piper"**

Below is the television Plot Summary for the "Silicon Valley" show, and the unfolding "Pied Piper" Firm. At the writing of this paper the first four episodes had been viewed.

In the high-tech gold rush of modern Silicon Valley, the people most qualified to succeed are the least capable of handling success. A comedy partially inspired by Mike Judge's own experiences as a Silicon Valley engineer in the late 1980s (IMDB, 2014).

One of the things that the creator Mike Judge noticed when he worked in the real Silicon Valley was that it engendered cultures of digital workers who operated like Stepford Wives: “they were true believers in something, and I don’t know what it was”.

In this HBO series six millennial entrepreneurial computer programmers follow the path of Apple pioneers Steve Jobs and Steve Wozniak as they pursue their dream of entrepreneurial mega-success. They share a house while seeking to program their way into the next startup boom and millions of dollars in investment and value. Holding down boring jobs to help pay for their rent and pizza they organize toward this goal.

The main character, Richard, is a skilled programmer who has invented a computer application (“app”) called "Pied Piper", which compares music against copyrighted works to avoid infringement. While the app is nothing special it is discovered that the algorithm designed by Richard is more valuable than the program itself. The algorithm offers a higher compression ratio than MP3 yet remains lossless. If the algorithm can be converted into a video codec it could change the nature of online media and potentially become a billion-dollar business. Naturally this is attractive to investors. Richard has attracted an investor who offered to put in \$1 million, but decides to take \$200,000 from another investor plus 5% ownership.

Erlich Bachman, one of the programmers, allows the crew to live at his “Hacker Hostel” house in return for a share of the proceeds. He runs his house as an “incubator” program that offers sound advice and guidance for startups. Bachman has sold his prior app Aviato and bought a house with the proceeds. However he seems to spend most of his free time partying and using drugs (Wikipedia, 2014).

### **Richard’s Struggle as an Emerging Digital Startup CEO**

In the first few episodes Richard struggles with the following:

- He hires an inexperienced programmer to help develop a business plan
- Getting his money from the investor
- Deciding what role each member will play and the share value for each
- Firing the member with the weakest range of skills (his best friend)
- The name Pied Piper is already taken and he needs to find a way to acquire it
- He drunkenly makes Bachman a Board member and regrets it the next morning
- How to put Pied Piper’s vision into words
- Difficulties with what Bachman says he needs to be as a leader (“be an a\*\*hole”)
- Embracing the Pied Piper algorithm as a substitution strategy for MP3 audio encoding – this needs to be seen as a competitive strategy

## **Situation Commentary Using Some Basic Economics**

From a business economics point of view there are a number of knowledge tools that need to be in place and applied in thinking through this situation. Economics is about choice-making in a world of scarcity (Frank & Bernanke, 2009: p. 4). Richard is moving ahead with the project with limited resources, and he needs to understand that there is no free lunch. Even he has to consider the costs and benefits of his own efforts. At what point will his efforts not be worth it? The resources applied so far are firstly Bachman's "Hacker House" and his (uncertain) incubator guidance. Bachman will want some kind of share for his services and has already achieved Board member status so he can influence decision-making.

Secondly, members are donating their labor and will want something in return. In other words the benefits must outweigh the cost of being involved, and that includes opportunity costs from not working for pay somewhere else (Frank & Bernanke, 2009: p. 7). While the programming team members may increase their knowledge and skills, and one day be able to lead their own profitable projects, the monetary value must be weighed. This can also be alleviated with shares in the company if it is successful. There must be some clarity and agreement on the "incentive compensation" for team members (see Froebe & McCann, 2008: p. 249).

The third resource that we know about so far is the \$200,000 investment, which has not yet been received. Richard has also signed on to a 5% share in the company. The above speaks to the Cost-Benefit Principle – people need to get benefits for their inputs and these must outweigh their costs (Frank & Bernanke, 2009: p.5).

Fourth, there is also the budding relationship with the investor, which we do not yet know much about, other than Richard has hired someone without much experience to help write a business plan. Richard also needs to make some decisions about his unfolding company so that the working interface with the investor is productive and mutually profitable.

## **The Need for Decision-Making Skills**

The areas that Richard is struggling with are the general areas that one is challenged with as they start the process of forming a company and formalizing the work processes. There is no company yet, only a project and the intent to form a company. One of the first knowledge tools that Richard will have to learn and apply is decision making, and these can also be implemented on the team level (either as a whole team or for any executive team that develops).

Samuelson and Marks (2012) write that "decision making lies at the heart of most important business and government problems (p. 1). The authors go on to write that managerial

economics is the analysis of major management decisions, employing the tools of economics (p. 1). If and when Richard's project achieves success there will be many decisions to be made, and it will be important for Richard and his core team to know decision-making techniques. Such decisions could include multinational production and pricing of related products or licenses, market entry of related products and licenses, building bridges with the investors and their particular skills and culture, anything to do with government regulations (ie, Microsoft got into trouble with the US federal government over monopolizing business practices and paid large fines), and research and development decisions as the project moves along.

### **Samuelson and Marks' six step decision-making model**

Samuelson provides the following Six Step model for managerial decision-making:

1. Define the Problem
2. Determine the Objective
3. Explore the Alternatives
4. Predict the Consequences
5. Make a Choice
6. Perform Sensitivity Analysis (of how an optimal decision is affected if key economic facts or conditions vary).

There are also other tools that Samuelson and Marks recommend, and these address issues such as customer demand related to price (demand curves and demand equations). It's still a little early for this with Pied Piper. However an investigation should be done by Richard to determine the actual demand for his algorithm, and at what price points it would sell. He may have to start with a demand curve for another product that he would be competing with. Conceivably, because Pied Piper will be a substitute for MP3 audio encoding format, there will also be some knowledge needed on competitive strategy (substitution strategies) as related to managerial economics (see Porter, 1980; Baye, 2012).

### **Case 2: Benchmark for a Digital Startup Success: "Dropbox"**

The case of Dropbox provides a benchmark for digital success. Business Insider (2014) names Dropbox as #6 on the Digital 100 list, with a value of \$3.5 Billion. Back around 2009 Steve Jobs had been tracking the phenomenal programming skills of a young man named Drew Houston, and invited Houston and his business partner to a meeting at Apple headquarters. Houston had invented the Dropbox cloud storage program and Jobs wanted to integrate it as an asset for Apple. While Houston regarded Jobs as his hero he already knew that he wanted to build his own company and would not entertain selling to Apple. When Jobs suggested another

meeting at Dropbox facilities, Houston refused, not wanting Jobs to get any good ideas from their operation. There never was a deal and some time later Jobs unveiled the iCloud storage system that now runs with Apple.

Under Houston's leadership Dropbox grew by leaps and bounds. In 2011 he invited venture capital firms to put together a financing package. Several firms made offers and Houston settled on \$250 million financing based on a \$4 billion valuation. Houston's own stake at 15% is worth \$600 million on paper as of late 2011. Barret (2011) writes that Houston knew he had to learn how to become big and run a big company, and it is this sense of knowing what direction he was heading toward that allowed for such monumental success. He also developed Dropbox with many fraternity buddies from MIT, and remembers the early days when he sometimes coded in his boxer shorts with his friends in the apartment they shared. The lesson to be learned from Houston and Dropbox is that one must make sound decisions and those decisions (which are really strategic goals) will guide the way further.

## **Conclusion**

Business Economics teaches us important lessons, which include basics such as knowing our cost and benefits, being able to make sound choices in a world of scarcity, and opportunity costs that are particularly applicable to programmers working without pay. Decision-making is an important component of business economics and at some point we need to be able to gather the data to make sound decisions. I have not discussed data gathering for decision making, using tools like demand equations, because it plays less of a role for Pied Piper in its current phase. However I trust fully that Houston and his team have a strong grounding in this. After all, Houston told Barret (2011) that he knew his sales for 2012 would double. The reason for this was that 96% of Dropbox's 50 million customers, who are non-paying, would upload their files at such a pace that they would have to upgrade from free storage to 50 Gigs for \$10 per month or 100 Gigs for \$20 per month. In short Houston knew that without signing up one other single customer his sales would double. By the end of 2011 Dropbox was on track for gross revenue of \$240 million (and that was with 96% of customers getting their services for free).

The economics rule that as prices drop sales increase does not apply in this corner of the digital world. For many apps, and websites such as Facebook and LinkedIn, getting in is free, and one can stay and use the free services for as long as one wants. The developers will reap profits by running ads on the side of your page, or your free space won't meet your needs anymore and you will decide to purchase more space, because you are already a customer. But you got in for free, and if we look at LinkedIn and Facebook, everyone wanted in – sales exploded. While Richard and Pied Piper are nowhere near this milestone yet, knowing some basic managerial

economics principles and having a sound decision-making model will most likely get Pied Piper there quickly if they have a product that the public wants.

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