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# Josh Wolfe Discusses Innovative Investments – Masters in Business - Podcast Notes

*About The Author Alex Wiec*

11-14 minutes

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Check out the Masters in Business Episode Page & Show Notes

**Key Takeaways**

- **"Venture capital is all about investing in people who are inventing the future. The people who are inventing the future tend to be technologists, engineers, and scientists – you have to be able to speak their language."**
- **In venture investing, 1-2 investments usually return the whole fund**
    - About a third of the investments will be total duds
- Advice for recent college grads interested in being an entrepreneur:
    - **"Build your brand, be differentiated, be indispensable, stay close to the money, find where the capital is flowing, and stay close to it."**
    - **Also read A LOT –** "And be voracious in your reading. I think you have to be exposed to so many things. This allows you to develop your passion and then from your passion develop an expertise and be able to stand out."
    - **Be good to people** – you never know when you might need someone
- **The single best trait of an entrepreneur is somebody that can tell a story**
    - "They are the people that recruit talent. They are the people that can raise money. They are the people that garner attention and win deals and that is what makes the venture capital business."
- Josh's biggest failures are the things that have the permanence of regret
    - "Choices I made, or relationships that I under-invested in, or people that I didn't spend enough time with who passed… those to me are the biggest failures"
    - **You can lose money in an investment and make it right back in another, but you won't always get that second chance if you lose a friendship/relationship**

**Intro**

- Josh Wolfe (@wolfejosh) is the co-founder of Lux Capital – a venture capital firm that backs entrepreneurs and scientists tackling real problems, in unconventional ways
- For more Josh, check out the below Podcast Notes:
    - Josh Wolfe: The Tech Imperative – Invest Like the Best
    - Josh Wolfe: This is Who You Are Up Against – Invest Like the Best
    - Inventing the Future with Josh Wolfe – The Knowledge Project
    - Josh Wolfe on The Future of Technology – Real Vision Classics

**Books Mentioned**

- *Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger* by Peter D. Kaufman
- *Consilience: The Unity of Knowledge* by Edward Osborne Wilson
- *The Operator: David Geffen Builds, Buys, and Sells the New Hollywood* by Tom King
- *Why Zebras Don't Get Ulcers* by Robert Sapolsky
- *The Elephant in the Brain: Hidden Motives in Everyday Life* by Kevin Simler and Robin Hanson
- *How the Mind Works* by Steven Pinker
- *The Magus* by John Fowles
- *Outline* by Rachel Cusk
- *The Overstory* by Richard Powers
- *The Diamond Age: Or, a Young Lady's Illustrated Primer* by Neal Stephenson

- *Pop!: Why Bubbles Are Great For The Economy* by Daniel Gross

## Josh's Background

- After graduating from Cornell, Josh got a job as as a molecular biologist and began working on AIDS immunopathology research
- Growing up, Josh always wanted to be a doctor, but after meeting a variety of people who worked in the capital markets and made a lot of money, his mind was changed…
    - "Venture capital was the perfect hybrid because you get to bet on scientists who are inventing the future but you also have to understand what they're doing"
        - **"Venture capital is all about investing in people who are inventing the future. The people who are inventing the future tend to be technologists, engineers, and scientists – you have to be able to speak their language."**
- Growing up in Brooklyn without money, Josh was always always hungry and ambitious to earn it
    - **"If you can find the people who have a chip on their shoulder… it's almost always predictive that they're going to be very ambitious"**

## Sci-Fi = Idea Goldmine

- Everything that is around us today was invented by somebody
    - **"Somebody came up with the idea and that idea started quite literally as a fiction. It did not exist. It was in somebody's imagination."**
- **If you look at Lux's portfolio, a huge number of the companies that they've invested in, the ideas behind them were modeled on things that happened 20, 30, or 40 years ago in a science fiction book, movie, etc**.
    - Tons of great inventions were inspired by sci-fi movies:
        - The flip phone came from StarTrek
        - Siri comes from HAL in the Space Odyssey
        - Robotic surgery from Star Wars

## About Lux Capital

- Josh's co-founder is Peter Herbet – Peter tends to be the optimist while Josh is more of a pessimist
    - **"The balance that we've had as friends for 25 years and as partners for 20 has made the firm culturally what it is"**
- The company has 10 other investment professionals and everybody is intellectually, ethnically, and gender diverse
    - "We've got people that are Kashmiri, Pakistani, Iranian, Brazilian, Australian. Then you've got a bunch of white New York Jews."
    - The company has people with electrical engineering PhDs, stem cell PhDs, material science PhDs, as well as a few others with no technical background whatsoever (they're just excellent at capital raising and marketing)
    - **"It's just a diverse group of people that all think differently. I would say that if we have two people who think the same, one of them is unnecessary."**
- Lux Capital invests in the cutting-edge of technology
    - **"The reason we do that is because want really high scientific and technical complexity – not because we want to tackle things that are really hard, but because we don't want competition"**
        - Any VC firm can fund an app or social media software – this leads to hundreds of competitors and steep prices
- **There are 2 options when it comes to to investing: Spray & Pray or Wait & Pay**
    - Either invest in a lot of companies (like buying lotto tickets) or wait until a winner emerges and pay a high price for that company (who's likely to succeed, but this will often result in lower returns)
- **In venture investing, 1-2 investments usually return the whole fund**
    - Lux expects a 3x return on cash with its portfolio of about 25 companies
    - **About a third of the investments will be total duds**
        - "So much of our business, if you're intellectually honest, is about luck"
- **"The most important thing that we can do is attract the best founders because they are the people who do everything"**
    - "At the end of the day, limited partners give us money, we give it to the entrepreneur, and the entrepreneur then decides who they're going to hire, who they're going to fire, what technologies they're going to prioritize, and how they're going to sell"

### Thoughts On VC

- **Venture capital is about believing before other people understand**
- **Many VCs want to avoid feeling stupid because they don't understand something and will often invest in a company as a result of FOMO (fear of missing out)**
  - "I think that you're going to see at least one and maybe as many as five public frauds related to quantum computing"
- **There is no market more inefficient than venture capital**
  - "In the private markets, a single price setter can come and just decide what the price of something is. They create the market clearing price."
- **The more money that floods into a market, the higher the price of the assets – this is great for consumers but generates lower returns for investors**. Josh give the following example:
  - A while back, he began looking for various industries that VC firms were avoiding and stumbled upon nuclear waste
    - Josh then spent a year traveling to nuclear waste conferences in order to find the best people in the space and back them with the best tech possible – this resulted in a company known as Kurion
      - In the first year, Kurion did about a million in revenue. In it's second year, there was a black swan event (the Fukushima disaster) and Kurion went from a $1 million in revenue to $40 million… then to $80 million… and eventually to $160 million
        - The company sold to Veolia for $400 million – Lux made 40x its investment
- **The VC investor Josh respects the most: Bill Gurley**
  - "I think he's a true investor. I think he came from the sell side on Wall Street and he understood how to be an analyst first. He understands businesses. He understands human nature."

### Advice For College Graduates

- Advice for recent college grads interested in being an entrepreneur or VC:
  - **"Build your brand, be differentiated, be indispensable, stay close to the money, find where the capital is flowing and stay close to it."**
  - **Also read A LOT**
    - **"And be voracious in your reading. I think you have to be exposed to so many things. This allows you to develop your passion and then from your passion develop an expertise and be able to stand out."**
  - "The best advice that I can give, with regret to my older self, is to find a balance between having a chip on your shoulder and being mindful that for every relationship you have… at some point in the future that person is going to be a call option and you don't want that to expire. So, **be good to people.**"

### The Game Is Rigged!

- **"**Housing market, CDOs**…there's always a game being played and there is a secret that the people who are making the most money basically keep.** They won't acknowledge it publicly until after the fact."
  - **There's always some game being played that is totally unfair and rigged!**
    - "Try to figure out where is the system rigged because it's always there somewhere."

### Additional Notes

- **"If you're going to be skeptical about other people, then you have to be a little bit skeptical of yourself, too"**
- The mission Theranos was pursuing is possible, but because the company was falsifying its research, any other company that pursues the same goal will face a steeper slope when it comes to raising capital and hiring quality employees
- **The single best trait of an entrepreneur is somebody that can tell a story:**
  - **"They are the people that recruit talent. They are the people that can raise money. They are the people that garner attention and win deals and that is what makes the venture capital business."**
- **Charlie Munger's advice to Josh: Be rational**

- - Be aware of the bias bias (even knowing your own awareness of cognitive issues is not sufficient to defeat them)
- When a bubble bursts, growth investors lose out, but consumers usually win., Someone then buys the assets for pennies on the dollar and works on greatly improving the tech.
  - The companies that laid fiber optic cables which cost $2,000 a mile all went bankrupt, but the tech paved the way for internet companies such as YouTube and Facebook
  - All the investments that were made in solar in the early 2000s popped, but much of the third world got connected to electricity and the Chinese bought a lot of the assets – they now dominate the solar industry
- There are 3 phases to new technology:
  - Installation
  - Prototyping
  - Deployment
- There is rapid growth in the 3-D printing space
  - **Instead of shipping via land, sea, or air, you can now ship products digitally!**
    - Instead of ordering a turbocharger from Germany, imagine just receiving a file and printing the part the same day
- In 100 years, it's more likely that humans will be harvesting organs than printing them
- **Since China lacks ethics and regulatory rules compared to the U.S., it's likely that many of the advances in biotech will come from China**
  - It's rumored that China does work on prisoners
    - Josh believes China will export drugs to the rest of the world just as Hollywood exports movies
- **One area that needs major innovation: Defense**
  - "If you look at the new entrants in defense, you've got Lockheed, you've got Raytheon, you've got BAE, you've got General Dynamics. There hasn't been anybody new over the past 25 years"
- Josh's biggest failures are the things that have the permanence of regret
  - "Choices I made, or relationships that I under-invested in, or people that I didn't spend enough time with who passed… those to me are the biggest failures"
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