

URL: <https://ecorner.stanford.edu/in-brief/the-archimedes-principle-of-venture-capital/>

In explaining the driving force behind venture-scale growth, Stanford Department of Management Science and Engineering lecturer Ravi Belani invokes Archimedes famous quote: "Give me a lever long enough, and a fulcrum on which to place it, and I shall move the world." The beauty of the venture-backed model for entrepreneurs who choose that route, he explains, is that it provides enough resources to fuel exponential rather than just linear growth, allowing entrepreneurs to solve really big problems.



Transcript

is distilled down from the Archimedes quote, you know, Archimedes famously said that if you, "give me a lever long enough and a fulcrum on which to place it, "I can move the earth." The notion there is is that if you architect a system in the right way, for the same amount of effort, you can have a disproportionate return.. Former ETL speaker Ben Horowitz, who's a famous venture capitalist at Andreessen Horowitz, he said this, I think in another way, where he basically says it takes as much work to start a mediocre business as it does to start a big business, so you might as well go big.. You know, I can assure you that if you are not succeeding as an entrepreneur, you're not working any less.. You're working as hard if not harder to get by.. So if you were gonna go down the path of entrepreneurship, you will be working hard, and if you're gonna be working hard and you have a mission that you care about, part of the beauty of the opportunity that exists if you do align with venture capital is that if you go big, in some ways, more resources can be thrown at you to solve that problem.. So right now then, what I wanna discuss is how, what are the, what is the architecture that you can do to sort of invoke that Archimedes principle to create these disproportionate returns? The key insight here is to go from zero to hero, you need to walk exponentially as opposed to linearly.. So we all know the difference between linear and exponential? This is Stanford, I know this is Silicon Valley.. But if I'm walking linearly, it's just one, two, three, four, right.. If I walk exponentially, it's one, two, four, eight, sixteen.. You know, if you're going from a million dollar valuation today to a billion dollar valuation in 10 years, what that means is that you need to grow 1,000X in 10 years..

To grow 1,000X in 10 years, that means you need to grow 10X three times.. Does that make sense? So 10X every three years.. To grow 10X every three years, you need to triple every year and a half or double roughly every 12 months.. I know it's basic math, but just grokking that, or just internalizing that will make a lot of other things clear about how the dynamics of Silicon Valley work.. So just to make this graphical, this is the growth of the internet from the '60s to the 2000s, and it looks fairly linear, but it's posted on a logarithmic scale.. But if you're the internet, it looks like things just grew at a normal pace, they just grew linearly.. But if I shift that scale from a logarithmic scale to a linear scale, that same data looks like this, and suddenly it looks like something drastic happened in the late '90s.. There was a knee in the curve and everything suddenly changed.. But the reality was that the internet, the dynamics of how the internet was growing, was steady.. It was just architected in a way to grow multiplicatively, and we, who experience the world linearly, felt it as this big shift that happened in the late '90s..