

Exponential World

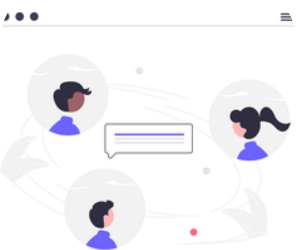
Transcription



Hi there. My name is Salim Ismail. I'm the author of exponential organizations and I wanted to give a little bit about my background to give you some context for how we got here. And so I'm actually Indian by birth, a Canadian by citizenship. I spent 10 years in Europe. Ten years ago, I ended up becoming the head of innovation at Yahoo, running their incubator Brickhouse and I learned a really fundamental lesson, which is a few attempt disruptive innovation.



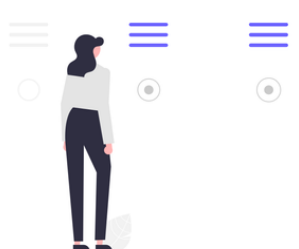
In any larger organization or institution, the immune system attacks here because all of our organizations are built to resist change and withstand risk. And yet, that's the high order bit today. So how do we deal with that as a lot of the work that we do now with these programs?



When I finished with Yahoo, I ended up becoming the founding executive director at Singularity University and for three years helped that organization and led most of the programs for a few years after that. And I learned something quite profound- we would have the CEOs, investors, government leaders come for one week programs and they would ask a question and they would say: I get, okay, I get the disruption. What do I do on Monday when I get back to the office?



And so the book is essentially your response to that. How do you practically apply? Accelerating thinking and increase the metabolism of your organization or institution to match what's happening out in the world today, because we can see that. And I'll cover that increased metabolism a little bit.



So that's the basis of this thinking :it s really key starting point is this graph from Ray Kurzweil, where he looks at the pace of change of Moore's law. This has been called the most important chart in the history of mankind by Steve Jurvetson. Basically what Ray has done here is looked back at Moore's law and gone all the way back to 1900.



And he has found that we've been doubling the price performance of computation for over a hundred years, way before Gordon Moore made his predictions. And the question Ray asked when he sees this data is why is this curve so smooth and so predictable?

We've had Wars and recessions and ups and downs in the industry. You should expect a very jagged stock market type of shape, not this very steady, rhythmic progression that we see here.

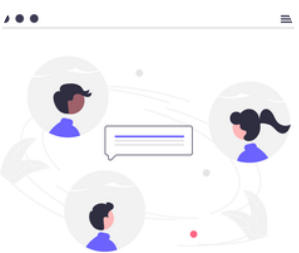
And Ray Kurzweil spent a full 10 years researching this, trying to understand why is this the case, and he came up with a really fundamental observation. If you take any domain discipline industry area or product area, and you power it with information technologies and it acquires informational flow properties, its price performance starts doubling very steadily anywhere between a few months in a year or two.



And most importantly, once that doubling pattern starts, it does not stop- it just keeps going. And that is very hard to get our heads around. Here's one way of looking at it: if you look at the different bands that you see in this chart, you'll see integrated circuits, transistors and vacuum tubes, and so on. You can think of each one has a little S curve where a technology takes off reaches its upper limit. But if you have an information based paradigm, something else always takes over the curve. So five times in a row in computation, we've seen a technology reach its upper limitations like transistors now, integrated circuits, but something else will always take over if you have an information based paradigm. And so now we're actually reaching the end of the life cycle of integrated circuits. We have three D chip design, optical computing, quantum computing, and we fully predict something else will take over the curve.



Now, Peter Diamandis, the main founder of singularity university and the founder of X prize wrote this book Abundance basically charting out that if you can harness this pace of change, that will soon have an abundance of healthcare education, clean water energy in about a decade. Now, what does the world look like if that's the case? Right. Now the heart of this I will go back to is that linear to exponential transition.



We are very cognitively bad at seeing that pattern. We're really good at linear extrapolation. All of our education training education about the world teaches us linear extrapolation.



If I take it 30 steps linearly, I'll go through 30 meters, one, two, three, four. And at the end of that 30 step progression, I've gone 30 meters.

But if I take 30 doubling steps, Two four, eight 16. And I do that 30 times at step 30. I've got a billion meters, but I'm actually 26 times around the world, which is a little further than 30 meters, obviously.



And it's very hard to spot that pace to change. Whereas one third or two thirds in that pace of change, very difficult.

And so now as the world is being driven by information, we're seeing more and more domains pass into that pattern and is very hard as I said to get our heads around. When we applied this to industries, we typically see things in three layers. The vast majority of our history has been the bottom here where all of our business models, revenue creation, value creation comes from the sheer physicality of the world.

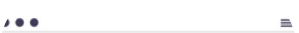




Right we extract resources, we assemble raw materials. We ship things around and everything has in history has come from that bottom layer, mostly. Then we added that second layer, which is like the Kindle or iPhone where the product might be physical, but all the revenue's digitally driven and information based.



And with the rise of mobile and internet now we now have entire industries that are completely digital with almost no physical manifestation at all. The news business and the newspaper business and so on. And what we see is that the world used to look like this pyramidal very much physical, with very little information based.



And now we're seeing industry after industry move up that stack. I write in the book that the Tesla, it's not really a car with computers and sensors in it. It's a computer with wheels. Right. And you look at it very, very, very differently when you think of it that way, actually Francisco corrected me around this and said, you're wrong.



Remember that the Tesla updates itself every few weeks. So you have to think of it as an app that has wheels, right? And, and that really breaks your brain, but you can see the directionality of that. So as we information enable the world, it starts to accelerate and we see industries now moving up the stack and this affords us a very different view of the world.



And we'll talk more about that later.

