



## Stanford eCorner

### Favoring Moore's Law Over Customer Feedback

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Video URL: <http://ecorner.stanford.edu/videos/2222/Favoring-Moores-Law-Over-Customer-Feedback>

NVIDIA started as the first consumer 3D graphics company in 1993 and met over 200 competitors in a few years, reports its co-founder Jensen Huang. Yet today the company is the only remaining player in that sector, despite the deep pockets and global spread of others who possessed quality talent and technology. Huang attributes a pursuit of insatiable technology, despite the price, that delivered even more than the customer requested or needed, for their decades-long market endurance.



#### Transcript

Shortly after we were started, 3D graphics for PC's and consumer 3D graphics became the hottest thing. And so everybody in Silicon Valley was starting a 3D graphics company. We were in 1993 the only consumer 3D graphics in the world. Silicon Graphics up the street was the professional 3D graphics company. By the end of a couple of years so, 1995, there were probably 50, 70 stores up doing exactly the same thing we were trying to do. And over time, we competed with about 200 companies. NVIDIA today is the only surviving computer graphics company in the world. And so the question is then, what happened? Competition is intense. Everybody has smart people. Everybody has money.

We competed with IBM. We competed with HP. We competed with Silicon Graphics. We competed with Sony, 3d Effects, S3, Series Logic, big, small, international, local. We competed with companies all over the world. So the question is, what happened? I would argue that 300 companies armed with exactly the same technology, armed with exactly the same people. The company that wins - and let say they all execute, and they did. With 300 companies, you know 50% of them are going to execute at any given point of time. So the question is why does one survive? Well, I think that it matters to have perspective' and let me give you some examples. I always believed that you need to understand the reason why your business work.

What is the essence of your business? What makes it work? Now the foundation of my business at its core is semiconductor technology. Here in Silicon Valley we usually like to refer to semiconductor technology as Moore's Law. Moore's Law is not so much a physical law as it's a law of competition. It's a law of challenging engineers. It's a law almost of setting pace. And Moore's Law, approximately, gives you twice the performance every year or two. And so understanding the fundamental ingredient of our business improves by a factor of two every year. And simultaneously reduces in cost by a factor of two every year. The question is what makes a survivable business. And so our first perspective was that 3D graphics was insatiable.

It was insatiable that if I made something twice as good every year even if the customer never ask for it. Even if the customer told us it was too expensive. Even if the customer, when you went to float that product specification to them told you that they are not interested, and in fact that was the case. I took our product spec to Dell and HP and IBM and Gateway and they all told me it was too much money. You're well outside of the boundaries of what they are willing to pay for it. When your customers all tell you not to do something, the question is now what do you do? In our case, because we had this unique perspective that 3D graphics was insatiable and Moore's Law was our friend. Therefore, we should make our graphics processor twice as good every year. And so for the first five years of our company, we just turned off our blinders and said, "We're going to ignore customers." Now which one of you guys are going to go through your marketing courses and a lesson

that it teaches you is ignore your customers. Well, sometimes you have to ignore your customers. And the reason for that is because they don't know the nature of your business.

And while the industry is being created, before there's common sense about the rules of that business, there is no way they can possibly know. And so we - I took the last few million dollars of the company's money and built a chip that is way, way, way too big.