

Karen West, for submission to Beyond Silicon Valley: Growing Entrepreneurship in Transitioning Economies, Mid Term Entrepreneur Interview Assignment, Oct. 30, 2014

The first entrepreneur interview I am sharing is within my local to Boston, MA, USA ecosystem, and I worked for his company, Oasis Semiconductor, from 2002-2004, in Waltham, MA. In 1995, John Koger asked his colleague, Brendan Mullally to be his graphics and image processing chip designer at a new start up company. John used to work in Digital Equipment Corporation's graphics chip design group and had decided he wanted to form his own start up company. John's good friend since elementary school in Weston, MA, Will Wrenn, was the initial financier of the start-up, and provided them \$300,000 to get started in 1995. Although you wear "many hats" at a small start up company, John took on the initial role of marketing and sales, while Brendan was the designer. They had both worked together at DEC on graphics multimedia chips in Hudson, MA.

Here was the idea behind their company's mission. Many companies at that time, such as ATI which is now part of AMD, Tseng Labs (1980's), and others in the graphics chip market had decided that their mission was to sell their graphics chips to all companies. At DEC, the philosophy had been that they made their own chips and incorporated them into their own products, but John had observed that there was a new trend happening where the above mentioned graphics chip companies were supplying many different companies who made computers that used graphics chips. John's idea was to make a graphics chip that supplied the office equipment space as a focus.

Initially John made many trips across the Pacific to make sure they were going in a direction that the office equipment companies would be interested in, and companies such as Konica Minolta, Panasonic, Ricoh, Sharp and Xerox were all quite interested in buying his chip. John had presented to them that his company would be able to make the chip for them at a much cheaper cost and a lower risk than what they were currently paying, and later John also included the software to go with the chip. The software was really rolled up in the price of the chip, since for accounting purposes, it's much easier to track the number of chips sold, and customers could take the software provided with it, and make as many copies of it as they needed to make, so it was not trackable.

The idea of the business was to take a vertical market, a market such as he and Brendan worked in at DEC, a proprietary market where the company made all the chips, software, and boards for computers for themselves, and cut across this vertical organization into a more horizontal market. For example, Dell Computer is more of a horizontal market, in that they contracted chips, boards, and software which allowed them to take advantage of the "economies of scale", and consequently their costs as a company were lower than DEC's. So John's idea was to be able to supply all customers and companies interested in buying a graphics chip in the office equipment market. That was their mission.

In terms of support after the chips were sold to customers, that was minimal, except for just after initial sales and delivery to the customer. They provided the chip and eventually also the software to go with it.

In terms of Oasis Semiconductor's ecosystem of resources, initially it was a friend's belief in his success that invested in their start up, Will Wrenn. There were also a few angel investors as time went on, other people who made personal investments and no venture capital firm funds were needed at the time. The angel investments had "fewer strings attached" in that they are usually people who know you quite well at your company's start up and believe you will succeed with their investment. After this type of angel investment, venture capital may have made sense for their company, but they did not end up seeking it, because what happened was that there were office equipment market companies showing

an interest in their chip and gave Oasis a 50% payment in advance for their chip. The reason they did not also seek venture capital investment was because often times, venture capitalists are not interested when a product is already on the market with customers paying for the product. They had no philanthropic donations and no anchor institution contributions.

The challenges that John initially faced with Oasis in the beginning was that they were a company of 3-5 people for several years. In that type of small start up, the challenge is convincing giant corporations like Sharp to have confidence in them, because they were so small. It helped that they were a fab-less company, and instead asked companies such as Samsung, Agere (an old spin off from AT&T), and UMC (United Microelectronic Corporation in Taiwan) fabricate their chips for them. The reason this was helpful in building larger company confidence was because if their start up disintegrated, the large companies, such as Sharp, had a "license to buy directly from Samsung (or the others)" in the event that the start up disappeared. So that gave the large company customers the confidence they needed to buy the graphics chips from Oasis without worry of the company going away.

Other challenges were the tradeoffs you make for the next generation of graphics chips. The sales team hears from the customers a list of software and hardware features the customer wants for their next generation product. The challenge is what is realistically doable within the engineer's schedules to incorporate these new features and the cost to incorporate the new features in the new graphics chip and software product definition. The saying goes that if you take any of the three tradeoffs (feature, schedule and cost), if you take 2 of them and incorporate them, the 3<sup>rd</sup> tradeoff suffers. Planning this successfully was an on-going challenge.

Oasis Semiconductor's opportunities originally came by making graphics chips without software for the copy machine market of office equipment customers. These customers had other vendors where they bought other chips to do the other functions that the office equipment sometimes do in an all-in-one printer, scanner, copier, fax machine, and initially they only bought the copy machine graphics chip from Oasis Semiconductor. Oasis then saw an opportunity to make a multi-function-peripheral (MFP), which incorporated all the printer, scanner, copier fax machine chip functions onto one chip. This was a big success for them, since it made the cost of buying chips cheaper for their office equipment customers and they only had to buy from Oasis, not 4 different chip vendors for each function. This also made their purchase of circuit boards cheaper, and the manufacturing of the product cheaper as well. For example, the first HP low end ink jet printer cost them \$1000, but within 4 years, the cost went down to \$99 for reasons such as this.

The way that John measured the success of Oasis Semiconductor was that he had a lot of fun making his start up successful which is important in life, but as a bonus, he was able to sell the company in 2005 for 70 million dollars in cash (not stock). They were planning an initial public offering (IPO) as their exit event as a start up whose stock could trade publicly, but just when that was going forward, there was a glitch in sales, and a year later, SigmaTel, a former Texas audio company, bought them with the idea that they would incorporate their audio chip with Oasis's graphics chip. This made the first dozen people who started Oasis instant millionaires. John explained that each time you double the company size, stock options halve. Usually you can estimate that when a company is bought, the first round of employees (3-4 of them) will get 5-10% of that 70 million dollars, the next 5 people get about 5%, the next 10 employees get about 1%, and the next 20 or so get a half-percent of the purchase price with their stock options.

John then explained that they were funded by angel investors, not venture capital. If they had been funded by venture capital firms, the salaries of the employees would have been higher but they would

have been given less stock options, but the venture capital firm provides more money for start up equipment. With the angel funding Oasis received, the salaries of their employees were lower, and they had less for their start up equipment, but the employees received more stock options that were worth something when the company was bought.

To end this story about Oasis Semiconductor, it is no longer owned by SigmaTel, the Texas audio company that had bought them in 2005, when their Wall Street Bankers told them they should invest in the graphics chip business of Oasis to add to their audio chip business. What happened was that SigmaTel then lost their Apple iPod business 2 months after the purchase of Oasis, so they could no longer go forward with their plans to create a synergy between their audio chips with Oasis's graphics chips. SigmaTel went into panic mode and put all their effort into their audio chips but the business collapsed and was sold to Conexant who did not keep the collapsed audio chip business, but they did keep Oasis as their graphics chip business, since Oasis had proven they were profitable to them.

John said that the benefits to society from his Oasis Semiconductor business was that the printer cost dropped, helping every day people better afford all-in-one printer/scanner/copier/fax machines. John said for perhaps 130 people that were employed and working at Oasis Semiconductor, each one of their graphics chip and software office equipment customers each employed perhaps 100-1000 people, and their manufacturing clients each employed 5-10,000 people to manufacture their chips. So the employment of people also benefited society.