



Podcast Episode #33 – Elements of building a successful tech business, with (proven) serial entrepreneur Milton Chang of Incubic Venture Fund, USA

RAW TRANSCRIPT OF INTERVIEW

Balint: I'm very much honored to talk to no other than Milton Chang. Welcome, Milton, to this podcast.

Milton: Well, thank you. I'm just a regular guy. This is just fine.

Balint: Milton, we met personally for the first time in April in the Netherlands where you gave a workshop on entrepreneurship.

Milton: Yes.

Balint: And even before I kind of followed your footsteps or your articles on photonics and the business aspect of photonics. So this is why I tried to emphasize at the beginning “no other than,” at least for me this is really a special moment that I get to talk to you and I get to have an interview with you.

Milton: Well, thank you.

Balint: So, going back briefly to the workshop that you gave in April, that workshop made a big impression on me. Apart from the workshop, of course you have the book called *Toward Entrepreneurship*. This had a similarly big impact on me and I use the knowledge in my daily life when I think about business. I wanted to emphasize this and the book especially because I think it's a rare book in the sense that its every sentence is to the point. So its information content is rather high compared to other business books.

Milton: Yes, thank you. That is the case. I spent a great deal of time writing it and I found most business books are sort of what I call a one-trick pony. They have one specific point they want to make and then they build around that. But in my case, it's really a whole MBA course, summarized in a very short book. So I hope people would take advantage of my effort that trying to disseminate the information and share with the rest of the world.

Balint: This is why I will put a link to the book, to your book, which leads the listeners and the readers to your website where they can get it, because again it is so much valuable for me to think about business from a unique perspective, if I might say.



Milton: Thank you. It's from a practical experiencing perspective.

Balint: So to start with, you've successfully built up multiple tech companies from scratch so you have a lot of experience, as you also said it, because you summarize your experiences in the book. In this interview therefore it would be very interesting and logical to talk about the essential elements for success that you in detail you talk about, you describe in your book, and hopefully the information content of this episode will be similarly high, just not as long of course as the book.

Milton: Okay. Well, let's give it a try.

Balint: So to start with a thought, what one concept that stayed in my mind from the workshop and also from the book is that you are a proponent of the concept of starting a niche business and modestly, you used that word during the workshop as well. So that means having a realistic next goals and growing the business slowly. This is in contrast with the today more prevalent, more dominant view, that you should start a business in a hot field and then rapidly expand, grow the business. I was wondering if you could expand on this concept, so why you think it's important to start like this?

Milton: Well, let me be more specific. I think it's really fine if you have a really hot idea and then a tremendous amount of financial backing to pursue that idea because as a practical matter a lot of the businesses succeed simply because they have strong backing. Witness how much backing money went into Tesla, for example. And without that they would not have succeeded. And so, by all means start in a hot field where there would be a lot of competition and both from start-up and from existing companies, by all means do it. But what most of us don't. And the good thing is that most of us have certain insight to a specific technology or a business area and industry, and you focus in that aspect of it in a sense of "How do I take advantage of my special knowledge and then grow it not necessarily slowly but naturally?"

Don't try to force the issue because at the end of the day business is about efficient use of capital, capital efficiency. And so, if you can grow rapidly with capital efficiency and with adequate financial support, that's fine. But most of us have to bootstrap and if you had to do that, then to succeed you have to be conservative and grow modestly. What I call modestly, but rationally, one step at a time. And that's how I built Newport and New Focus and in fact most of the companies that I incubated I proposed that way and they are successful because of that.

Balint: And the bootstrapping aspect. You mentioned that you started both companies - Newport and New Focus - in such a way. So, using the income from sales to customers and then reinvesting it into the business, just to explain to the listeners the concept of bootstrapping very short to my understanding.



Milton: Yeah. Bootstrapping is different at different stages obviously. So, like during the startup case bootstrapping could very well mean that you trade services for the services you need, using machine shop or whatever else, and bootstrap in a sense spends very wisely money from angel investors to validate your idea to the point where investors are willing to fund you.

I think the main point to remember is that today there are so many investment options that unless you can validate your idea, your business idea and your business for that matter, you are not likely to get significant investment funding aside from angels who have trust and confidence in you to build up and you bootstrap that money into something significant accomplishment. So that's how both Newport and New Focus were built that way.

Newport started with money from one of the co-founders, actually the founder John Matthews's uncle provided the initial seed capital and we grew rationally without any additional funding until we went IPO. And looking back, I wish I had gotten a little bit more money through development of the company to grow more rapidly because the first part of the growth was extremely slow and painful but a little bit input at that time would have been very helpful.

New Focus, on the other hand, we learned a little bit from that. I put in personally a little bit more money to adequate funding to get the company launched and we again did not have any VC funding until we decided to change the business to pursue the telecom bubble and then the company was... We had several good VC investors and we won an IPO and had a very high valuation until the bubble collapsed. So, I think you need to be smart, not stick to one idea, like "I don't want any VC funding." Well, you may need to, or else you'll miss the opportunity. So, just always be on the alert to come up with the optimum solution.

Balint: Now that you talked about the starting point of these companies, Newport and New Focus, and also about the later stages, what were some critical moments for deciding at all for starting the company? I'm asking this because in many interviews, many episodes I asked this question because I think one of the most critical points for starting a business is the very first moments of having the baby and giving birth to the baby.

Milton: I think the critical ingredient in this case is that we understand the market. John Matthews and I both were doing graduate work on holography at Caltech and we realized the importance of mechanical stability which the conventional method of building things more stout did not really meet that criteria, interferometric stability. And therefore our premise is to provide that and that indeed because our insight to that particular field, which in this case was developing very rapidly, in the sense the laser was coming on board, coming online at the time.



And so, we basically provided equipment in the field that we understand and we know how to implement this, whereas most other competition or companies that were already in the existence, they did not realize that. They are still doing the conventional way, big, granite, slabs and all that which are mechanical resonances. And so that's why the company was successful.

And then, of course we built it one step at a time. We understand the customers because we ourselves were essentially the same as the customer, which is research folks, and we want delivery instantly and we want the product to work and reasonably priced, nothing fancy. It's those kind of simple criteria and then serve them really well by very responsive when they want to ask specific questions, I was on the line working literally 16 hours a day, seven days a week, trying to serve customers well and it's that kind of attitude and understanding of the industry that make the company successful, and New Focus wasn't any different.

Balint: For a company that starts out from universities as a spinoff, what ingredients are typically missing in the founders after they get their master's or the Ph.D. degree? Because it can happen that they are missing industry knowledge if they don't work with the players of the industry doing some internship beforehand or even during their Ph.D. working with companies.

Milton: Well, everything has to be self-consistent to make a business work. So, in a business what makes it work in the beginning could be as simple as good technology. And so, your knowledge from the university can very well serve you well. But as the company grows, business acumen becomes more important and therefore you need to change. Now, all of that change cannot come quickly and so therefore what I strongly advocate for everyone is to broaden your knowledge base. So when you're in college, it doesn't mean you cannot go to the professional society to meet other executives and other business folks to see how things work. I was very inquisitive all the time. I would go to a trade show and talk to the salesman on the stand to find out about their business, how they approach it and so forth. So that by the time when I jump into business I'm not totally ignorant.

And another recommendation that I have for you is to read the business magazines, first of all, be really good technically, that's your career and that's your strength and continue to strengthen that. But at the same time, take a little bit of time out to read business magazines. I'd done that or maybe four or five good magazines Business-Week, Fortune, Forbes and so forth for no less than, well today it's almost more than 40 years. And you pick up little knowledge about how companies in different industry work, what makes them work and what makes them fail. And you can apply that to your industry because businesses are very similar at the end of the day. And that's how you become very sophisticated.



Now, not only that, the way you operate as an academician and business is very different. So for example, if you gave a speech in the technical community, you have to go into a great deal of detail on new things and you can also assume the audience is knowledgeable about the subject that you're talking about more or less. But in the financial community people don't have time to listen to a very long speech. You have to understand what they need, give it to them, the questions they are likely to would like answers for very quickly. And so, your speech has to be very succinct, very specific. And there are a lot of little things that you have to pay attention to that your behavior has to change. And that's what you need to pay attention to and evolve.

And I also have to say that no one can do everything. First of all, early on I'm saying basically you're plenty of bandwidth to expand. But in the same time, no one can do everything himself or herself and therefore the wisdom is to know what you don't know and get help. Now for example, most technical persons starting business, I've seen that a lot, is to assume correctly that they need help in the business side and the marketing side. And so guess what? They hire the first salesman from a big company they work with, assume they are the marketing folks that really knows business and to be their VP marketing. Well, the reality is sales is very different from marketing and so the point is that you have to know enough in the beginning to hire the right person, which I think it's almost impossible, and therefore you cannot expect in day one that you can delegate marketing. Rather you have to formulate the business strategy and the marketing, and marketing in this case is not much more than understanding the customer, which you can know more than anybody else. So you have to do some of that by learning a little bit a priori while you are still in academics and so by the time when you get into it, you can deal with it.

Balint: What comes into my mind now is that there is a saying, which I heard about, is that what makes you successful in a certain field is not necessarily the same that makes you successful in the next step of your career inside the company.

Milton: Trust, for example is built... You have to be reputable, you have to be honorable. And so if I say, "I'm going to call you back in a day," I will call you back in a day. If I don't call you back in a day, I'm already losing a little bit of the trust you can have in me.

And so, in terms of employees, the simple thing and I strongly advocate in my book, I think that's the organization chapters probably the best part in my book, is to emphasize that your attitude towards your employee is that you want to help them succeed. I use the term self-actualization. And if you have that in mind, your behavior will by definition be trustworthy because they know your heart is at the right places. But I certainly cannot define everything you do in a company but starting point is with the right attitude and then be very trustworthy in a sense to be honorable and do what



you say and don't exaggerate anything because people extrapolate to not trusting you.

Balint: I also enjoyed very much that chapter that you just mentioned about the self-actualizing organization. You describe it very well that individuals have their needs, also the company has certain needs and the two should be synchronized.

Milton: Right. Right.

Balint: So I love that part of the book and that you put an emphasis there because otherwise you create, for example, unnecessary competition inside the company instead of having a team that works together towards a common vision and goal.

Milton: Yeah. And I try not to be simplistic in the book and yet easy to read. So for example, I didn't really... In the book, in that chapter, I also have a section on how to hire people because you don't just assume that people that you bring in would harmonize with the rest of the company. And so, the book not only has the principles but also the specific implementation that get you the result you want. So again, I feel pretty good about that aspect of the book. And that's throughout the book. I try to provide the details as well.

Balint: Going back to the beginnings of a company, the very beginning of a company is an idea. And in your book you talk about what constitutes a good business and how to find it, and what constitutes a bad business idea. Can you maybe talk about that?

Milton: Well, I think there's a lot of wrong information in the media. So, like you said in the beginning that the encouragement is for people to start a company with a hot idea and grow rapidly. Well, these are in fact the premises that make you do the wrong thing. And so in my mind a good idea is one that within your expertise, your industry, insider knowledge can give you a competitive advantage, not a hot idea that everybody has and they have to slug it out in the marketplace.

And so, and if you have a rational idea that you know, in the industry you know, then you grow rationally and that makes it a good idea. But if you pursue an idea that's beyond your means, both in ability and in financial resources, then it's a bad idea. So I mean in the book I mentioned some specific areas that are bad but these are just generalizations which specifics may prove it wrong. But thinking generally, it's that idea that, I hate to say this, in a circular way that you can likely to successfully pursue it's a good idea. But if you are likely to have to compete with other people with strong resources, then it's likely to be a bad idea.

Balint: Regarding your companies that went public and you supported a couple of other companies, quite a few companies actually that were successful, either ac-



quired or they had an IPO. And what considerations do you have for founders who are looking for sources of funding from investors and also using their own money?

Milton: Well, generally if you can use somebody else's money, that's always a good sign because when it comes to your own money it gets very personal. And sometimes it's really hard to make logical decisions when your financial security or family security is jeopardized. So using other people's money is always good, if you can get it.

On the other hand, in the beginning where only you understand the idea you have confidence in the idea and it's hard to make other people understand, then you have no choice but to use your own money. So the way I see it is that putting as little seed money as you can to get to a point where you can convince an angel investor to fund you. And that's how far I would go but not much more than that.

So you also touched upon the word acquisition and so forth, IPO and so forth. First of all, IPO today is very difficult because the overhead that's placed on the regulatory requirements. It takes a company a million to million and a half a year to meet all the requirements by professionals. So, unless you can build a very big company, that's going to be kind of difficult.

And so, my criteria is based on one truism, one true fact that is it does not take much money to validate your idea, investment capital that is, but it takes a tremendous amount of investment capital to scale the volume. And the oxymoron is that when you have a validated idea, that means you have a few customers and people say good things about you and so forth, that doesn't take much money and when somebody acquires you that is acquiring a dream. Whereas if you scale the business which takes a lot of capital and that is selling reality, and reality is very easy to quantify, whereas dreams can be infinite. So in that sense, you are going to have significant dilution due to the capital you require and yet your valuation is not going to be much more than a dream. And so from a practical standpoint, I think the entrepreneur should really be willing to entertain early an acquisition because from a financial return standpoint, not from an ego standpoint, that's a better deal for you.

Balint: Yeah. I think it's important emphasizing this or talking about this topic because again the media is talking many times about the hot companies that want to grow big. They want to have an IPO but they don't talk so much about the cons of having an IPO that you just talked about.

Milton: Yeah. I'm all for it. I mean if I can have a big success, I mean why not? But the point is that in reality those are very isolated cases, those are the delta functions, which you cannot count on. So I would operate more on a Gaussian, not a delta function.



Balint: And as a founder you have to, of course, believe in your dreams and you have to fuel your dreams. But at the same time if you have no more fuel, you have to think about some way to perhaps to exit or give the leadership to somebody else.

Milton: Yeah, the world is very smart and everybody knows how to protect their interests. So you have to be realistic and do what's rational. And I think the method that I advocate is for the person who should be anyway most entrepreneurs to be risk averse. And I think the point is that this is not your only opportunity. If you have one success, you are by definition a successful individual. Next time it's going to be a lot easier so you can become a serial entrepreneur. Actually, both companies that I developed, I built, were successful and of the more than a dozen companies that I invested in, that I actively invested in, were almost there were no failures. So it's a much better return. Not a wild return but it's a rational return for your effort.

Balint: I know that the second company that you started for that it took a shorter time to come to an IPO stage.

Milton: Yes, because you have a lot more experience by then.

Balint: Yes. Alright. And because you've made a career in photonics, what fields in photonics excite you nowadays that are perhaps ripe for starting out a business and a niche, which is even maybe not so hot topic, at least not so much in the media but in your eyes it would be worthwhile pursuing a business idea in that field?

Milton: Well, let me answer your question first. The fields that are really exciting that photonics is really going to play a major role... Well, the industry that really has a future one is health care. I think we all had to agree that health care is a big one. And obviously entertainment is a big one, and so forth, and industrial is a big one. And we can go on and on, today is IoT, and tomorrow it's something else, or virtual reality, which never comes to quite reality.

But the point is that photonics is an enabler. It enables other industries. So getting back to what I say, your expertise, your knowledge is really what the value creation is at. And so, the best idea is the one that you know. You serve the industry, let's say health care, really well with your niche knowledge. That's how you can become very successful.

But if you're trying to use your knowledge to expand it to really pursue health care business per se, which you can see a lot of companies trying to do that there are very few successes but by and large you're trying to tackle this very competitive field, you're not going to be successful. But if you provide your expertise to apply in health-care industry, you're likely to become quite successful as an entrepreneur.



Balint: Combining your knowledge, technical knowledge in a certain field, for example photonics, with an industry that you know.

Milton: Right. And like right now I think the really exciting things it's like artificial material in the sense of material that's composed to have new capability in applications. That's really exciting. I mean the potential is enormous. And so that begins with an expertise and the more recent breakthrough in image resolution I think that's extremely important, the Fresnel diffraction limit is now a thing of the past. So it's those elements of technical expertise applied to all of the other exciting hot fields, business applications, that's what's really exciting. So again, remember photonics is an enabler.

Balint: Is there any question that you wish I have asked or even in your career of being interviewed that the interviewer should ask?

Milton: No, I think you were very thorough in your thinking, because you have been giving business entrepreneurship a lot of thinking and for that matter you read my book, I appreciate that. So, no, you did very well, thank you.

Balint: So, this is called ultrafast round of questions and the first question is: if you could go back in time, time travel, to the time when you were younger in your 20s, what notes would you give yourself?

Milton: Well, I don't know. One thing I always try to do it's never making money or anything, it's always to do the best I can and strive for more. And so, I think that's a good attitude.

Balint: The second question. If you had to name a book, one book, which one had the biggest impact on your career?

Milton: Well, the general business philosophy... I liked the books or anything that Peter Drucker has or had done. I think he's passed away. And I also like the books that Michael Porter, the professor at Harvard wrote on business strategy. There are two books that he wrote and numerous articles. Both of those excellent books to read are background material.

The other thing since you brought up the subject of relationship and so forth, I think understanding yourself or understanding people is really an important knowledge and for that I'd really like the book called the Enneagram, *What's my type?* The book's name is *What's my type?* about enneagram. In the United States you can actually go to Catholic church to learn about enneagram, which actually was invented by the Sunnis or the Muslims, which is very interesting in itself. But enneagram is a good knowledge base to have about recognizing people.



Balint: Thank you for these book recommendations. From Peter Drucker I've read one book – *The Essential Drucker*, and I will certainly look at these other books as well.

The third question. I'm amazed by habits and that they can have a positive impact on our life. Do you have some routine, morning routine, daily routine that helps you, especially in your work life?

Milton: Well, I'm pretty disorganized because I was able to orchestrate a lot of things when I was younger. But now as I get older I have to get more organized and I tend to try to not deal with the outside world in the mornings so that I can get some work done. But I think getting organized is really important.

Balint: I agree. I also try to get done with things in the morning before checking e-mails earliest at around 10:00.

The last question. In your work, if you had to pick one or two cultural differences that are critical, that you think are critical, which ones you wish you knew about and how did you solve those issues?

Milton: Yes. I do. Well, being an Asian, I'm very frugal. That's my upbringing. But I think that we need to be modified as to spend in some sense in a wise way. It's not how much you save, but rather it's how much you can produce. So one cultural aspect I have to modify, although it was very difficult is to understand sometimes not to be too frugal.

Balint: Interesting. Many times I can also be too frugal, saving, but in the end money is a tool, which is to be used.

I think we've come to the end of the interview and there is just one last thing, which is about reachability. So how could listeners reach you, by email or social media?

Milton: Yes. Sorry, let me get back to your last question a little bit. The impression I got about Europeans is that they really think about long term and then wanting to build a family business in the sense of a business they can pass on generations, which I think that's a very difficult thing to do, especially when it comes to technology which is changing so rapidly. So that's one thing to keep in mind about making that decision wisely because that culturally doesn't quite fit reality.

Well, I'm actually very assessable. Send me an email with a very thoughtful question providing a little background about yourself and what you want to accomplish and so forth. And I would respond very thoughtfully as well. I cannot deal with questions that are open-ended like, "Gee, how should I start a business?" Well, hell, go read a



book. So send me a thoughtful email and you will get a thoughtful response, and it's miltonchang@incubic.com, I-N-C-U-B-I-C.com

Balint: Yeah. I will put it into the show notes.

Milton: Yes, please.

Balint: Yeah. So to wrap it up, thank you very much for these hints, for these insights better to say, Milton, on business aspects of operating and running successfully companies, tech companies. I've really enjoyed this interview. Thank you.

Milton: Thank you. I wish my audience success.

Balint: Yeah. Thank you.