InvestorInsights: Saurabh Madaan

Saurabh Madaan is a Silicon Valley-based investor and a Senior Data Scientist at Google. He is well-known in the investing world for his more than 30 interviews with the world's best investors through Talks@Google investing series.

Saurabh also teaches an award-winning Leadership and Teamwork course at Google, has previously addressed the global One Young World Summit to talk about leadership and education, with the likes of Richard Branson and Muhammad Yunus. Saurabh holds a B. Tech from IIT Madras (2006), MS in engineering from the University of Pennsylvania (2008), and MS in Physics from the University of Waterloo (2010). He was Literary Secretary and editor at IIT Madras, and the recipient of graduate scholarships at both Penn and Waterloo.

Over to Saurabh!

Safal Niveshak (SN): Please share about your background in education and what work do you do at Google?

Saurabh Madaan (SM): I grew up in Amritsar, India. I studied there before going to IIT Madras where I did material science and engineering. Then I got a scholarship to study masters in engineering at the University of Pennsylvania in the US. I had always wanted to study Physics, and did another masters in Physics (University of Waterloo) before I started working at Google.

Currently, I work as a Senior Data Scientist at Google. There is rich statistics and machine learning behind Google's search and ads. My team focuses on the latter. My day job involves simulations, predictive models and business strategy. I am constantly thinking of risk and probabilities, concepts which also translate well in to investing.

SN: That sounds complex stuff to me. How long have you been doing this?

SM: I have been doing this for about 3-4 years. Before this, I worked in different roles at Google including leadership, program management, and human resources (known as People Operations within Google).

SN: Given the kind of work you do, what got you interested into reading, investing, and things around Charlie Munger and Warren Buffett?

SM: I didn't get interested in investing directly. I've always been interested in reading. As a child, my father got me a set of books known as Children's Knowledge Bank. He got me six volumes of the series. The books had everything from world history to latest advances in space technology and biotechnology. I loved reading them and that started my love affair with books. I would read everything. I wanted people to gift me books. I've stuck with that habit since. I have always read things that are not just related to my studies or curriculum. I am always trying to learn something more. My interest, even as a kid, was not to top my class but to try and become better every day. And that's really something that continues to motivate me even today.

One of the principles I share with my son is that winning or losing is not important. What matters is getting better every day and giving your best.

SN: That's a wonderful principle to live with, and something I wish more parents could advise their kids. Anyways, what brought Munger and Buffett to your life?

SM: It was probably at IIT Madras (some time in 2004) when I was watching some interview on YouTube. It was Charlie Rose's show where Mr. Buffett was a guest. I thought he was refreshingly rational as well as to-the-point. In lot of interviews, people can blabber all over the place, but Mr. Buffett had two things going for him. He was succinct, and his arguments were based entirely on logic. As an engineering student, I felt: "Wow! Why don't all public discourses follow this model?" So I started watching more of his interviews and started learning more about him.

It just so happened that he turned out to be a value investor. But that's not why I was reading and learning more about him. It was Mr. Buffett's rationality and candour that spoke to me. But, even after watching all his interviews and so on, I never really had the money to invest. I come from middle-class family background, and my pocket money in IIT barely covered my then phone bill. Also, stock market and investing are not positively looked at in a lot of Indian families. So, it took a few years for me to have a nest egg that I had to think about investing.

SN: Let's talk a bit about the talks you help organize at Google, especially the ones with the investment legends. Please share a few lessons that you have learnt across these talks. Maybe your biggest three of five lessons that you learnt by listening to or by interacting with these people. The second related question is, which talk really stands out in your experience?

SM: It would be hard for me to say which one talk stands out. I have been making some notes and these are little bit dated because they were made last year. I can go over them with you in a more systematic way.

One lesson that I have learned that applies everywhere is the lesson of *compounding*. When people think about compounding, they think about small amounts of money growing into big amounts over a long time. But a key part of compounding is missed by people. And that is the following - If you look at linear growth of money, which means depositing money at simple interest and compare it with compounding for the first few years, the differences are negligible. But if you take it forward to 20-30 years, the differences start becoming staggering. This concept is very powerful because it applies not only in money. It applies in relationships, goodwill, business, and to building any sort of talent. For the first 5 to 10 years, you probably don't see much in terms of rewards. And this is when most people give up.

I teach a class on leadership at Google. And we talk about how leadership is not about a title or a position. All of us are leaders. Some people ask me if it's not about the title, what is it about? What makes you a leader and makes other people listen to you? In our discussions, we often conclude that the real currency of leadership is *credibility*, not title.

If you have credibility, if people trust you. If people believe what you say, then whatever you say, no matter what your title is, what your position is, you are going to exert leadership influence on other people. That's part one. Then the next logical question is, "Okay, if it is about credibility, then how do I earn it?"

Like love, you cannot buy credibility. That's the interesting part. And credibility is a lot like compound interest and goodwill. It comes by doing things right, consistently over time. That consistency over time is important. Most people try doing things right all the time but if they don't get instant rewards because we are evolutionary and biologically wired so, people stop doing it. That's why, many people around us are probably not the most authentic version of themselves. And the reason is because most people give up along the way as the rewards don't come instantly.

The rewards of credibility are back-ended like those of goodwill, like those of money. So that's been an important lesson that I have learnt from almost all the Google talks. I've also learned this from Tom Gayner, the CEO of Markel. You can look at Markel's book value compounding. It has matched, if not outperformed, Berkshire in book value growth over five, ten, and fifteen years.

Tom lives in a townhouse and drives a Toyota Prius. He could have a much fancier lifestyle than he has right now. I once asked him, "Look, for the billions of dollars that you manage, you could be leading a slightly fancier life?" It was interesting what he said to me after: "Saurabh, since I don't have to worry about my next meal, I work primarily for my reputation." It's *not* fame. It's not *luxury*. You have a reputation that people look up to. So that lesson on reputation, on quality and on people is important.

He also said something interesting. He said, "I have a long-term orientation. I want to associate with good people because it's my experience that usually good people don't suddenly become bad or vice versa."

SN: To continue with Mr. Gayner's thought that good people don't become bad or, to extend it, bad people don't become good, essentially it means people don't change, right? Of course, people can change their habits and become better at something or they can develop bad habits and become worse at something. But the general underlying theme is that people don't change. Do you see people around you who are on the same path of learning and willing to change and become better thinkers and not really give in to the instant gratification thing? Do you see people changing around you?

SM: I see what your question is. Before I answer that, I think when he says good people don't suddenly become bad, that *good* part was mostly about character. These values, some people say, you inculcate in the first few years of your life. And you conduct yourself with these values over the course of several decades. I am talking about the first 30-40 years here. If you're an honest person, you don't become an honest person overnight. Whenever someone says something, I never take it as an absolute truth or lie. I think of it in terms of base rates. As a data scientist, I am thinking, "Okay, what Tom is saying is probabilistically, if I take 100 honest people who have been honest for 30 years, their chances of becoming dishonest overnight are much lower than the average sample." That's how I interpret it.

Now to your question about instant gratification, I think it relates to what I was talking about first. It's such a powerful thing that you see it all around. The Marshmallow test has proven it that if we can delay gratification, then in long term there's much more to be had from life. And it's also tied in very nicely with this concept of second and third order effects.

Mr. Buffett always asks, "And then what?" If you ask the question - And then what? – that will always help you to think about the next thing which is going to happen afterwards. So, your mind will be tuned to thinking long-term. That's a trick we can all play. I don't see human behaviour changing much. The access to technology and quick-messaging is tricking our minds more towards instant gratification. My personal belief is that human beings have evolved over millennia and this quick change in our personal life due to technology has happened over the last 10-20 years. It's going to take some time in the process of evolution for us to create the harmonious balance between technology and personal well-being. And it's good to be mindful of that. I have some other lessons as well.

SN: Yeah, please continue with other lessons you have learned through these talks at Google.

SM: From Mohnish Pabrai I have learned a few things. A lot of people think of him only as an investor. I also think of him as an entrepreneur who quickly goes beyond understanding good ideas to executing on them. And when it comes to good ideas, execution is the key differentiator. We live in an uncertain world where everything doesn't work all the time. The beauty of investing is that you do not have to win at every decision. A few good decisions over a lifetime, if I were to paraphrase Mr. Munger, could be more than sufficient for each of us.

Howard Marks told me, "Saurabh, always remember that what *will* happen is not the same as what *should* happen." Everything is probabilistic. So, we should learn to decouple the outcome from the process. You might have picked the right stock and it didn't do well. Your thesis was right. It should have done well but it didn't do well. In the future, if the same scenario comes with the same analytical framework, you should still pick the stock as long as your process was correct. So, you should decouple the process from your outcome.

In the opposite sense, you could have picked a stock and it could have done really well. It could have doubled or tripled but really what happened was very different from what you thought would happen. And your thesis had no bearing on the outcome of the stock. In that case, you shouldn't congratulate yourself too much either. I think of this as a two-by-two matrix where the rows are – was the process right or wrong. And the columns are - was the outcome right or wrong. You get four grid boxes. When you're reflecting on your investing mistakes or investing lessons, you can put all your investments in either of these four boxes, and then think further.

Some of the most powerful things that I have learned are not related to investing. This is where Arnold Van Den Berg comes in. His parents were taken to Nazi concentration camp. He found himself in an orphanage with almost no food to eat. So, he would eat grass just to feel full. As a parent it's a terrifying thought to imagine a child eating grass. What he went through in life was horrendous. He told me what got him through was the power of visualization.

He didn't have any formal college education, but he would visualize himself becoming a successful value investor. He would visualize a picture of him as a very successful person. It was that power of visualization and self-control that got him through. So, he says five things.

First, always seek the truth. Second, develop your own set of principles for which you are willing to make sacrifices. Third, and all Buffett fans would agree, is to be totally focused. Fourth, by practicing your principles you will develop the faith and courage to carry on during tough times. And this is really important. During tough times you don't have circumstances going for you, but you still have your principles to help you. Fifth and the final one that Arnold has lived his life with is – never give up.

When he came home for dinner he had a small book in his pocket. It was called How To Know God by Patanjali. Arnold must be in the mid 70s and he literally supported his whole body weight on his two thumbs. For me to see that was just amazing. This is someone who's connected the spiritual and the psychological to the investor in him. And it's amazing to see that in real life.

Now I don't know if you've read this book When Breath Becomes Air by Paul Kalanithi. This was the hardest Google Talk I've ever done. It has nothing to do with investing. Paul was a very successful doctor, thirty five years of age, about to complete his Stanford stint and start real life. Everyone was expecting his future to be fantastically bright, better than almost everyone else in the field. And he was diagnosed with a life-threatening disease. He knew he had only a few months left. So, Paul and his wife, Lucy Kalanithi, had a discussion. He asked her, "Should we have a kid?" And Lucy, who is also a Doctor, said, "Wouldn't this make your death more painful, if you knew that you were going to leave behind a kid?" That was a very interesting question, but Paul paused, as he writes in the book. He then said, "Wouldn't it be wonderful if it did?"

Here is someone thinking about second and third order effects. If it made my death more painful or if it made the thought of ending my life more painful, wouldn't that be a wonderful thing? If your life is more painful to leave that means you would have lived a life that was more meaningful. There is a lot to learn but if I were to summarize it into one thing it would be to appreciate challenges for the meaning they bring to life. Don't look at them as good or bad. Sometimes, having something that is bad can eventually be a wonderful thing.

Then, finally the lessons from Mr. Munger - honest living, avoiding envy, no self-pity - everything is in the public domain. People asked him, "What does one think in bad times?" He said, "In bad times, your focus should be: I don't have to make one tragedy become more than one. That should be your goal and you should remind yourself so that you don't give in to depression, anxiety and so on."

SN: Those were some wonderful lessons you shared, Saurabh. Thanks! You see, this is one of the most wonderful things about these investors. Even if you don't end up picking stocks using the principles of value investing, you end up becoming a better human being. There is so much to learn in terms of living a good life just by listening to kind of lives these people have lived. Not just in terms of learning and making money but most of the people that you've talked about have been through tragedies. They've still come up and done well for themselves. Thanks for sharing these lessons. I think they hold a lot of values personally for me also.

SM: Thank you.

SN: We're seeing rapid technological changes all around. You are at the forefront of these changes and you're also an investor. Since you practice value investing, you also look at businesses from long-term perspective. How do you combine these two aspects in terms of things changing really fast and long-term investing? On one hand Mr. Buffett talks about the concept of sustainable advantages - moats which are sustainable, and on the other hand we are living in a world where

most businesses are not looking sustainable. In such an environment, how do you combine the thoughts of investing when businesses are disrupted so fast beyond people's imagination?

SM: I have a mental model that I call, for the lack of a better word, the Octopus Model. Let's take a company which has a technology product, and because technology is prone to disruption, its shelf life is very small. This means any new technology can come up. And as you said, value investors stay away from the fact that a new company could come up any day and break this technology with a better one or a cheaper one. So, there is no moat as Mr. Buffett might say. Therefore, value investors typically would stay away.

Now let's do a small thought experiment, in the spirit of Einstein. Let's say that this company now has not one product of technology but a few products on technology. And it also reduces its profit margins. Instead of making a 20-30% profit margin, this company makes minimal profit margin. In our thought experiment, two things should happen. One, the multiple lines of products, if they are interrelated and reinforce each other, should start creating some sort of a competitive advantage. Second, the reduced margins. What do you think the reduced margins would do Vishal?

SN: I think low margins would create a barrier for new players from entering the market. If the incumbent is working and sustaining on lower margins, my understanding is that it creates a moat. In some way it inhibits competition because competitors are looking at industries with high profit margins and not challenging industries with low profit margin. So, this is what my understanding is. I am not sure if that's right.

SM: Yes, you are right. If someone is making low or no margin, you must lose money to compete with them, assuming you cannot come up with a better technology. Moreover, if the number of technologies and products is more than one and they are related to each other, you must make three of them and lose money on three of them to compete with the incumbent. So, this adds some durability in an otherwise vulnerable situation. There is less incentive for competition to come and lose even more money. Now the shelf life, the lifetime of this company could be, probabilistically speaking, more than the previous company that we had talked about. Therefore, as a value investor it makes sense for you to at least try and look at it because its lifetime is going to be longer than a typical company, and that gives you the opportunity to invest in it at the right time.

The other thing I would add is the effect of scale on longevity. If you are delivering your product not just to one person but lots of people. You have a huge network and network effects start showing up in wonderful ways. A new competitor must first develop multiple products, then at low margin, then gather millions of users to compete with the incumbent. So there is some first-mover advantage beyond a critical mass. You can displace one product, one technology but to do it over all products, all interrelated technologies, across billions of users is going to take time and effort. You can still do it. It's not impossible but base rates start declining.

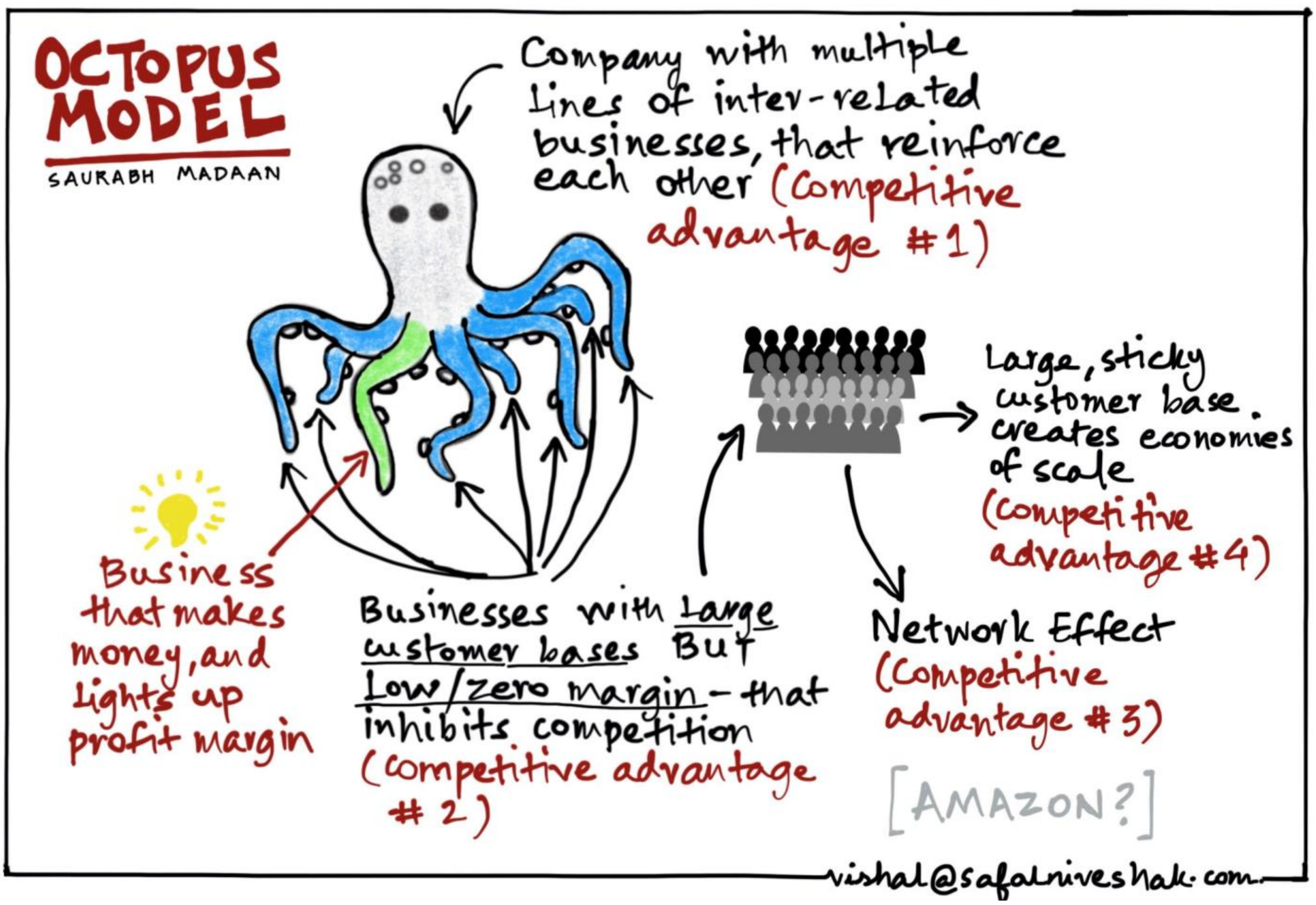
Once a company has reached this, it can add an incremental line of product out of which it lights up profit margins. It starts making money. But this line of business is behind the first four or five lines of businesses that were basically low margin. Let's think Amazon in this case. Amazon has very low (almost negative?) margin on Kindle devices. It gives free shipping to Prime Members, who also have free access to Prime video library and all sorts of other value-added services. But Amazon makes a ton of money on Amazon web services (AWS), on third party merchandise and on third party advertising.

You can see how these several lines of business where Amazon doesn't make money help it attract and get a sticky customer base. This gives the same economies of scale where you add the Nth line of business and you can light it up with profits. This is almost, in my mind, like Colgate Palmolive. If you were looking at Colgate, instead of looking at their annual revenue growth or profit growth what you should be focused on is that they have the shelf space across all the retailers and when they add a new line of product, let's say a shampoo, even if they have spent 10-20 million dollars researching it, the incremental returns on capital on that business are so huge. Because of the network and brand, other things take care of itself.

I call this the Octopus Model *(see illustration on next page)* where all these lines are the reach of the octopus, building connections with the users. I feel this is one of the many patterns or mental models that as value investors one might want to have. Through your mental models you gain some insights, first or second order. Here we are not talking profit margin and linear growth and revenues. We are not doing any of that modelling. But we're trying to get to an insight about the business that is not dependent on precise numbers, but could lead to a better predictive outcome than other quantitative models. If you have an insight like that in any business -- we just used technology as an example because you asked me -- I think that could differentiate you as a value investor.

SN: Wonderful insights, Saurabh. I can see delayed gratification here where a company is losing money across business, across different areas and because of which it's inhibiting competition. But it's willing to hold its ground and sustain business for few years to be able to see profits and then it's a different story altogether.

Since you talked about Amazon, it reminds me of Jeff Bezos who mentioned that the only sustainable advantage that a business has is long-term thinking. If you are thinking in terms of 1 to 3 years, then you are thinking like everyone else. But if you are thinking in terms of 7 to 10 years, then you are thinking uniquely. It's a very valid point that you made. My feeling is that it applies



so well, not just to technology but to any industry, any promoter, any management who in an era of shrinking attention span and shortening business cycles is willing to think long term.

SM: Absolutely, and the other nice thing about this is what Mr. Buffett says, "The secret...is to sit and watch pitch after pitch go by and wait for the one in your sweet spot." If I might add something to it – you can decide the time at which you are going to swing your bat. What I mean by that is there are various stages in the life cycle of the company that you just talked about. You very rightly connected it to delayed gratification which is the key here. If a company is building one product, one line of business and if you invested at that point and it did well, you'd make a ton of money. But a lot of such companies may not make it to the stage of the Octopus that we were talking about. You can even identify this pattern happening at a later stage. After the critical mass is reached, your margin of safety has gone up so much and your chances of permanent loss are so little that you can then decide to swing. So, you don't have to swing at every stage of the game either. It is very interesting in that sense.

SN: Great! Let us talk a bit about your personal investing. Do you invest in stocks or is it some other way? Do you really apply your learnings in value investing to identify stocks? And the second thing is, since you're so close to the technology industry which is changing the world, are you largely invested in technology or have you diversified outside the area?

SM: I believe that the reading gets you only 10% of the way. The remaining 90% is in the doing. It would be very hypocritical of me if I were to not follow what I believe myself. Most of my net worth is invested in the stock market, with the exception of my home. I have been investing for a better part of the decade now. I try not to write or blog about stocks. I think you must be aware of the things that help you become a better investor. I don't want to be subject to several biases that can come as a stock investor. This might change over time, but I want to stay true to what I feel at a certain point in time.

To your second question, I don't think of myself as a "tech person". I think of myself as anyone else who is trying to learn more and become wiser about the world. I happen to work in Silicon Valley right now and that gives me exposure to businesses in this part of the world. But I read a lot across all sorts of companies. Whether it's an insurance company, a bank, a homebuilder, an automobile company or a travel business. I don't have mental blocks in terms of learning. I don't learn with the agenda that I am going to invest. I learn with the agenda of learning. I love reading about businesses. So, I will read about every business that I can find. If you send me something related to any kind of business, I will go through it.

This is an evolving process. I'm learning a lot every day. Investing to me happens as a second or third order thing where you've been reading for a while, you have been reading a bunch of things and then suddenly you make a connection and you feel that, "Oh! No one is looking at it from this angle." Of course, you can also do DCFs, data analysis and all of that. But once you have an insight, that is when your risk of permanent loss of capital is low, and the numbers back your narrative, then you can decide to swing. It happens very rarely. But when it does, I've learned to swing.

SN: My experience also tells me that one does very well in investing when one disconnects from investing and looks at things outside investing. So, as you rightly said, we must keep an open mind and become learning machines, and let the insights come to us automatically. It makes more sense than being 24x7 connected to investing and searching for those next big ideas. Because when you are actively into that process, it's very difficult do to that. It's like building muscles. You build muscles when you are resting between your training sessions, not when you are working out in the Gym.

Anyways, you've talked about learning. You're an ardent learner. Since you read a lot, how do you retain what you read? Do you have any specific system for making notes and keeping track of what you've read?

SM: I'll share some tools that I use. I believe it is helpful not to become a slave of a style or technology or process. I have friends, some of who passionately debate that one should always read hard copies of books. Another friend says one should have a Kindle because it's more portable and so on. My view is that you should be flexible. Absorb in the medium that is accessible, without becoming a slave of the medium. If it's a PDF, start reading the PDF. If it's a book, start reading the book.

More importantly, learning, especially in investing and even in life, doesn't happen just during the reading time. It happens a lot during the reflecting time. If you spend an hour reading, you should ask yourself how many hours did you spend reflecting? Think about what Mr. Buffett has said, "We know no one else who spends as much time just reading *and thinking* as us." The reading part is one, but the thinking part is equally, if not more, important. I try, whether it's during walks or whether it's during downtimes, to think and connect different things. And in that it's hard to build a system because if you have a system, you'll only connect based on those rules. These connections must be a little bit serendipitous. So, having a system kind of defeats the purpose. What you can do is you can have a system that says, "Ok! I have to spend some time reflecting." You do it regularly, whether it's writing in a journal, whether it's just thinking about today, whether it's reflecting on the books that you've read in the last seven days. Whatever system works for you, have something that accomplishes the task.

SN: Serendipity in learning makes great sense. Do you believe in making notes of what you're reading?

SM: I believe that you don't have to make notes on everything. If I were to start making notes on every newspaper article, and some people can do that and can do it very well, but it's not me. It would slow down what I can consume and for me being able to read a lot across different fields is important. Having said that, sometimes you just read a book that speaks to you. For me, that happened recently. Couple of years ago, a book came out. It's called Common Stocks and Common Sense by Edgar Wachenheim. I read the book in one flight then I went and underlined everything that I found interesting. Later I bought the Kindle version of the book and I highlighted everything. Then what I did is, the case studies that were mentioned in the book, I went to SEC's website and downloaded all their filings. I did my own analyses just so that I could reproduce the insights that were being talked about in the book. It's was a fantastic process.

Edgar Wachenheim also talks about how he thinks about when the stock market is expensive and not expensive. While you cannot predict what will happen to the stock market, you can at least have some sense of whether it's expensive or not. Being expensive doesn't mean it will go down. It just means that you have a baseline. So, I tried to reproduce that analyses and tried to improvise on it. I emailed the author. Edgar and I met a couple of times. We discussed ideas and we spent half a day together. He is based out of New York and runs a US$ 6-7 billion hedge fund. He's a very nice, humble person. I am digressing, but I am trying to give you a sense that the process of learning does not have to be about underlining and highlighting. It must be a living and breathing process where you get so animated and absorbed in it that you reach what some people call, the flow state. It captures you. And then the underlining and highlighting will take care of itself.

I like to read a lot of transcripts of earnings calls and a lot of annual reports. And sometimes when I am reading ten years of this material for a company, I might want to highlight stuff. I've been using this tool called Bamsec (www.bamsec.com). It's especially helpful for US stocks, where you can highlight text from earnings calls online. I find tools like these very helpful. I keep exploring new tools and technologies that come into the market that are available for all of us. The other thing that I find useful is if you were to look at the 10Ks which are the annual filings of US companies, a lot of the useful information is not in the balance sheet, not in the P&L. It's not even in the cash flow statement. It is in the footnotes. So, I find it helpful to go to the footnotes.

In making electronic notes, I often use the GoodNotes app with the Apple Pencil. You can take handwritten notes, and its search function recognizes handwriting. This can be very useful when looking at your archives for some idea or event.

I read the filings. I absorb all the information. I also do my analysis. I might do a DCF or I might do a spreadsheet. I look at all sorts of accounting matrix like ROIC, growth, capital expenditure, and incremental returns on capital. When I have some sort of an insight, like the Octopus model I mentioned earlier, that I think is not already understood by the analysts or the market, that's where I start getting the confidence to explore more. But really when I look at stocks or businesses, I'm not looking at them with the objective of investing in them today. I am looking at them with the objective of learning and building my base of mental knowledge because I know it is cumulative. I might do something 30 years from today which might be based on the knowledge that I am gaining today. That's really the spirit of my learning process.

SN: Wonderful! When we use Charlie Munger's principle of inversion in the context of reading, it's more important to figure out which book to abandon rather than which ones to finish. How do you decide that it's a time to stop reading a book and move on to the next one? In other words, what's your process for separating signal from the noise given the fact that there are so many good-looking books or books with good reviews?

SM: My reading process has over time deviated from the linear, cover-to-cover journey. Now, I sometimes start with the table of contents in the beginning or the appendices in the end. If there's a gap in my understanding, then I'll read through the relevant sections or chapters. Because there's lot of repetition, especially in non-fiction books, I don't have to spend my time rereading everything. The goal is never to read a book cover-to-cover. My intent is to learn and test new ideas. If it's a business or mathematics or a physics book, I might read it line by line. But if it's a book on, let's say productivity, or about ideas that I have already read and understood, I will just skim them. I will try to get to the point of what the book is. A lot of books can be summarized better in blog posts. So, I first try to get to the blog post version of the book. Then, if it seems exciting and the parts of it seems exciting, I would go to them. And one thing leads to another. Usually, when you read something, and you discover, "Oh, I don't understand this part," then you read that part too. That's how I really approach it.

Vishal, one more thing here. As far as educating yourself and understanding all the mental models properly is concerned, you must sometimes read everything without bias. That's also important depending on the circumstance. For example, let's say you wanted to get educated on science and you don't have much background in the subject. I know someone smart who took the Discover magazine's articles on science over the last 30 years. These included interviews for each year's Nobel Laureate in the sciences. This person read through all these interviews without discriminating. They didn't say that, "Oh! my interest is in this part of physics, so I am going to read only this article, and this is not interesting, so I am not." Their objective was to familiarize with the key ideas of science, so they did it the survey without bias. If the objective is to develop a mental model or critical mass of knowledge in a field where you know nothing, then you collect everything that is of importance. And you don't discriminate based on your preferences. I think that's also important. For example, if you are reading accounting, you cannot say that I don't like the balance sheet, and so I am not going to study that.

SN: What big ideas have you changed your mind on in the last few years? Any big idea that you thought was right a few years back but now you think it doesn't work?

SM: One thing I have changed my mind on is that of linearity in thinking about your career, which I now think is an imprudent thing to do. I am talking especially as a person who makes part of his current living from a salary. Naval Ravikant, who I recently had the pleasure of meeting, said this beautifully. He said, no one gets rich by renting their time. My time has always been precious to me. But it has become increasingly more precious with time. I don't want to rent it out to anyone now, unless it is for what I would do on my own anyway (and get paid for it). What that also means is that you don't look at your career as a linear progression, i.e., you start as a junior analyst then you become an analyst and then a senior analyst. I am not thinking like that anymore. I think each of us is the CEO of the company called 'myself.' You want to have your vision, dreams as the CEO and owner of this company, and you follow the path that you want to.

SN: What about failures? I am sure when you start your career, probably in a smaller organization or a smaller role, it's very normal to fear failing. But now you've grown in your career and you work for an organization like Google, where I am sure failure is not really scoffed at. What are your thoughts on this?

SM: I have never feared failure. It is an idea that has stood the test of time for me. Almost every failure has been an opportunity to go on to do something better. And I always think, "Okay, what can this teach? How does this make me stronger? What do I learn through this?" That's been a constant in my life.

Another thing that has changed is that you don't have to be the smartest person to succeed. You don't have to be the most capable person. You can always either team up with someone or you can always remember that you are a unique person, so you will bring something unique to the table. And that's all you need to care about.

I did well in my studies. I went to a good college also. All of that happened. But I increasingly realized that, at best, what this does is help you surround yourself with good people. And it gets your foot in the door. But you can accomplish that in other ways that are just as effective. So, what really matters is surrounding yourself with good people and getting better as a person every day. For example, in my current team, I am probably the only person who doesn't have a PhD in statistics or operations research. So, I am far from the smartest person in my team. I know that I am who I am, and I bring something to the table. I know that my life has been different than every other person's in the universe. So, I'll certainly bring something different to the table. And I am comfortable and safe in the that knowledge, and that's all I need. It's something that I have gradually learned to appreciate more and more.

SN: Wonderful. What about mistakes? Which has been your biggest mistake so far and what lesson did you learn from that one? Maybe an investment mistake, maybe work or career related. Any big mistake that you think you made and you've learned a lesson?

SM: I make lots of mistakes every day. I write a letter to myself at the end of every year, just for my own reading. I reflect on mistakes and what I learned from them. So first, maybe it's easier to start on the investing side. There is this idea that you should be concentrated. And then there is this idea that you should diversify and have more than 30-40 stocks in the portfolio. I had always been more on the concentrated side. That had appealed to me. But in studying various investors, I realized that you can be Walter Schloss and you can still compound at 18-20 percent in the US. And Joel Greenblatt published magic formula with 30 stocks, and showed that you could do 30% a year. Mr. Buffett has compounded with a concentrated portfolio at gigantic rates - about 19-20% over long times. In his partnership years, the rates were even higher, around 30-40% for about a decade or so. So, both are possible. But you should really understand what you want to concentrate on and what you want to diversify. If you are just buying cheap stocks and not all of them have moats surrounding them, then having a diversified strategy is fine. Some of these businesses will not do well and you should expect that. You shouldn't over analyse them. If you buy 30 stocks that are all cheap in a basket, some of them will do bad, some of them will do well. The good part will overcompensate the bad part over time (for Rs. x invested in a stock, you can lose only x, but upside is unbounded). But on the concentrated side, if you want to concentrate, you cannot concentrate on something that is just cheap. You cannot swing at anything that has the risk of permanent loss of capital. Your first priority is to ensure that you won't lose money, so there must be durability around the business.

And you could also do a hybrid approach. So, both work but it's important to not mix and match, not to put coffee when you are thinking of making tea and vice versa.

SN: What according to you is the most important psychological blind spots that one should try to overcome to become a better decision maker?

SM: Clearly, for me, it's thinking in absolutes. If you start thinking as a data scientist, or someone with background in Physics, it almost happens naturally that you think of things in a probabilistic way. But sometimes when speaking with friends and family, I find that things are conveniently characterized as either good or bad. And causality has hindsight bias -- things either happened because of this or because of that. But personally, when I think of things, I think of them as decision trees with probabilities attached to them.

As an investor, you buy a stock, you think you can either be wrong or you can be right. You could be neither and you could be right while the stock does bad, or you could be wrong but the stock does well. All those outcomes are possible with different base rates. If you can train yourself to think probabilistically, that's very helpful.

Of course, the other roadblock is very well known. It is 'confirmation bias' - we seek information that is consistent with our beliefs. So that blocks all the other information which could help us become a better decision-maker but is counter to our held beliefs.

And the third thing is the process of thinking about failure or unpleasant memories or experiences. A lot of people don't want to go through that pain. Understandably so. In the book Snowball, the author writes about how Mr. Buffett deals with it. He talks about having a "bathtub" memory. All the unpleasant memories swim to the top of the bathtub and they evaporate, and he forgets about them. It's very useful in life to forget unpleasant memories and have positive outlook. That's essential. However, what I am referring to here is the inability to reflect on your mistakes and learn from them. That's a mental blocker because it's emotionally unpleasant. But if you can learn to think of it in positive ways and trick the mind thus, "Hey, I am really not thinking about a failure or a bad thing. I am looking at something that can make me stronger, make me a better person." And once you're done with it, erase the unpleasantness of the memory but retain the lesson. That can be very helpful.

SN: We are all creatures of habits. We've talked about good habits bad habits and how easy or how difficult it is to change habits over a long period of time. Talk about one habit that you are trying to change right now. What new habit are you working on?

SM: One of the things that I was talking to someone about recently, was that we need to start thinking of life in different areas. At least that's my objective. Family, business, spirituality and health - these are four key areas. Mr. Buffett is definitely a hero in one, but he may not be the right hero in all the areas. I want to take inspiration from best practices in all these areas of life.

SN: I remember watching Berkshire AGM when it was telecasted live on Yahoo recently, along with my kids. And I had to answer a lot of tough questions around Coca Cola and all that kind of stuff that Mr. Buffett and Mr. Munger were consuming. So I agree with you. Carry on.

SM: Here is what I told my six-year-old, "Look, it's more about happiness. He [Buffett] is very happy. He's so happy in his life. Being happy does compensate for some of this. And he does keep a count on calories." If we keep happy, that is important. Having a balance in these areas, for me, is important. For some it may not be. Somebody might say that for me the only thing that matters is work and business and nothing else. That's fine for them. For me, I want to maintain a balance in all those areas. And one of the areas where I am lacking key balance right now is health. I want to develop the habit of doing some sort of physical activity that's a part of my daily routine. I do meditate. I've run a half marathon. I occasionally try to do stuff. But what I am going to do is what Tom Gayner told me. He said, "Saurabh, my target is to wear my running clothes and go out for five minutes every day." That's all I must accomplish. Scott Adams also talks about habits in his wonderful book How to Fail at Almost Everything and Still Win Big." He says, you should have system instead of goals. So, going out with a running gear every day is a system. Goal-oriented thinking sounds like "I must run at 6 miles per hour for 20 minutes and then run a marathon and then lose 20 pounds by this and this time". The problem is that goals can be self-defeating when missed one time. They can reinforce negativity and unpleasantness that doesn't help you accomplish the original goal. Whereas the system is what Mr. Gayner talked about. Doing something very similar is something I am looking to adopt in 2018.

SN: I read a book called One Small Step That Can Change Your Life by Robert Maurer. Prof. Sanjay Bakshi recommended it. The book talks exactly what Mr. Gayner mentioned to you. Taking small steps. Five minutes but doing it daily is so important. I realized the benefit by implementing the lessons from this book, specially on the health front. Few years back I was in the same boat as you are. I'm not yet perfectly fit and healthy. But I think that one book and that one lesson - taking small steps but doing it daily - has stood the test of time for me.

SM: Health is so important that we need to start thinking about it differently than the previous generation. The average life expectancy in the western world is 80-90 years. That is with current science and technology. As science and technology improves, life expectancy would continue to rise. We might have much longer lives. Of course, anything can happen tomorrow. But I am talking in terms of base rates. That the base rates on lives might be much higher for everyone living today compared to the base rates when they were born. And what they were trained and the way the school system was designed and so on. So mentally we must start training ourselves to think more longer term than we have been trained to think previously. And therefore, having a better health throughout that long life, having a better emotional stability, is much more important than it might have been earlier.

SN: Yeah, that's paramount. Anyways, what are some of the books that you've re-read multiple times? Maybe two or three books that you would like to mention that you re-read every now and then.

SM: On the investing side, Mr. Buffett's letters. Like I said, Common Stocks and Common Sense by Edgar Wachenheim. On the psychology and behavioural aspects, Influence by Robert Cialdini. On the spiritual side, The Bhagavad Gita. I especially like the version by S Radhakrishnan. Another book that comes close is Man's Search for Meaning. There are parts of it that are interesting. There are other books which may not be the entire book or even all sections of the books but for example Mindset by Carol Dweck has a chapter on parenting that I might want to revisit once a year or so.

I also enjoy reading biographies. Some of my favorites include Life of Mahatma Gandhi by Louis Fischer, books on John Wooden by Steve Jamison, Ben Franklin: An American Life by Isaacson, Team of Rivals about Lincoln, and of course, Snowball by Alice Schroeder.

SN: Since you mentioned about Buffett's letters, one of my last questions is a very hypothetical one. Let's say you knew you were going to lose all your memory the next morning. Briefly, what would you write in a letter to yourself so that you could begin re-learning everything starting the next day. What are the most important things that you would you write to yourself in a letter, assuming you know that tomorrow morning you're going to lose your memory?

SM: So first the concept of compounding. And how it applies not just to money and business but to all aspects of life. To relationships and so on. Second, I would write about the concept of critical mass. A lot of the returns in compounding are back-ended. And so are the returns in other areas. You may call this delayed gratification, or critical mass, or something else. But the idea is that do the right thing consistently over time and results will take care of themselves. Don't look for instant gratification. It's also what the Bhagavad Gita says. Focus on the Karma and not on the outcome. Outcomes will take care of themselves.

The third thing I might want to write about is just focus on being a learning machine. And fourth thing would be the process of being a giver that Adam Grant spoke about in his book Give and Take. And fifth would be that emotional and spiritual well-being and meaningful relationships in life are key. Sit a vipassana meditation course at a Goenka center.

If I have those five things written to myself and I am able to focus on them and live my life accordingly, it would be a happy life.

SN: Who's your favourite contemporary business owner and why? Just to give an example, maybe Jeff Bezos or Mark Zuckerberg or someone else. If you were to bet your money on one person, who would it be?

SM: Honestly, I would think of Mr. Buffett as contemporary as well. He is by far my favourite for a lot of different reasons. He's not only done well with the business and designed it in such a way, he has designed systems that take care of themselves. He has also lived his life in a way that his schedule is free, and he has a lot of time to spend on reading and thinking which most other executives are unable to do. That part of him I love the most.

Talking about others like Mr. Zuckerberg, Mr. Bezos, Larry Page, Sergey Brin - all these people and a lot of the CEOs in India and China - very remarkable people. Look at Jack Ma in China with Alibaba or Pony Ma at Tencent.

They are all very accomplished people. By far my favourite is Mr. Bezos. If you read his annual letters they are also just like Mr. Buffett's letters. They have a lot of lessons about life and thinking in life in general. When he says long term, he really means long term. It's not even five or ten years. It's really long term.

In the book that came out on Amazon - Everything Store by Brad Stone - the author talks about Mr. Bezos talking about building a clock that spans a millennium rather than 12 or 24 hours. Think about it. If you try to visualise a clock which runs across a millennium, you'll barely notice its movement through your lifetime. And because you will notice hardly any moment or very minute moment, the idea of time in your head will change. These are ideas that Mr. Bezos has constantly not only talked about, but he has lived through in Amazon. That is really inspiring.

The way he has run Amazon, it really shows you that he's thinking of second order effects and delayed gratification rather than immediate first order effects. All that makes him stand out in my opinion. And finally, not as a business owner but as a CEO who has made a transition through different stages is Bill Gates.

He is someone to look up to and learn from. After running Microsoft for so many years, the work that he has been doing with Bill and Melinda Gates Foundation and learning just as fast about so many different areas and having such a huge impact on the world. Very few people have been able to do that. Although it's a non-profit, but if you were to think of it as an organisation and the way they are running it, it has some amazing lessons for people to pick up from.

SN: What are your thoughts on education system? I know you are closely associated with education. You have been teaching underprivileged kids in Delhi on your visits there. And you mentioned that you also take lectures on leadership at Google.

What are your broader thoughts on education system and what's good and what's bad and how can the system be improved to enable kids to become better thinkers than rote learners?

SM: Maria Montessori has done a fantastic job in talking about kids and learning. I am a fan of at least the core philosophical idea that let kids spend time in things that help them achieve what we call the 'flow' state. Let them do it disproportionately. I'm not a fan of the current education system as far as linearity is concerned. Pre-kindergarten, first grade, second grade, and so on. I think human beings learn different things at different paces. An ideal education system, whenever it's taking effect at mass level, would allow people to move through their trajectories of life in different fields at the pace that they want to and are comfortable doing.

As someone who is involved with through work, non-profits and also as a parent, I think of the educator's role as one of asking the right questions. Whether I am speaking with Arjun (my six-year-old son), I am generally asking questions to help him discover his learnings.

So, for example, when talking about leadership, I am asking the question - is leadership about titles? Some will say yes, some will say no. And then I'll ask a second question, "Okay! If it's about titles how about this versus that?" And then students themselves read a conclusion.

When I ask what title did Mahatma Gandhi have, everyone is surprised, "Oh yeah! It's not about title." Then we say, "Okay, we agree that it's not about titles, let's think about what it is actually all about?" And that Socratic method of asking question is a very powerful way because then you're not teaching. You are simply facilitating and helping the students discover things themselves.

I wish we could do this more and more in the education system. I know that the demands on syllabus and the shortage of time and the number of students each teacher must deal with, they make it hard. But with advance of technology, with the access that we have to the best knowledge, with this small device, our mobile phones, that holds all the knowledge in the world now, we should be able to do a better job.

Finally, we must take more direct inspiration from the best educators in sports and other fields. Personally, I consider John Wooden a hero. After stints as a high school coach and teacher, he took over as head basketball coach at UCLA in 1948 and led the Bruins to record 10 national championships.

He was the first person to be inducted to the Basketball Hall of Fame both as a player and coach. His consistency as a player and coach proves the importance of having the right *process* in life. New players felt a shock when the first thing Wooden did was to sit them down and teach them how to put on their shoes and socks. Doing this properly was the initial lesson for "everything [the players] would need to know for the rest of our lives."

Coach Wooden said: "*Success is peace of mind, which is a direct result of self-satisfaction in knowing you made the effort to do your best to become the best that you are capable of becoming*."

Notice the focus on effort and process, not inconsistent with the Gita's focus on karma or Mr. Buffet's focus on the "inner scorecard". I would encourage your readers to take a look at John Wooden's pyramid of success, and his brilliant Ted talk.

Those are my broad strokes on thinking about education and learning, but of course this a topic into itself.

SN: Those are valuable insights. My final question is what would you be doing if you weren't working in technology and what other things are you occupied with?

SM: Like I said earlier, I don't define myself as a person working in technology, but think of myself as someone trying to learn and get better. Technology happens to be one of the things I am currently doing. I spend a lot of time reading, thinking, and learning about different areas. I don't have a grand plan but my broad philosophy in life is – good people and good thoughts.

I believe that if I can associate myself with good people across all fields, whether it's technology, whether it's investing, whether it's science and medicine, whether it's philosophy, and I can surround myself with good thoughts, the outcomes will take care of themselves. In terms of profession, if I were not doing this I could have been a teacher. I could have been a writer. That's couple of things I can think about.

SN: Thank you so much Saurabh for your time and patience in answering my questions.

SM: Thanks Vishal for taking the time. It was great talking with you.