



Sloan Career Cornerstone Center

Profiles of Mechanical Engineers



Caecelia Gotama, P.E.

**Vice-President Engineering Services
Syska & Hennessy
Los Angeles, CA**

Education:

MBA, Pepperdine University

MS, Mechanical Engineering, California State University/Fullerton

BS, Mechanical Engineering, California State University/Fullerton

Job Description:

International project management and various functions in design, finance, development of proposals and interaction with clients.

Advice to Students:

"One thing that an engineering background gives that is very, very strong is to be able to attack a problem in a methodical way, find the solution, and solve it."

Comments:

Caecelia's projects involve buildings of every type, from hospitals to convention centers. Each raises questions and issues that require expertise in architectural, electrical, mechanical, structural and human factors engineering.

Video Transcript 1:

"I continued on to a Master's degree in mechanical engineering because credentials are important when you are working with international clients. In Europe, for example, the Master's has a higher status than the Bachelor degree. When you are seeking professional recognition overseas, it's better to have a Master's or Ph.D. But I didn't stop there. As I moved up in the company I found that I needed business and "people" skills. So I went back to school for an MBA degree."

Video Transcript 2:

"A performance appraisal, as I view it, is actually the time for that particular person to set up what his or her goals for the upcoming year are. So if I give a performance appraisal, that's the time when I can sit down with that person and give him or her feedback of what's good about their performance and what needs improvement. Because that person, as they grow, can capitalize on their strengths. And, on the other hand they can take steps to lesson their

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disadvantage, or work on what they need to grow. And, as that person grows, we can better capitalize them as well."

Interview:

Each person is different, which is good, and the path of success is not the same for everyone. Some people will work 60-hour weeks, and some won't. People have different commitments. Some want to be a manager, some don't. My job as a manager is to put everyone in a place where they can perform to the best of their ability and in the best interest of the company.

Q: Just for the record, say your name and who you work for and what your job is.

Gotama: My name's Cecilia Gotama. I work for a company called Syska & Hennessy. It's a mechanical, electrical, and plumbing consulting-engineering firm. And my role is -- I'm a project manager. My background is mechanical engineering. And I'm just, the beginning of this year, starting to launch an international division or Asian division for Syska & Hennessy. And that includes market research, business plans, business development, and securing jobs and executing them.

Q: You have managers working for you?

Gotama: Yes, I have a team of mechanical, electrical, and plumbing engineers working for me.

Q: What's that like?

Gotama: It's interesting. I have to be technical at the same time I have to be a people person.

Q: Describe what today has been like at work.

Gotama: Today is Monday, so I came to work eight o'clock. And at eight o'clock we have a management meeting. And after the management meeting, we do whatever we have to do. And today's my first day back after being away to Hong Kong for one week. And that was a sudden trip. So, there were a lot of loose ends that I had to do today. Did a few urgent things that I had to do. And I went out to lunch with some of my team members just to catch up on some of the project I left behind. And any outstanding issues that need to be done. During the afternoon, I review a few submittals that the contractor had submitted. And in the afternoon, I had a conference call with Singapore -- one of my team members went to Singapore to review a project there and give me a report. So, the headquarters of that particular project is Hong Kong and later on in the afternoon, I had a conference call with Hong Kong. And after this interview, I have to make a few phone calls to Thailand and Indonesia for future interviews and proposals and projects. That will be my day today.

Q: And what time is it?

Gotama: OK, right now it's six-fifteen. By the time I finish all the phone calls it would -- if I'm lucky -- be eight o'clock when I get to go home. So my days, it's eight to eight. And maybe three days of the week I will have that kind of day.

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Q: So tell us about your lifestyle. Three days out of five or seven, it's eight to eight. What's the lifestyle of an engineer?

Gotama: Well, I hope the days that I'm not staying late I get to exercise a little bit, because that's the way I can maintain my stamina. And I try very hard to have my weekend free, because that's when I actually do socializing with my clients. Free from work, that is, but I do go out with my clients, get to know them personally. And because my husband also is a professional, I get to know his clients as well. So, a lot of the time in the weekend, we spend socializing with people we work with.

Q: Give us a snapshot of Cecilia. From the beginning of Cecilia to now.

Gotama: Well, my father worked for an oil company, so I was exposed to an international way of life very early on. In the oil industry, you have people from all over the world who go together, form a team and do a project. So, from very early on, I've been aware of the international aspect of professional life. Throughout all my education, I always have kept that in mind, although I was not sure if I wanted ever to be involved in international negotiation or anything like that, as part of my professional life. But, as a result of that, when I went to school, I made sure I had the Master's degree. Because I knew that in Europe, for example, there is no such thing as a Bachelor's degree. There is always a Master's and Ph.D., and a Bachelor's degree sometimes is not quite recognized as a full degree. So, I went to the Cal State system -- Cal State Fullerton. And I completed the Master's degree in mechanical engineering. And as I moved up a little bit in the organizations at work, I find out that I needed the people skills. So I went to Pepperdine and got my MBA. So, that's my educational background. I did much of the schooling in the evening, actually, because I also thought that it was very important to get practical experience as much as the education background. So, during all of my Master's degree and during the later part of my Bachelor's, I already worked in the industry. And with that working experience and educational experience, I was able to capitalize on that throughout my career.

Q: Tell us about the jobs you've had since you've been out of school, including changes within the various companies.

Gotama: I made a few changes in my career because part of engineering, I found out very early on is, if one made changes, you got to advance a little faster. On the other hand, changes have to be made very carefully. Because too many changes -- it seems like that person would not be able to fit in an organization. So, whenever I changed, I made sure that I advanced and I carefully planned that I got quite a good variety of backgrounds. A broad base of backgrounds, because I knew that it would help me in the future to better understand all aspects of engineering. And so I started as a summer intern in one company, and then I worked for another company that is no longer in business. And every time I moved, I started with just a project -- just a junior engineer. And then I started to become the main mechanical engineer. And then, I moved to another company as a project engineer and I moved up to Syska & Hennessy starting as a project manager. And now, I'm a project manager and also starting a brand new division in a brand new area.

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Q: Can you say anything about that new division and the new area and where you want to take it?

Gotama: It will be in Asia. -- the new divisions will be in Asia. As far as the office -- where the office will be -- we're not sure yet because a lot of it will be dictated by the work. Currently, we have work in Hong Kong and Southeast Asia. Probably, it will be in Singapore because that's a hub. But on the other hand, if the work dictated us to be somewhere else, we'd probably be somewhere else. So right now it's still open.

Q: Can you tell me anything about the kinds of projects that Syska & Hennessy does? And some specific things that you've worked on.

Gotama: Syska & Hennessy. Again, it's a mechanical, electrical, plumbing, and consulting engineering firm. We do basically commercial and institutional projects. It's anything from tenant improvement to a very large one million square foot project. And projects -- one of the projects that I have currently, it's San Bernardino County Medical Center, which is a one million square foot -- approximately -- hospital. It has inpatients and outpatients. It's a hospital designed to withstand an 8.5 earthquake. So, during an 8.5 earthquake this is the only facility in the area that will be standing and will be prepared to receive clients and patients, treat them, and also to house people that don't have anyplace else to go. Another project that I have is a convention center currently under design. It's about 850,000 square feet. It's an extension of an existing convention center. And we are doing that project to double the size. I have a few little projects like a few universities currently under design. And there is a church. So, the projects range anywhere from, you know, a church, performing arts, libraries, hospitals, you name it.

Q: What are some of the things you enjoy most about the job?

Gotama: I get to meet completely different people from one project to another. Again, if it's a performing arts center, I get to learn about what a dancer needs. What's important for a dancer, what's important for musicians. And then the next project is a hospital. What's important for a nurse, what's important for a doctor, how they think -- how they operate from the beginning in the morning when they start to deliver their medications. The nurse will say, "I don't like carpeting because it makes the cart harder to pull." For a regular person who's not in the hospital, that will never occur in their mind. The dancer will have to jump up and down and so they need the stage to have some kind of a spring capability so it's not hard on their knee. If I go to a library, a librarian will have completely different concerns. So, with every project, I get to get a snapshot of how people live. And it's very interesting because it's never the same. For example, in Alaska, the roof needs to be pitched, you know, very, very steep. Because the snow is very heavy. So, we need to allow the snow to fall off very quickly, otherwise the roof will collapse. In California, we never think about such a thing. So it's very interesting. I mean, people live very differently from one geographical area to another. And people have different concerns from one profession to another.

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Q: What kinds of things have you seen in international communications? What have you learned?

Gotama: Yes, in most places outside the U.S., relationships are very important in the business dealings. In the U.S., if you're good you can actually enter just about any market. The market is not as open outside of the U.S., so it takes time to build up a relationship, to let people know who you are. And they're interested in you as a person. Not so much the company. They give you a project. They want you to run the project. They don't care about the company. Which makes it interesting because it gives you more of a "loyal" approach to the whole thing. But at the same time, if you promise something, you are tied down to that promise. You can't just go on and chase another project because this particular project is no longer interesting. You have to deliver your commitment. And it has to be you as a person to deliver that commitment.

Q: Did you expect these sorts of things when you were a student?

Gotama: No, because when I was a student -- I guess most engineering students will sort of look down at the other side of the campus. Those people who learn English, you know, English major or psychology major or art major. We never wanted to have anything to do with those people. And yet, the first thing when I got out of school, a person said "Go and write a letter." And I first said, "Well, we didn't write letters in engineering school." It's something that as we grew up in the professional life, we learned that there's a lot more than engineering. All those aspects of general education tend to be quite important. That's another reason why I took the MBA, because I felt the need to have better people skills. Accounting, all the business skills.

Q: Let me put the first part of a statement in your mouth, "When I interview candidates for engineering jobs, I'm looking for these things:"

Gotama: When I'm looking for candidates for an engineering job, I look for people who can get along with other people. Because engineering, at least in this business, the major part or the most difficult part, is the coordination. And coordination means involving a lot of other people. Mechanical engineers need to understand what an electrical engineering counterpart needs -- at what time or what stage of the design of the project that person needs that information. And throughout the design, or during the construction, that person needs to continuously negotiate. "I cannot deliver this to you right now but this is what I can give you. And on the other hand, I need this information from you yesterday." And being able to get along with people is the most important thing in this business. Also the client. The client always wants something that eventually we cannot deliver at this particular time. Or, there is a better alternative that we think that client should know. We need to be able to present it to that client. And if that person can get along with people, it's a lot easier to deliver all these messages. Because I have never seen a project run by a book. There's a lot that a person needs to improvise all the way through. And it means needing a lot of other people's help along the way. The engineering part of it is the easier part that we can teach a person. Because eventually, if that person is an engineer, they have the background and we can teach them the practice. But the getting along with people -- it's something that that person already has. So we need that.

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Q: How do you do performance appraisals?

Gotama: If I give a performance appraisal, that's the time where I can sit down with that person and give him or her feedback of what's good about their performance and what needs improvement. Because that person can, as they grow, capitalize on their strength. And, during that performance appraisal, we talk about what steps that we can do as a company to help them compensate for their lacking things that they need to build. And so, if we repeat that year after year, the person gets to grow and become a better person. A better engineer, better manager. And a better client person and a better business developer, a better businessperson.

Q: Do you find that the areas where they need to develop further tend to be very individual? Or do you see some common areas where engineers tend to need to develop as a group?

Gotama: Every individual is very different, is what I've found. The path of success is not the same for everybody. Maybe working 60 hours a week is not something that somebody is willing to do, because that person might have a commitment. Either a family commitment or other commitment that happens to be more important for that person. So, that person might be willing to work just a regular eight to five, and that person might be willing to give up a few other options. Maybe that person has no interest in being a manager. And part of being a manager is to give everybody a place and to let them perform at the best of what they already have and what's important for them.

Q: What have been some of the greatest challenges that you've experienced during school and since school? What comes to mind as some of the biggest hurdles you've had to overcome?

Gotama: Biggest hurdles. Probably the biggest hurdles were finding out where I wanted to go, where I wanted to be. Because after I found that, everything is easy. And once I know what's important for me and where I want to go, the rest of it will be easy. Just finding an opportunity and, you know, preparing for that opportunity. But it took a long time to find out what kind of life that I would be happy with. And I think everybody needs to do that because if you're happy with the kind of life that you choose, you'll be a good "whatever." You know, if you think that you're happy to be a gardener and you're the best gardener, everybody will want your service. You'd never have to look anywhere else. If you think that you would be happy as a lawyer, you'll be the best lawyer and everybody will want your service. But to find out what you will be happy with and what you're good at, that's what takes some time.

Q: What is it about Cecilia that finds its happiness in engineering?

Gotama: What I found out what I like the most is, I like people. And I've been lucky to find an engineering field where I'm involved with a lot of people. I would not survive being an engineer where I sit in the corner and design something and never have to see other people. My life is great because I interact with people all day. From the time I start work until I go home every day. It's frustrating at times, but I found out that's what I'm happy with.

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Q: Well, there are scores of engineering students out there who share the same thing. And who really will begin to find their joy in being more people-oriented directions. Where would you advise, in the engineering profession, if that's where they also have their "joys," where would you advise they look for such things?

Gotama: Well, one thing that an engineering background gives that is very, very strong is to be able to attack a problem in a methodical way, find the solution, and solve it. And those are the abilities that, whether you become an engineer or not later on, are valuable abilities that we learn from school. As far as where an engineer can use their talents as well as involving people at all times, I've seen engineers that eventually went back to school and became stockbrokers. They deal with computers, they use their engineering methodical approach, and deal with people -- customers and corporate clients -- all the time. There are lots of engineers that become lawyers; there are lots of engineers that become doctors. There are lots of engineers like myself who are still involved with engineering but act as a consultant. So there are a lot of opportunities outside of engineering school, whether it's using your engineering background or not. But the skills will always stay with you.

Q: We are gradually wising up and finding that engineering is not just a male profession. Can you speak to that?

Gotama: I have never found it to be a male profession. I guess because I'm there. There is advantage and disadvantage to being female, and I'm sure it goes the same with being male. It is a male profession because there are a lot of males in industry. But I have not found any skills that require only males. I mean, the skills can be acquired by anybody. And I have no problem acquiring those skills. Traditionally, a lot more males have found an interest in engineering. But I found that I have never had difficulty being in that field. In the meetings, it brings the meetings a little bit more orderly manner, because people tend to respect the fact that there is a female sitting in a meeting, people don't swear and fight as much. Which sometimes may help the project to advance faster.

Q: Can you say anything about professionalism and professional societies?

Gotama: Professional societies tend to hold professionalism quite high. In actual practice, it's probably not as high as in the professional society. A lot of people have to do whatever they do to survive. Doesn't mean that it's right, but people do it. But hopefully, we all can make decisions and say, "That's not what I want to do," and walk away from that. But as long as there are other people who are willing to do it, we just need to watch out for it.

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