

LASEWICZ: This is an oral history with Linda Sanford, IBM's senior vice president, conducted on April 16th, 2003, in Armonk. The interview is conducted by IBM Corporate Archivist, Paul Lasewicz. Thank you. I want to welcome you to your very own oral history interview.

SANFORD: Thank you, Paul.

LASEWICZ: Could you give me your current position and title and tell us a little bit about what you do?

SANFORD: I've just assumed a new position as of January first of this year (2003) ... senior vice president for enterprise on demand transformation and information technology.

This is really a whole new foray for the IBM company where we are looking to lead the way for our customers around a new initiative which Sam Palmisano launched for us back at the very end of last year, which we have called e-business on demand. So my job is to make IBM the premier on demand role model for our customers.

LASEWICZ: Let's go back, your schooling and education. What kinds of courses did you take and what interested you and why?

SANFORD: It was interesting, because all throughout school, and I can remember back in my grade school as well

as in high school and then on through college, I was always most interested in the math courses.

And I don't know why exactly, but doing the equations, the mathematical formulas, always had a very big interest for me. And whereas I took a lot of the other basic courses around English and social studies and geography and so forth, I always gravitated toward math.

There are five girls in my family, and every single one of us was a math major of one sort or another. I guess it must be in the genes, is all I can think of.

LASEWICZ: Could you give me a summary of your work history?

SANFORD: I actually joined IBM right after college. I had gone to St. John's University to get my bachelor's in mathematics. And at the time, I was very much thinking through what would I do with mathematics other than perhaps teach.

I knew I didn't have quite the patience and the aptitude of being a teacher, so I had gone into operations research which is more or less the application of mathematics and technology to the business sector. And I had gotten my Master's degree in operations research at RPI.

And right after I received my Master's degree I started with IBM. And I've been with IBM for some 27 years. Where I started was actually in the typewriter division in Lexington, Kentucky.

And with my mathematical background in operations research -- in some schools they call that an industrial engineering background -- I actually started out doing simulation modeling of the typewriter environment.

We had collected a lot of data around typists in businesses and what kind of data they actually were typing whether it was text or whether it was numerical, whether it was equations.

We used that data to build a simulation model that we could then actually put in the features and functions of new typewriters to see how they would perform in those environments.

And so I started out with typewriters which probably a lot of the young folks coming up today won't even remember.

I then moved to Boulder, Colorado, after about one year in Lexington, Kentucky. And I was working on copiers and page printers, really all on the development side of the business.

And also had some experience in some of the manufacturing process work associated with supplies, toners, inks for copiers and page printers.

After about 10 years in Boulder I then moved back to New York, and that's where I became the executive assistant in John Akers' office, who was, at the the time our chairman.

And from there moved into the networking hardware organization where we worked on linking computers and telephone equipment together in something which was called computer-aided telephony at the time. So, branching into some brand-new opportunities.

I spent about five years actually working in our mainframe division after that -- a very exciting time, a very tough time, but also a very exciting time where we were transforming ourselves, transforming our core technology from bipolar to CMOS...

...transforming the role of the mainframe from kind of a monolithic proprietary box to an open industry based server, and also transforming our culture of really how we developed and how we moved new technologies into the marketplace, being driven more from a customer point of view than from a technology point of view.

I was fortunate enough to play various roles in that transformation as we reinvented the mainframe, helping to identify our strategy and ultimately running the division to deliver that strategy into the marketplace.

After mainframes, I actually spent a couple of years in our sales organization running our sales for our largest enterprise customers, our global industries accounts.

And then had the great fortune to go work in the storage part of our business, and actually bring us back into the storage marketplace. We had kind of lost our way for a number of years and a lot of our competitors had jumped in and filled the void that we had vacated. And so our role was then to bring us back into storage. And a lot of transformation reinvention work going on there.

So when I think back to a lot of my past and my experiences, a lot of it was very much in the development and technology pieces of our business. A lot of it had to do with transformation of those businesses either from a technology point of view or from a business point of view or from a culture point of view, which as I thought about it actually gave me a good experience base to now take to this new assignment around reengineering the IBM company.

LASEWICZ: What professional organizations do you belong to, and what kind of value have you see them adding to your career and your development?

SANFORD: There's two professional organizations in particular. One is WITI...the Women in Technology International organization, and then the other one is the National Academy of Engineers. And both of those have been from my perspective ways of allowing me to kind of see a much broader engineering and technical set of issues that affect not only our industry but also affect perhaps some of the issues around how do we get more and more of the young girls or underrepresented minorities into the technical fields here.

And both of those have kind of opened my eyes to the fact that we do have some real issues and we need to go address those.

LASEWICZ: Could you describe some of your early experiences with science and technology and would you classify them as formative?

SANFORD: I would say some of my early experiences probably are rooted in math and numbers.

And you know, I grew up on a farm, and one of the things that my sisters and I were charged with doing was not only just harvesting all the fruits and vegetables but actually selling them on a roadside stand.

And I think we were looking for creative ways in order to either package up or price our produce that were on the stand especially as it got toward the end of the day because if you couldn't sell it you would have to throw it away because we wanted fresh fruits and vegetables for the next day.

So a lot of it was more mathematical, where we were not only figuring out what the pricing should be but also how much money did we make for the day and what was our allowance out of that money, more importantly.

So it was more in the math kinds of fields and science to some extent, because through the teaching of our grandparents, when was the right time to plant a particular crop, what were some of the signs in terms of the environment that would tell you you'd better start thinking about harvesting them now, how would you protect those particular crops from the insects and the other environmentalists that would come to destroy crops over time.

So more in the math and sciences, early on. And I think it generated probably a curiosity in myself and my sisters to find out how things work and what makes them work. And as I said back then we didn't have really computers, so none of that technology was really available to us.

LASEWICZ: You mentioned that math seems to be in your genes because all your sisters and yourself ended up being math majors. Would it be correct to say that your family was supportive of your academic studies?

SANFORD: Yes. You know, it's interesting, because my parents were not math majors or in that field per se, but it must have been something in the genes because all five of us are in the math and sciences space.

I think, and very early on both my mother and my father were very encouraging about us getting a good education, about sending us to college. I remember very vividly where some neighbors of ours at the time were kind of joking around with my parents and saying, well, you've got five girls but at least you don't have to worry about sending them off to college.

And I think that made my parents even more bound and determined to sending each of us off to college, which they

did. And so a lot of encouragement, which I think is very, very critical.

I watch that today as I look at this next generation, particularly in the K through 12. And I think the influence that they have that comes primarily through either parents or teachers is very important in order to instill a sense of confidence in a young girl in terms of her innate mathematical and inquisitive scientific capability which I think many, many young children including young girls have very early on.

And you need the encouragement from influencers in their lives to continue that curiosity and take it to the next level.

LASEWICZ: Once you began your career or even perhaps in the educational side of it, did you have any mentors?

SANFORD: I was very fortunate to have several mentors. And one who's been with me for a long, long time, and that's Nick Donofrio himself here in IBM. And I think having a mentor, again, just as important as it is early on in a young person's life and the K through 12 years to have their parents and teachers and guidance counselors encourage them, again, once you move into the professional ranks I think the same thing is equally important.

Somebody who can not only be there to give you the advice and guidance that you're seeking or to bounce ideas off, but someone to continue to encourage you. It's important for all people to have mentors of one form or fashion throughout their career.

The other thing I believe that's very important is not just a single formal mentor, but I also believe in a network of informal mentors.

And it could be for a temporary period of time, it could be for a particular issue or concern that you're wrestling with that you might knock on the door of somebody and informally say, can I seek your thoughts on some advice from you on something I'm wrestling with?

So I think it starts early on in those mentors back early on or parents, teachers, guidance counselors. And it has to continue throughout your career. And I think the mentor, I know in my particular case, played a very, very important and strong role in keeping me focused, keeping me very much really driving toward the goals I was looking for and gave me a tremendous amount of encouragement along the way.

LASEWICZ: And that seems to be a part of IBM culture today too.

SANFORD: Yes.

LASEWICZ: How do you use your technical training today?
Is your math and engineering background still relevant?

SANFORD: Yes. Training in mathematics and engineering and computer science is a very rock solid foundation to have no matter what you end up doing in your career.

It drives a sense of discipline in your approach. It also enables a sense of rigor in your thinking, a lot of logic that flows in taking facts and data and being able to put logic around it and analysis to drive to a conclusion.

And that same thought process, that rigor, that discipline, is extremely valuable in whatever you do. And I've seen that over and over and over again in whatever types of either professional or personal things that I do in my own life.

And so I've applied those basic principles and thought process to the various jobs I've had throughout my career. But the interesting thing right now is, as I said, my Master's was in operations research, I think it's actually in this job, this assignment that I have today, 27 years after I started with IBM, that I'm actually getting to use operations research.

You know, we talk about how do we optimize the supply chain. I mean, that's operations research. We talk about how do we look at end-to-end processes within the IBM company and make them work much more seamlessly and efficiently and effectively. Those are all operations research principles.

So it's kind of come full circle only 27 years later that I get to really use a lot of the things that I had studied in college.

LASEWICZ: That's good.

SANFORD: Yes, it's great. [LAUGHTER]

LASEWICZ: As you look back over the years, what were the kinds of things that you found most satisfying in the various jobs that you had?

SANFORD: I would say by and far the most satisfying of every job has been the people I've gotten to work with. And you know, it is at the end of the day what makes coming to work day in and day out and all of the accomplishments that you'd had the good fortune to deliver throughout the years, but it really makes all of that even more important because of the relationships you've built, the great people who have brought all new ideas and perspectives to the table.

And I can think back on every single job I've had in the IBM company, and it really is the people. And I still have many lasting relationships and friendships starting from way back in my typewriter days. And I will cherish those forever.

LASEWICZ: It certainly makes it a lot easier to come in in the morning.

SANFORD: It certainly does. It certainly does.

LASEWICZ: Focusing on your role as essentially one of the pioneering women here at the company, how has being a woman affected your career as a technologist at IBM?

SANFORD: I don't know that being a woman has necessarily affected it one way or another.

I have always felt that IBM has been a company which really looked for and respected skill and talent and perspective that all people would bring to the table here.

And yes, it's true that especially when I first started they were few and far between women specifically in the technical parts of our business, and so there was a uniqueness associated with that.

The good news, though, is that I always felt that I was part and parcel of the team that was working on whatever the project was whether it was simulation models of typewriters

or whether it was designing a brand-new color inkjet printer or whether it was reinventing the mainframe.

It really was all about being part of a team that was working on solving a problem at the time. And so I don't know that there was anything necessarily unique being a woman in technology other than the fact that we had so few of them at the time.

And I think what I have watched and witnessed and been a part of over these last 27 years is the fact that there are so many more women now, which is just terrific. We've got some wonderful talent.

I think that women do bring a unique perspective. I don't know that it's a woman's perspective, but it's a unique perspective, just as people from other diverse groups all bring unique perspectives to a particular problem that they're working on together.

And so I've often felt that the diversity within the IBM company is a great part of our strength. It is something that allows us to deliver a solution where the whole is greater than the sum of the parts.

LASEWICZ: During your 27 year career, can you talk a little bit as you look back over those years about some of

the challenges that you faced and the way that you managed to overcome them?

SANFORD: Well, there is always the challenge of a brand-new business area. I was fortunate to have had assignments in just about every part of the IBM company whether it was hardware development or software development or project management, whether it was sales or the development pieces of it itself.

The only place I really hadn't worked was in the Global Services organization. But pretty much in all the other aspects of IBM.

And so every time I went into a new space, it was new in the sense of either new technology, a new group of people, a new set of processes that drove that particular business.

And so there was always the concern about moving into a new area and how would you kind of find your way to be able to make a mark on that particular space.

I think the best approach to a new environment is to just go in and not be afraid to ask questions. And I don't know whether it goes back to that comment I made earlier about just a natural curiosity of how things work.

So I can remember many a day where I would take one of our leading thinkers or technologists in a new area and I would say, could you spend the next three or four nights after work with me in the conference room on the board where we can roll up our sleeves? And let me just ask you all the questions that I have, all the probably stupid questions but it will help me get a much better sense of what we're working on and where I can then bring value here.

LASEWICZ: And plus you get to work with the others as they walk through the issues again.

SANFORD: As they walk through the issues again with you, sometimes it enlightens them on something that perhaps they had not thought about or overlooked in a previous set of conversations.

LASEWICZ: Work/life balance is an issue for employees. Can you describe how you've dealt with work/life during the course of your career, and were there any programs at IBM that helped you manage that aspect of your life?

SANFORD: Work/life balance, gosh, I wish I had the answer to how to achieve the ultimate balance here. I don't know that there is an answer per se.

I think the only way you can achieve work/life balance is to do it with yourself. In other words, you're not necessarily going to look for your manager, your boss, some organization

to come in and say, okay, now's the time for you to go off to go to your son's soccer game. Or, don't forget, you've got to go to your daughter's piano recital. Or, don't forget, there's something going on with your family.

You can't. Your boss is not going to know that. Your manager's not going to know that. So you have to be the judge of how to put the work/life balance in your life.

You know when things start to get out of kilter. You're the only one who knows when things get out of kilter. And you also know what needs to get done from a job point of view. You know when the results have to be delivered. As long as you get it done when it's due, that's fine. When you do it, how you do it, where you do it, is really not relevant at the end of the day.

But it is important to achieve some level of work/life balance because otherwise you'll be out of kilter. And I think it will have effects on both sides of the equation.

I've always told my people that they have to be the judge of what's right from a work/life balance for them. I can't really give them that guidance. I would want to tell them it's okay to go find that balance.

By the way, it is also an issue for men, not just with women. And that's how it should be.

I have used some of the IBM programs. IBM has some wonderful programs, leading edge, bleeding edge in many, many ways. Certainly flex time, which allows me and others in the corporation to be able to take that time and go do some cheering for my son at a soccer game, for example.

I also used the LifeWorks program to help my daughter and myself as she was putting her college applications together.

There were counselors that were available to us by telephone who would actually give her advice and guidance. And that provided a great service for me.

So clearly I think IBM has always been on the leading edge here in terms of new innovative programs and initiatives that really can help an individual achieve work/life balance. And I'm sure we'll continue to do that. At the end of the day you're the best person to decide where that right balance point is.

LASEWICZ: For students looking to get into engineering, could you talk a little bit about what engineers do?

SANFORD: Ah, that is a great question, because I think this is the biggest misconception out there today: what do engineers do? And first of all, very, very simply,

engineers are problem solvers. I mean, at the end of the day that's what it's all about. There's a problem, it needs to be solved, engineers solve the problem. They get to the root cause, they figure out what is causing that particular problem and they come up with solutions.

The other very critical element of an engineer's job is that in order to solve problems you have to do it on a team, with a team. And this is something where you bring a diverse set of perspectives that really focus in on that particular problem, and it's in that diversity that you actually come up with a better solution to it.

And so simple answer, engineers, problem solvers, they work in teams. And that's where a lot of the misperception is, because I think there is an image that an engineer is nerd, even a boy, that is sitting in a lab all day long by himself, inventing these new things, designing new chips or inventing new software programs.

That is far from the truth. Image of engineers is a big, big issue and a pet peeve of mine, and something that we actually had a task force studying in one of the task forces run by the National Academy of Engineers.

There's been all kinds of crazy ideas on how to change that perception, everything from a sitcom or a soap opera that

has an engineer in it, because today you certainly see women doctors and women lawyers in these TV programs but there are no engineers in any of these programs. So that's probably going a little bit too far out there on the limb, but it is an issue around image.

And if there's one message I can convey to all of the young students whether they're male or female who are thinking about engineering, is please know it's all about problem solving and it's all about working in teams.

LASEWICZ: Can you look back over your career, and try to assess what your major contributions were to technology or science?

SANFORD: Gosh, that's a tough one, because I honestly don't think of myself as having made personal contributions here. As I mentioned earlier, one of the best aspects of my job has been working with people. And I think my teams throughout many, many different roles and responsibilities in IBM, have really done some remarkable things and left a mark on the IBM company.

I go back to our mainframe days and this was a very pivotal point in our industry, let alone the IBM company where we were literally reinventing the mainframe. And it involved all aspects of technology, of the market image of a

mainframe, the cultural aspects, the business implications here.

And so it was a major transition, a major transformation. But it was a team effort. And I just had the great fortune of being on that team.

As I look back, we made some very, again, pivotal decisions back when I was in our sales organization in Global Industries, to get out of the application business. We were not application people. We didn't have application processes, development processes, the manufacturing processes or marketing processes.

Instead what we decided to do is to partner with the ISVs, the thousands of ISVs around the world. And that would actually shore up our ability to get those applications running on our platforms and hopefully drive more revenue. A very important decision, but it was a team recommendation.

Or, storage is the most recent area where we got back into the storage business, we completely revamped our storage approach, a brand-new architecture that we brought into the marketplace, and started to move into the world of storage software which was really moving up the value chain.

Again, I had the good fortune of leading a team that really came up with all the great ideas and the innovative thinking

that I think especially in years to come will leave an even bigger mark on our history and the industry.

So, I don't look back on any of these accomplishments as being mine; they certainly weren't. But they were a team effort, and I had the great fortune and the great fun of working with the teams in all of those instances.

LASEWICZ: What are some of the traits and the characteristics that made you successful?

SANFORD: If I were to step back and do some self reflection here, the first area was really a piece of advice that I had received from one of my very first managers 27 years ago. And that was to be yourself.

I remember that conversation as if it were an hour ago. And I keep remembering that and have throughout 27 years of my career. And I think be yourself, and whoever you are, whatever you are, is what at the end of the day will make you most successful.

It certainly is going to allow you to feel good about what you're doing because you're not trying to be somebody you're not, and therefore it's going to increase your odds of success because you're happy doing what you're doing. So I think be yourself is an important trait.

Another one is, and I think this also goes back to my farm days. I love to roll up my sleeves and get my fingernails dirty and learn. And not just preside over an organization, but really get in and wrestle with the issues that the team is wrestling with, and get to understand it from their perspective so maybe I could provide some better assistance and guidance to them along the way.

The third one -- which perhaps is especially important in today's marketplace as we look at moving to this on demand era -- is all about teaming. You have to be able to really reach out across boundaries, silos, functional organizations and really bring all the best thinking to bear on a problem in order to really solve it and solve it well.

And that requires teaming. So those kinds of skills I think are very important, especially as we look to move to the on demand world.

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