Tom Cook Interview by Irv Lustig, Naples, FL November 18, 2021

Early Life

IRV LUSTIG: Hello. My name is Irv Lustig from Princeton Consultants, and it's my honor and pleasure today to interview Thomas Cook, the former President of Sabre Decision Technologies, and a key figure in the development and implementation of operations research solutions in industry. So Tom, thanks for spending the time with me today, and we look forward to hearing about your long career and contributions to operations research.
TOM COOK: Sure.
IRV LUSTIG: So let's start off with the early part-- where and when were you born?
TOM COOK: In Chicago.
IRV LUSTIG: In Chicago?
TOM COOK: Yeah.
IRV LUSTIG: And did you grow up there through high school?
TOM COOK: Yeah, I was in high school in the suburbs of Chicago. And when I went to college, I never went back to the suburbs.
IRV LUSTIG: And tell me about your family and siblings. Did you have any?
TOM COOK: Brother who died of polio when I was eight.
IRV LUSTIG: Oh, wow.
TOM COOK: And two parents that were good parents.
IRV LUSTIG: And did your parents have any math background, or things like that that suggested you go this direction?
TOM COOK: No, my dad was a white-collar worker in a purchasing department, and my mother was an assistant librarian.
IRV LUSTIG: And so you went to school in the local public or private schools?
TOM COOK: Public schools.
IRV LUSTIG: Public schools all the way through high school?
TOM COOK: Sure.
IRV LUSTIG: And when you were in high school at that age, what kind of subjects were you interested in?
TOM COOK: I wasn't really interested in too many subjects, to be honest. But one good thing was that math was easy. So I didn't have to work very hard. And so I spent a lot of time working when I was in high school—a delicatessen.
IRV LUSTIG: Oh, OK. And so making sandwiches and the like?
TOM COOK: Oh, yeah.
IRV LUSTIG: OK.
TOM COOK: From stocking the shelf-- actually, a couple of summers, I actually ran the place while the owner was on vacation.
IRV LUSTIG: Maybe that was a predictor of the future of running things.

TOM COOK: Well really, the proprietor taught me a lot about how businesses should work, and profit motives, and margins, and all that kind of stuff.
IRV LUSTIG: That's really great. So you mentioned that math was kind of easy to you. So were there things that you saw, then, in math in high school that led to your eventual interest in OR? Or--
TOM COOK: No.
IRV LUSTIG: It was just easy.
TOM COOK: OR came to me when I was getting an MBA.

College and Grad School

IRV LUSTIG: And so you went to undergraduate where?
TOM COOK: At Grinnell College in Iowa. I was a math major.
IRV LUSTIG: What made you choose Grinnell?
TOM COOK: Well, it's small. And my parents thought I should go to a small school for some reason. It was private. And it was a very high-quality school, if you know anything about small, liberal arts schools. And so you had to select a major. You couldn't go into engineering, or things like that. So I selected math.
IRV LUSTIG: So Tom, after you spent a year in law school, what did you do next?
TOM COOK: Well, I got a job. I got a job at an aerospace company, in their engineering department. And I was there for about five years. And about two years after I got there, I transferred to the IT department to design information systems for the engineering department, because I understood the engineering department. And that was useful for the IT group.
IRV LUSTIG: And did you have a background in any information systems from when you were in college, or you were just learning it on the fly?
TOM COOK: I was learning it then. And then, about a year into my stay at LTV, the aerospace company, I started an MBA program at SMU at night. And it was a long program for me because I hadn't had any prerequisites. So it was a 60-hour at-night program.
IRV LUSTIG: OK.
TOM COOK: So it took a number of years.
IRV LUSTIG: And then, did you see any OR while you were in your MBA program?
TOM COOK: That's where I discovered OR.
IRV LUSTIG: Oh, OK.
TOM COOK: I fell in love with OR, really-- because I had this math degree and aptitude. And I didn't see anywhere I could use it. So when I had the Intro to OR course in the MBA program-- voila. And so from then on, well, I was so in love with the idea that I took a leave of absence from LTV, and went to UT Austin to pursue a PhD degree in OR.
IRV LUSTIG: And at UTA, was there a specific department you were in?
TOM COOK: Yeah. Well, I was a research assistant and a teaching assistant in the business school. But my outside field was mechanical engineering, where they taught a lot of OR. And I had a computer science professor on my committee, as well. So it was truly interdisciplinary.
IRV LUSTIG: And how many years were you in the PhD program?
TOM COOK: Three.
IRV LUSTIG: Three years. And who was your advisor?
TOM COOK: My advisor was Bill Hunt.

IRV LUSTIG: And what was your thesis on?
TOM COOK: It was on scheduling a multi-program computer.
IRV LUSTIG: Oh, so it was taking some of what you were doing in your job.
TOM COOK: Well, I had access to the data that I needed in order to prove which heuristics or which algorithms would work the best.

Teaching at University of Tulsa

IRV LUSTIG: I see. And so after getting your PhD, what came next?
TOM COOK: What came next was looking for a job. And I was looking in academia. So I actually had several opportunities. But one opportunity I chose was University of Tulsa, to be in their OR and Operations Management program.
IRV LUSTIG: And this is in what year?
TOM COOK: That's a good question. This is in probably '67.
IRV LUSTIG: OK.
TOM COOK: Anyway, so I was at UT for about five years, maybe 5 and 1/2. But while I was there, I was spending time mostly teaching, doing some research, but doing a lot of consulting, wrote a couple of textbooks with Bob Russell that were pretty successful. And then, I got tired of academia.
IRV LUSTIG: So let's talk a little bit about the textbooks. The textbooks were in what area?
TOM COOK: Intro to Operations Research. And one of them is called Contemporary Operations Management. So they're fairly closely linked.
IRV LUSTIG: Now, you mentioned also that while I guess you were an assistant professor at Tulsa, you were doing consulting on the side. And this is, I guess, now late '60s, early '70s time frame.
TOM COOK: Late '60s.
IRV LUSTIG: Late '60s. How were you able to get contacts into industry to do the consulting?
TOM COOK: Just through the University, and just knowing the right people.
IRV LUSTIG: And were there some interesting projects you worked on back then?
TOM COOK: Oh, yeah. One we actually published in Management Science, which was scheduling salt trucks for an ice storm.
IRV LUSTIG: OK.
TOM COOK: It was a branch routing problem. And it was quite effective.
IRV LUSTIG: And this is something that they used in the city of Tulsa?
TOM COOK: Yes.
IRV LUSTIG: That's really cool.
TOM COOK: Yeah. So yeah, those kinds of projects. But that was an issue, because we rode around with the salt trucks and figured out what their real problems were.
IRV LUSTIG: Did you have-- were you able to supervise any PhD students?
TOM COOK: No. We didn't have any PhD students at Tulsa.
IRV LUSTIG: Oh, really? OK.
TOM COOK: Right.
IRV LUSTIG: OK. So basically, the research was your own research. No grad students to help out.
TOM COOK: Exactly.

IRV LUSTIG: OK. So you mentioned, then, after 5 and 1/2 or six years or so, you said, OK I'm done with academia. So what came next?
TOM COOK: Well, I got within six hours of getting my MBA. And so I always felt once I got the MBA, I would do something else. I decided early on in my MBA program what I really wanted to do was get a PhD in OR. So when I got close enough, I took this leave of absence from the aerospace company, and went to Austin, Texas, and joined their program.
IRV LUSTIG: Oh, so you were then teaching at Austin after Tulsa?
TOM COOK: Well, I did. Yeah. I was teaching, as most of our PhD students were teaching something. Yeah. I was a TA.
IRV LUSTIG: OK.
TOM COOK: And so I was teaching statistics. And I think that's all I taught at UT Austin.
IRV LUSTIG: OK, right. So I'm trying to get the sequence right. But at UT Austin, you got your PhD. Then, you went to Tulsa.
TOM COOK: Yeah, you're right.
IRV LUSTIG: I think there were some other places that I saw that you had taught at, besides Tulsa.
TOM COOK: Well, BU, Boston University. But I taught in their overseas program. I mean, do you know about that?
IRV LUSTIG: No.
TOM COOK: OK. They have an overseas program. I still think you have it. It was a contract with DOD to provide graduate education to people that were in Germany and Italy. And so I actually taught computer science, statistics, and operations management for those programs in Western Germany, in Baumholder, in Berlin, and Naples, and Heidelberg-- so four trimesters that I was there.
IRV LUSTIG: So it was, oh, well, a year or two.
TOM COOK: Yeah, I took a leave of absence from Tulsa
IRV LUSTIG: OK.
TOM COOK: And did that. And it was a very good experience. I didn't get much research done, but it was a very, very good educational experience. And I took my family there. So we took a baby that was six weeks old and so forth and so on. It was interesting.
IRV LUSTIG: So then, that was that during your time when you had your appointment in Tulsa. So then, you decided to leave Tulsa, and you went into industry.
TOM COOK: Yes.

First Jobs in Industry

IRV LUSTIG: And so what was the first industry job, I guess, doing OR?
TOM COOK: I worked for Arthur Young and Company in the consulting practice. And what they hired me to do in Tulsa was to start an OR practice. So I did that for 2 and 1/2, three years. And then, it's funny-- I was expecting to be made partner. And they said, it's going to be delayed a year. I said, no, I don't like that. So I was looking for another job. And that's when the American Airlines opportunity came up.
IRV LUSTIG: So before we get to the American Airlines story, which I know is a very important part of your career-- when you were at Arthur Young then, were the clients they were working with cross various industries?

TOM COOK: Oh, yeah. Like one client, who was my client, was North American Van Lines, where we did a huge project which helped them manage their fleet of tractor trailers in a better way. They needed to figure out when to maintain, when to buy, and when to sell them, and so forth and so on. And that was a big LP that we actually did for them.
IRV LUSTIG: OK. And so this is probably mid-'70s or so?
TOM COOK: This is probably-- yeah.
IRV LUSTIG: I mean, so what kind of tools did you have available then, to do solving an LP for North American Van Lines?
TOM COOK: Yeah just it might have been your tool.
IRV LUSTIG: I think we didn't exist back then.
TOM COOK: Yeah. But there were tools out there.
IRV LUSTIG: Right.
TOM COOK: If we could formulate the problem, we could solve it.
IRV LUSTIG: OK. And so then, you moved on to American Airlines. And I think I remember reading that they hired you in to start running the OR program.
TOM COOK: They hired me as the Director of OR.
IRV LUSTIG: Right.
TOM COOK: Yeah, they had a 13-person group.
IRV LUSTIG: And so what kinds of things were happening before you got there?
TOM COOK: Yeah, well, let me tell you-- the group was probably half programmers and half OR people. And what they were doing was there were a couple of projects. One was in crew scheduling, or actually crew planning, and the other one was-- they were just starting to build a Revenue Management system. And they had one or two OR guys on each one of those projects, but they weren't really making a big impact on the corporation.
IRV LUSTIG: And why do you think they were limited?
TOM COOK: Well, their size, number one. Number two, I don't think they had the right culture. They were more enjoying the discovery rather than really focusing on what can I do to make this company more profitable or more successful.
IRV LUSTIG: And so what types of techniques did you use to try to change that culture?
TOM COOK: I tried to transform them from a think tank that spent a lot of time talking just to each other into a consulting company within the company. And that's what worked, because we actually started marketing our services in a very aggressive way to the departments that we thought were really right for an OR approach to problem solving.
IRV LUSTIG: And so I guess you started growing the team, as well as growing the types of applications that were going in. So what would you say were some of the first successes that occurred there?
TOM COOK: Well, one early project-- I'm thinking about which projects made a big difference, as far as our growth is concerned.
IRV LUSTIG: Right, sure.
TOM COOK: Because we were going to do crew scheduling no matter what. We're going to do Revenue Management. Although that had a big impact, because we got a lot of senior management visibility with some of these projects.

IRV LUSTIG: But wasn't Revenue Management at American Airlines was the first airline to bring those techniques in, right? So I mean I find it interesting you said, we we're going to do it no matter what. But in some sense, you were also groundbreaking in doing it.
TOM COOK: Yes, that's true. But it had already gotten started when I got there. And so there are people who were working on the models of demand, forecasting models, and so forth. And so all we had to do is continue to convince senior managers to make that investment in building that system.
IRV LUSTIG: But it was also building something a different way of the airline doing business, as opposed to saying, hey, we can-- so you get the idea of segmenting out the different price levels, et cetera, and what have you. So how were you able to convince the management to say, hey, we should be selling our tickets differently than we have in the past?
TOM COOK: Well, we gave a number of presentations that, as the technology evolved, and we proved through prototypes and other ways what the value was, they were more than anxious for us to continue. In fact, the reason that group grew very, very fast is because we had senior management here and the CEO of American, Bob Crandall, became very enamored with OR and what we could do for the corporation.
And we did it in a number of ways. We had different kinds of projects. One kind of project was a consulting project. There was a one-time decision to be made, and we could have an impact on that decision.
A good example of that was-- I don't know what the year was, but one year, the Airport Authority in DFW came to us and said, we want you to build a new terminal on the West side of DFW. And we need a decision on this in a month from you. So you need to go to your board, and it's a multibillion dollar decision.
And so I happened to be in the staff meeting where this was being discussed. And I said, I think we can help. And Bob Crandall basically said, well, how can you help, Tom? I said, well, we can simulate the airspace and the ground side of the airport, and tell you. We'll give you a feel for the operational capability that you would have to have.
He said, well, I need it in a month. I said, well, we can't give it to you in a month. We can do that and maybe six months, because we knew there was an FAA simulation model that existed that we might be able to use. I said, if we can get that and modify it and validate it, then we can run it with different scenarios into what we think the operational feasibility is of this new terminal.
So that was one kind of project. Turned out that the simulation actually demonstrated that they would have gridlock on the ground and gridlock in the air if they built the terminal the way they were talking about doing.
IRV LUSTIG: So what did they end up doing?
TOM COOK: Redesigning the airspace-- mainly, redesigned the airspace, and eventually built the terminal. But after we told them what runways you would need, and what the taxiways should be, and how many gates they could have, and so forth.
IRV LUSTIG: I see. OK.
TOM COOK: So that's one kind of project. That's a one-time project. Then there are a lot of projects that we're building systems—like the Revenue Management system was a big one. But other systems, as well-- crew planning systems, scheduling systems-- how you schedule them in, where should you fly, what should you fly, and when should you fly.

IRV LUSTIG: OK.
TOM COOK: And those are very, very important decisions to an airline. And at the time, no airlines were using OR to do that.
IRV LUSTIG: So do you feel that some of the work that you were doing at that time, the other airlines started taking notice and then building up their own OR groups?
TOM COOK: Yeah. Well, you know, OR has a big footprint, relatively speaking, in airlines. There's the airline group of AGIFORS, which I was president of for a while. That group is composed of just airlines. And they get together and share secrets.
And that was always a problem-- what should you share, and what should you not share? But yeah, I think they learned a lot from us. And we learned a lot from them. So that was that.
But the key is that we just kept growing the group. In fact, one time the chairman and CEO came to me and said, Tom, I want you to really grow your group. Give me a plan. This is when they were pretty strapped. Other departments were having to cut back.
And so I gave them a plan. It was twice as big as the group was, at the time. And the funny thing about it is he loved it. But all his senior officers were not too happy with me, because they were constricting. And here he was, telling me to grow, double the size of my group and my budget.
But that's the way it was, and it worked out; it worked out fine. The only problem I had was I told him-- this is anecdotal-- but I told him, you know, I can't really grow this group that much with the existing green card policies of HR.
And so he said, what do you mean? I said, well, we don't sponsor people. And a lot of the people that we'd like to hire are not US citizens. And he said, well, we'll fix that. So he fixed it. So we had a very diverse group of very, very bright people.

A Subsidiary at American Airlines

IRV LUSTIG: So I know at some point, your role-- your responsibility-- went from a Director of OR at American, and I think, then, you grew into a--
TOM COOK: Subsidiary.
IRV LUSTIG: Well, before the subsidiary was a subsidiary, I think it was American Airlines.
IRV LUSTIG: And so you were just doing American Airlines work.
TOM COOK: Exclusively.
IRV LUSTIG: So what made the subsidiary different than just being a department within the airline?
TOM COOK: Oh, it was a big difference, huge difference. What happened is I decided that we had grown as the right size for American Airlines.
IRV LUSTIG: Do you remember about how many people that was at that time?
TOM COOK: It was probably under 100, but not too much under 100.
IRV LUSTIG: OK.
TOM COOK: Anyway, so I put together a business plan, and basically presented it to the senior management, and got the approval to actually create the subsidiary called American Airlines Decision Technologies. Again, Bob Crandall says, I only have two constraints on you, Tom. One is-- don't do any work for our competitors. And the second one is-- make a profit in the first year.
So it wasn't like they were just going to fund us and go, hmm, see if this would work. So I was very excited about that because I'm entrepreneurial anyway. And it allowed me to grow the group, and grow

the jobs within the group, meaning I had a lot of very talented people, but I think they needed something more. And so we started AADT. Our first client was Amtrak, which is not a competitor.
IRV LUSTIG: Right.
TOM COOK: And our first airline client was Qantas Airlines. And they were so far away that it didn't matter either.
IRV LUSTIG: I see. All right.
TOM COOK: So that's what happened. And so that was in '87.
IRV LUSTIG: So were the clients that AADT was working on only in transportation? Or you did work outside of transportation, as well?
TOM COOK: Outside of transportation, as well. We ended up doing work for almost every airline-- not every airline.
IRV LUSTIG: But even ones that were located in the US?
TOM COOK: Eventually. But anyway, so yeah-- other clients we did work for was our clients, like the Israeli Air Force, like US Navy, like other travel companies, like Hertz, Ryder Truck, all the cruise lines-- not all the cruise lines, but a number of cruise lines. Those are mostly Revenue Management engagements.
IRV LUSTIG: And so the arrangement, given that it was a subsidiary, which was allowing you to do OR work outside of the airline--
TOM COOK: Yeah, we had our own P&L We had our own compensation plan, which was very important to us.
IRV LUSTIG: And then I guess you had an arrangement with American Airlines to say, hey, we're billing you for our services.
TOM COOK: Oh, yeah. Well, we billed them like we billed outside clients. And that allowed us to say to American clients that-- you can have as much OR as you can afford, as opposed to-- well, we're constricted by a budget.
IRV LUSTIG: Right.
TOM COOK: If we were constricted by a budget, then we could say-- I had to say no to some airline American Airlines clients before AADT got built or started, because I didn't have the resources to do everything everybody wanted. So we had to actually prioritize projects that we would take on at American Airlines-- before AADT. After AADT, we were much more available, if you will.
IRV LUSTIG: Right. So then, I guess when one of the transitions, I imagine, that occurred was when you were within the airline, you were selling and marketing your services sort of internally. But now, as AADT, you probably had to build a sales team and sell.
TOM COOK: Yeah, it was a real sales team. Because not only were we selling our services, but we were selling software.
IRV LUSTIG: Right, OK.
TOM COOK: We were prioritizing the things that we were building. And so we would build something even for an airline-- not American, but a different airline-- and if we built it, and it really had value, which it usually did, then we would try to transform it into a product.
IRV LUSTIG: OK.
TOM COOK: And that's what the sales force was basically selling was product, not service.

IRV LUSTIG: So you mentioned that you ended up doing work for many of the airlines. And then, as opposed to them, I think, today-- I know there's some companies out there that do services in some of the airlines. But also, the airlines have built up each one of their own OR departments.
TOM COOK: Oh, yeah. They all had OR departments. In fact, the guy that hired us in that first engagement with Qantas, he was the head of their OR internal consulting.
IRV LUSTIG: Oh, I see.
TOM COOK: And we knew each other from AGIFORS, and he said, I think you've got something that we don't have and we need. And so we did that project for them. Eventually, they came to me one time, after I transfer to Sabre, and said, I think I've got something you guys need. And he created something called QuickRes, which was an industrial engineering approach to res agents' workstation.
Because at the time, all the reservation systems were green screen, and very, very difficult. And he came up with a software product that makes it look more like what you see today-- colors, and graphs, and so forth, and so on. And made it very user friendly, and got rid of a lot of keystrokes just by putting software in between the TPF reservation system and the user. So we actually bought that from Qantas and marketed it to the world.

Sabre Decision Technologies

IRV LUSTIG: So you mentioned in passing there that eventually, I guess, American Airlines Decision Technologies became Sabre, or…
TOM COOK: What happened there? That's an interesting story. But what happened there is Sabre was the old legacy--
IRV LUSTIG: Reservation system, right? Green screens and all.
TOM COOK: Yes. That was the software. But they also did all the other IT data processing type things for American.
IRV LUSTIG: And were they solely doing American work when they were Sabre?
TOM COOK: Yeah. Well, they had a subsidiary called AMRIS, AMR Information Services. And AMRIS was doing some of the same things we were doing-- not OR. No OR-- they had no capability there. But they were selling their reservation system to other companies like SNCF, the French railroad.
IRV LUSTIG: OK.
TOM COOK: That was a contract that AMRIS had. And then, they came to us-- SNCF and AMRIS came to us-- can you build us a revenue management system? So we built the revenue management system for the French railroad, for the TGV. And it's funny, when we delivered it, we were having a big celebration at a chateau outside of Paris.
And the chairman of SNCF was giving a speech. And he said, now we come-- there were like 100 reservation software developers on the project. And then, there was like eight of us. He said, now we come to give the plaques out to the people that made this all possible, because that's the only way we could pay for this new reservation. And gave it to the OR guys.
IRV LUSTIG: Oh, really?
TOM COOK: Yeah.
IRV LUSTIG: OK. Well, that's what you're talking about then, with Sabre was existing at the same time as AADT was, right?

TOM COOK: Yeah, Sabre did all the IT processing for AMR, plus they had this other subsidiary called AMRIS, which was selling, basically, the reservation system.
IRV LUSTIG: And they were selling it, I recall-- they were also selling it to other airlines.
TOM COOK: Yeah.
IRV LUSTIG: Right?
TOM COOK: Southwest.
IRV LUSTIG: Right. So I mean, if I remember-- and going back for me, because I was pretty young then-- Sabre was the industry standard as a reservation system for all the airlines, right?
TOM COOK: Absolutely. That's right-- and for travel agents.
IRV LUSTIG: And for travel agents, right. So then, there was a point in time when something happens to get either AADT and Sabre and your movement in between-- that part I haven't--
TOM COOK: OK, so AADT had grown for probably five years, so we were probably 600 or 700 people-- mostly OR people, but we have some marketing people, some finance people, sales, and so forth, and so on, and some software coders, software developers. OK. But it was an OR company. I mean, every senior management position was-- it was like DuPont and chemical engineers, right?
IRV LUSTIG: Right.
TOM COOK: So then we started bumping into Sabre in the marketplace. They wanted to sell their software, their legacy software, to other airlines.
IRV LUSTIG: OK.
TOM COOK: And I said—they can't do that. And so I did another business plan, and presented it, and said, either you need to sell AADT-- which I even had a buyer for them-- or you need to really merge at least the development resources of Sabre to AADT, and AMRIS needs to be part of it. That's what he chose to do-- he meaning Bob Crandall.
So there were 2,500 of them and 600 or 700 of us at the time. And we merged those two companies together.
IRV LUSTIG: And that became Sabre Decision Technologies.
TOM COOK: Exactly.
IRV LUSTIG: Right. And your position there was--
TOM COOK: President.
IRV LUSTIG: President, which I guess-- was that the highest ranking officer at the time?
TOM COOK: Yeah.
IRV LUSTIG:. So now, Sabre Decision Technologies now was selling the core reservation software. And you had all this OR work going on, especially in Revenue Management System space-- those two need to talk to each other.
TOM COOK: Oh, absolutely.
IRV LUSTIG: Right. And so was it still having the mission of trying to go out and also work in multiple industries and do OR consulting, as well?
TOM COOK: Yes.
IRV LUSTIG: So how long were you then the head of Sabre?
TOM COOK: Well, Sabre Decision Technologies, that probably happened in '92, '92ish. And I was there for about-- we did that for about three years. And then, we decided to take the rest of Sabre-- not the rest, because travel agency business stayed with Sabre. But we took all the other assets at Sabre, meaning

the operations people, people running the computer network, and all the help desks, and all that kind of stuff, and bring that into something called Sabre Technology Solutions.
IRV LUSTIG: OK.
TOM COOK: STS. And I became President of that. And one of the reasons we did that was because in order for Sabre to do better in the financial markets, we had to show lots of growth, right? So the way to show growth, or way to grow, was to outsource, to do some outsourcing. So we decided to put that together, and then go after the outsourcing business.
IRV LUSTIG: So Sabre was a publicly traded company at the time?
TOM COOK: Yeah. It was. It did it in two phases. One was they did the first 20%, and then the rest. But what we did with-- so the first outsourcing customer was an extremely big one, which was US Airways.
IRV LUSTIG: OK.
TOM COOK: We outsourced all their IT. And it was the biggest outsourcing contract that year, of any of the outsourcing.
IRV LUSTIG: Interesting, OK.
TOM COOK: So that's how the group kept growing bigger and bigger. And it got more and more less and less OR, and more and more just a big bureaucracy, really.
IRV LUSTIG: And still, one of the major clients was American Airlines?
TOM COOK: The major client.
IRV LUSTIG: The major client. Right. So then, at some point, you decided to leave Sabre.
TOM COOK: Yes. I decided because, as I say, it wasn't entrepreneurial anymore. It was just very big. And I decided that-- and I had a difference of opinion. There was a friend of mine, and I'd worked for him before. He was the chief financial officer at AMR at one time. But then, he was promoted to being the CEO of all of Sabre-- that would include the travel agency.
IRV LUSTIG: OK.
TOM COOK: And he had a different business model than I had in my mind. And so I decided to leave because it just wasn't the right thing for me. So we left in '99-- Bob Crandall that same year-- and it worked out fine.

McKinsey and Caleb Technologies

IRV LUSTIG: And so what did you do after that?
TOM COOK: About 10 days after that, I was working for McKinsey and Company.
IRV LUSTIG: OK.
TOM COOK: And did that for a few years, like three years.
IRV LUSTIG: Doing OR-- leading OR consulting types of things?
TOM COOK: Yeah, OR consulting, yield management consulting-- I was part of the transportation practice. So the problem was it was like an 80% or 90% travel requirement. And I just got tired of doing that. And McKinsey was an outstanding company. I mean, they do hire the best and the brightest. And they're good at it.
IRV LUSTIG: All right. So then after McKinsey, what happened?
TOM COOK: Well, I kept thinking I was retiring. But then, I was on a board of Caleb Technologies in Austin, Texas. And the CEO there, Gang Yu-- I don't know if you know Gang Yu, but he was a chaired professor.

IRV LUSTIG: Yeah, I know the name.
TOM COOK: Yeah. Gang Yu, he was the chairman and CEO. And he came to me and said, Tom, would you mind taking my job? And so I said, well, what do you need? He said, well, we need to make the company more profitable. I mean, it's a good startup. We've got a really good core OR group. A lot of them were his ex-PhD students.
And so I said, yeah, OK. I'll do that for a little while. So the idea was to get the company on track. And the VCs wanted to sell a big venture capital character to it.
And so they actually wanted to sell, but it wasn't sellable at the time. So we went in there, and spent two or three years-- me and a couple other McKinsey guys-- and got it ready to sell. And we actually sold it.
IRV LUSTIG: Right. But now, I think there was a good project that Caleb was doing.
TOM COOK: Yeah, we got an Edelman for that.
IRV LUSTIG: That's right. So I wanted you to say a little bit about what that project was about.
TOM COOK: It's a great project. I had nothing to do with the intellectual content of the project, but I was very supportive of it. They had built a solution to what had been an intractable problem up until that time, which was solving the crew problem in a major disruption.
You can think of when something hits-- like a 9/11, or something like that, or even a major snowstorm, or whatever-- airplanes get out of place, and crews get out of place. And airplanes are a problem, but not as big a problem as the crews, because the crews have all kinds of rules and regulations-- duty time, et cetera.
So when that happens, what airlines were doing was they have people that had been dealing with those things for 20 years. And they had their little heuristics and their rules of thumb that they would do, what they would cancel, what they would delay. And then, once you figure that out, then you figured out what to do with the crews. And that was a very difficult thing to do.
Well, these guys in Austin did it for Continental-- the crew part of it, not the airplane part. And so that was a tougher problem. And I was on the board so I was familiar with what they had done. I knew it was good. So I went there, and we transformed that little group to be a little bit more client-oriented, but mainly to get profitable.
So in order to get profitable, we needed a couple more products. We need to actually sell what they had done. And I remember this-- one time, we were selling it to Southwest. Yeah, Southwest-- we're down in Dallas with all the guys that do the crew scheduling thing.
IRV LUSTIG: Right.
TOM COOK: Well, they didn't want anything to do with us. We're really threatening their jobs. They enjoyed solving these puzzles, you know? And so we made our pitch, and it was clear that we weren't making much progress. I mean, it was going to be-- well, thanks for coming. And we'll let you know if we want to go forward.
But one of my guys-- my main guy-- Nader Kabbani actually asked them, well, what's your toughest problem? And they said, shutting down Baltimore. And he said, OK. Well, let's shut down Baltimore. How long do you want to shut it down? Four hours-- or maybe, 8 hours, I don't know.
Anyway, so he got on a computer, gave them a solution in a few minutes after he got the data. And they took two or three days, verifying that it was a good solution. But they verified it, and came back, and bought the software. So it's a good story.

IRV LUSTIG: That is a good story. It shows how you have to prove value by coming up with-- saying, hey, let's try to solve this scenario. I know in our conversations, you've been involved in, I think, three different Edelman entries. So there was one you just mentioned with Caleb and Continental. I remember that story. And I know there was also the first one was the revenue management story from American Airlines. And what was the third?
TOM COOK: Remember, that was SNCF.
IRV LUSTIG: Oh, OK.
TOM COOK: That was the scheduling.
IRV LUSTIG: The scheduling with SNCF. That was done under the auspices when you were at AADT or Sabre?
TOM COOK: You know, I'm not sure. That's a little fuzzy. But it was when we were doing the revenue management system. We got to know those people.
IRV LUSTIG: Right.
TOM COOK: And they got to like us a lot. And so they said, what about this problem? And so we'd never seen that problem before. But we got together a good team, and we did some prototyping, and came up with something they liked. And so we built it.

Service to INFORMS

IRV LUSTIG: So let's change the subject over to something-- where you and I met was via INFORMS.
TOM COOK: Yes.
IRV LUSTIG: And actually, prior to that, I think you were also a President of TIMS right, as well as the President of INFORMS? So what yielded your involvement in, initially, TIMS-- and then, later, INFORMS?
TOM COOK: What do you mean?
IRV LUSTIG: Well, what got you involved in society types of work, and volunteering, et cetera?
TOM COOK: Well mainly, it was business-oriented, meaning we needed people. We needed good people. And that's where good people were. And that's the best way to recruit them was to come to TIMS at the time, or INFORMS, or ORSA to find the best and the brightest in the field. And that was and that's why I went around oftentimes the universities and gave those seminars at different universities around the country.
IRV LUSTIG: It's really as a recruiting tool.
TOM COOK: Yeah. When you think about it, we were hiring a lot of OR people.
IRV LUSTIG: Right. You had a large group.
TOM COOK: We probably had the largest there was.
IRV LUSTIG: And so now, over time, I know you mentioned how Sabre grew, and Sabre had-- whereas, when you were at American Airlines Decision Technologies, the core was OR. And then, at Sabre, it started that way, and then it got bigger and bigger.
TOM COOK: Yeah.
IRV LUSTIG: Now, I think I've heard American now has built back their own OR department, and doing all that work themselves.
TOM COOK: Absolutely. Yeah. They do it, but I think it's about 25 people.
IRV LUSTIG: OK. And then--
TOM COOK: Sabre still has OR too.

IRV LUSTIG: And so they're still offering and selling the same types of services that you were doing back then?
TOM COOK: Yeah, I think so. They call it Airline Solutions, now.
IRV LUSTIG: OK.
TOM COOK: So they've restricted it. They're not taking on the Navy--
IRV LUSTIG: Or the SNCFs of the world.
TOM COOK: Yeah, the SNCFs of the world. They've decided to just have a narrow focus on the airline business.
IRV LUSTIG: So coming back to the INFORMS topic-- so you and I met when you were President-elect, I think, of INFORMS. And you took it upon your time there to say your initiative was going to be about marketing the profession. So I know the story. I'm wearing our shirt, here. But for the purposes of our audience, can you tell the story about what led you to that feeling that was an important thing to work on?
TOM COOK: Well, I think it was the important thing to work on, because you go to a cocktail party back then-- and probably, still now-- and somebody asks, well, what do you do? And you say, operations research-- they don't know what that is. And you get to the point where-- well, applying mathematics to real problems.
And so I thought that the field was underperforming, as far as their impact on business, or even non-profit organizations, or profit organizations. I felt like there was a real opportunity to do a better job of marketing. We do a great job of talking to ourselves-- I still do-- but not such a great job of promoting the profession as a unique way of improving your business results or whatever services you provide.
IRV LUSTIG: And we worked together for a few years on that program. We had our heyday, and then it kind of tailed off. What do you think would have been needed for it to continue the momentum that we tried to establish?
TOM COOK: Well, I thought part of the problem is-- and you know this, too-- I was coming from a different orientation than most of the board. Most of the board are academics. And so they didn't have the same motivation that I had. And so I think we were able to get funding to do some things.
But I don't think there is-- I don't know. You have to tell me, because you're closer to the board than I am, right now. But I don't think it's a high priority these days.
IRV LUSTIG: Well, I think currently, INFORMS has a new strategic plan. And they talk about promoting the profession.
TOM COOK: Oh, really?
IRV LUSTIG: And I think it's now going to come down to a question of investment. And we'll see if-- the strategic plan, which was published this year, earlier in 2021-- and I think it will be a matter of seeing how they're going to invest in making that happen.

Final Thoughts

IRV LUSTIG: So given your contributions, both as a business leader, and really leveraging OR to deliver business value, as well as your contributions to INFORMS and the profession, how would you best like to be remembered?
TOM COOK: Oh, wow. Maybe as a leader. Yeah, because I think that seems to be what I'm best at doing. I'm not a hardcore OR researcher. And I never pretended to be. But I have an appreciation for those kind of guys and women. So maybe as a leader.

IRV LUSTIG: And where do you see OR going, as a field-- given the words of being used today of-- we went to the analytics, and now we heard about data science, and we hear about machine learning, and AI, and all these things. How do you-- from your point of view-- see OR fitting into all of that?
TOM COOK: Well, at one time, a long time ago, when I was president of maybe TIMS, I'm not sure, I gave a speech to the annual meeting. And I was pretty critical of AI at the time. But at the time, AI was expert systems.
IRV LUSTIG: That's right.
TOM COOK: And I didn't have much use for expert systems because I always thought that they couldn't do much better than an expert. And I knew that OR can do a lot better than an expert, if it's the right formulation in the right problem. So I think when analytics started getting a little bit of traction, publicity, and the idea of advanced analytics being kind of like OR, I had some hope that that would be something that would spur more interest.
And senior management has to get interested in this stuff. I mean, one of the reasons I was successful at American was we had a really good CEO that didn't understand exactly what we were doing, but he appreciated it, and wanted more of it.
So if you had more senior management people realizing what value that OR can provide, I think the discipline would grow and grow and grow. One of the things that I found out in my career is a lot of the OR people that we hired first in our group became senior executives in a lot of places.
IRV LUSTIG: Really?
TOM COOK: Yeah. One of our guys was CEO of British Airways. Another guy was CEO of Swiss Air. And I could go on because OR people-- first of all, they're bright. And second of all, they have a unique way of thinking about problem solving, I think.
IRV LUSTIG: But I think maybe you're not giving yourself enough credit here, in the sense that you served as a model of somebody who came from an OR background and understood how to translate it to the language of business and sell it, right? So as much as you say Bob Crandall was receptive, you had to deliver the right message.
TOM COOK: Well, the guys that worked for me had to deliver too, otherwise he wouldn't have been receptive.
IRV LUSTIG: That's right, but you helped them on that journey, which enabled them to then become a CEO of Swiss Air, or--
TOM COOK: Right.
IRV LUSTIG: So I think there's this aspect of-- you say want to be remembered as a leader-- that leadership is about-- how do you communicate? How do you communicate value? And I think that's something that I've seen is that a lot of folks in OR struggle with is that coming up with the right message to say.
And it's a label. We've talked about it. It could be OR-- we have the OR management science effort. We can call it analytics, data science, and whatever. AI now has become the umbrella for everything. Yeah, and we can debate that maybe over dinner tonight.
TOM COOK: Yeah, right.
IRV LUSTIG: But this is the other aspect of it, is the ability to go out and grow a group like American Airlines Decision Technologies, or even larger-- you have hundreds of people that are out there selling their services.

TOM COOK: Yeah.
IRV LUSTIG: You have to learn how to deliver the message. And you learned. You figured out how to deliver the message.
TOM COOK: I guess so, yeah. Yeah, I think one of the things that really promoted the growth was we identified people within the group, the OR group, that also had an entrepreneurial spirit. And we gave them almost P&L responsibility to grow their part of the business.
IRV LUSTIG: OK.
TOM COOK: So one person might be in charge of revenue management, for example. And he was able to grow that business. In fact, he even set up a couple of different almost pseudo-companies within AADT when we got into the business of simulating airports and airspace. We did it at American, so we decided we could do it anywhere. So we did it all over the world.
IRV LUSTIG: I see.
TOM COOK: But I had a group that did that, and that was their business.
IRV LUSTIG: I see.
TOM COOK: And by doing that, I think they got-- in fact, that business still goes on today with the same people that started it.
IRV LUSTIG: That's great. So I think I'm going to conclude there. I want to thank you for spending the time and telling the stories of your career and the growth of, really, OR in the airline industry, which I think a lot of people will point to Tom Cook as the guy who really made it happen-- and not necessarily by writing the software, or doing the math, but by leading, as you said. And I think that is an incredible value to us as a model of how we can be successful.
TOM COOK: Well, thank you. Thanks for coming.
IRV LUSTIG: OK. Thank you.
TOM COOK: Yes.