

Thomas M. Siebel

EDITORS' NOTE Tom Siebel was the Chairman and Chief Executive Officer of Siebel Systems, which merged with Oracle Corporation in January 2006. Founded in 1993, Siebel Systems became a leader in application software with more than 8,000 employees in 32 countries, over 4,500 corporate customers, and annual revenue in excess of \$2 billion. Siebel is also Chairman of the Siebel Energy Institute, a global consortium for innovative and collaborative energy research for the public domain. He serves on the board of advisors for the University of Illinois College of Engineering and the University of California at Berkeley College of Engineering. He is a graduate of the University of Illinois at Urbana-Champaign, where he received a B.A. in history, an M.B.A., and an M.S. in computer science.

COMPANY BRIEF C3.ai is a leading enterprise AI software provider for accelerating digital transformation. C3.ai delivers a comprehensive and proven set of capabilities for rapidly developing, deploying and operating large scale AI, predictive analytics, and IoT applications for any enterprise value chain in any industry. The C3 AI Suite and C3 applications are proven and tested at petabyte scale, solving previously unsolvable challenges. At the core of the C3 AI Suite is a revolutionary and powerful model-driven AI architecture that dramatically enhances the productivity of data scientists and application developers while future-proofing applications against underlying IT evolution. The C3 AI Suite is 10 to 100x faster and more reliable than other solutions or DIY approaches, enabling robust delivery of production applications with 100x less code and cost. The C3 AI Suite seamlessly works with existing data storage, sources, tools, and infrastructure investment, while flexibly operating in a private, hybrid cloud, or multi-cloud environment. The C3 AI Suite supports configurable, pre-built, high-value AI applications for predictive maintenance, fraud detection, sensor network health, supply chain optimization, energy management, anti-money laundering, and customer engagement.

Digital Transformation

An Interview with Thomas M. Siebel,
Chairman and Chief Executive Officer, C3.ai

Did you always have the entrepreneurial spirit and the desire to build your own company?

No. I don't think I started out to be an entrepreneur. I started out to be a computer scientist and wanted to play the game in what I then thought would be a very large industry that would change the world as I think it has. I did my graduate work in relational database theory. When I finished my graduate work, I was recruited by a young entrepreneur named Larry Ellison at a small startup. They had maybe 20 employees in the United States and the worldwide market for relational database technology might have been \$5 million. I worked with Larry and his team for about a decade building the relational database industry.

That became a large company before we were done, but it didn't start out that way and I didn't approach it as an entrepreneur. I approached it as a computer scientist. It ended up being a professional experience of a lifetime to be involved in the emergence of an industry and of what became one of the world's great companies. In the course of being there for about a decade, I learned a great deal about how to run a company and I think I might have actually learned even more about how not to run a company. So when I came up with the idea to apply information technology and communication technology to the business processes of sales, marketing and customer service – a market that became known as CRM – I didn't actually think of it as a startup.

I took the CRM idea to Larry and suggested we build this out as a division, but Larry had no interest, so I left and started Siebel Systems. What I had learned was that the idea that people are somehow genetically entrepreneurs and can drop out of college and be the next Steve Jobs is really a very long shot. I think that leadership and management come through hard knocks and mistakes and learning by experience. I learned a great deal at Oracle which made a substantial contribution to my success.

We started building Siebel Systems in 1993. By 2000, Siebel systems had 8,000 employees in 29 countries. We exceeded \$2 billion in annual revenue. Even today, it is the fastest growing enterprise application company in history by a long shot. That was unquestionably a professional experience of a lifetime – perhaps until this one.

Now, we're at it again. We're off in a new market, in a new field that's an order of magnitude larger than the others I was involved with and it's very hard, very challenging, very exciting, and very rewarding.

What opportunity did you see for C3.ai and what was your vision for creating the company?

After Larry bought Siebel Systems in 2006, I looked at the world. It looked to me that, as we were powering into the 21st century, there was a new step function of information technology coming online that was going to change everything. This included elastic cloud computing, big data, artificial intelligence, and the Internet of Things. At the conversion of those vectors, it looked like a massive change in the way that we think about computing and the type of problems that we solve and the types of social and economic benefit that we could realize.

I thought that this was a really exciting time in the world, so I put together some talent and we spent a decade and about a half a billion dollars building a software platform to allow large multinational corporations and governments to take advantage of these technologies to use industrial AI to solve problems that had never been solved and realize social benefit that was unrealized before. But why did I do it? Obviously, this is not about making money. When I'm done with this, no matter how successful it will be – and I believe it will be successful – it's not going to make any difference in my life. I'll have the same wife, same car, and the same house.

Everything is the same for me, but for those with whom I work, which is 330 people today and will be 800 people in a year and probably 2,000 people in two years, it will change their lives profoundly. It will also change the lives of our customers, whether that be 3M or the Air Force or the Defense Intelligence Agency or Royal Dutch Shell, and it will change their customers' lives in a very positive way. So, I do this because this is my idea of a good time.

Has the company progressed as you had hoped and how big is the opportunity?

Absolutely. The idea that you can just write a business plan and then execute it is a bunch of bunk. That's not the way the world works. Microsoft today is nothing like the business plan that Bill Gates had when he dropped out of Harvard. Oracle today is nothing like the company that Larry Ellison founded in 1979. Apple is nothing like the idea that Steve Jobs envisioned in his garage in Palo Alto.

Markets evolve in funny ways and successful companies are companies that consist not of people executing business plans well, but of athletes who are on the balls of their feet and resilient, who can deal with adversity and market changes and

unanticipated events. Athletes can figure out how to seize those opportunities and move around them. The market has evolved from where we began in January 2009. It's in a completely different place than we anticipated. How big is it? When I joined Oracle in 1983 the worldwide market for information technology was about \$50 billion. Today, it's about \$3.5 trillion. In five years, it will be \$8 trillion. We've seen a dramatic acceleration in the growth of the information technology market and much of it is about AI. When we look at the convergence of elastic cloud computing, artificial intelligence, big data and the Internet of Things, all of the analysts suggest that this will become a quarter of a trillion dollar software market by 2023.

2023 is in a blink of an eye; it's tomorrow, so this is the fastest growing software market in history. It looks like an entire replacement market for everything that's gone on for the last 30 years in enterprise application software. Nobody has ever seen a market this large before.

Is your client base primarily large global multinationals and governments or are you also focused on small- and medium-sized businesses?

We have been focused on large multinational corporations. I have pretty good relationships with these organizations and have had the opportunity and the privilege of doing business with them on a large scale whether they are AT&T or General Motors or Pfizer or Royal Dutch Shell. Honestly, there's nobody that I haven't had the privilege to serve at large scale be it at Oracle or at Siebel Systems or both, so we are known and we are welcome. We're not perceived of as a startup.

The sales cycle for Royal Dutch Shell, which is the fifth largest company in the world, is about the same as it would be for selling to a bakery. It requires the same time and the same effort. It's just that when you're done, for one, the size of the exchange is probably three orders larger.

Our focus today is to establish a leadership position at a global scale with the leaders in defense, intelligence, aerospace, oil and gas, utilities, manufacturing and healthcare. As we enter our new fiscal year this May, we'll be moving down market very rapidly. In the long run, this is a technology that is going to be a utility to everyone but, first, we had to get the business up and running and well capitalized, and we're there.

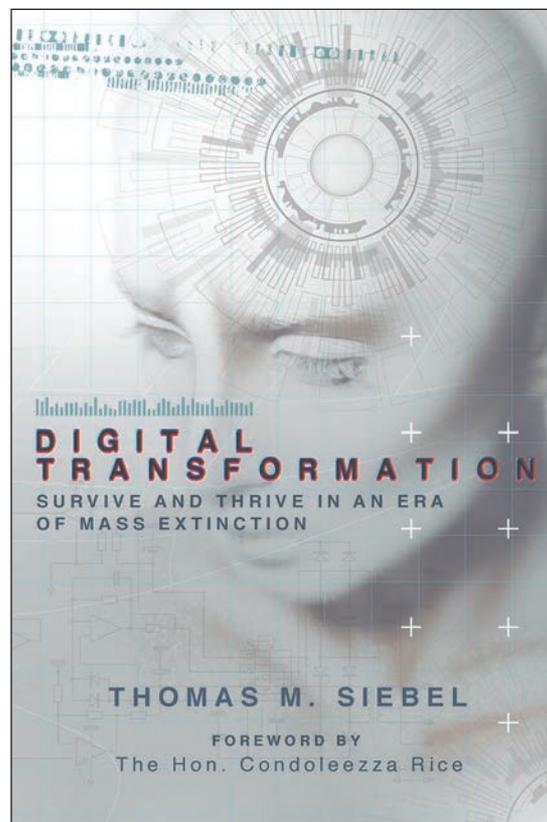
Is it difficult to maintain culture when you are growing so rapidly and how important is it to keep culture at the heart of the company?

Culture is absolutely everything and I think about it more than anything. As you may recall, we had a very rich culture at Siebel Systems, but that was a culture of the end of the 20th century when you were dealing with baby boomers. Baby boomers are pretty easy to motivate. In all fairness, people learn about Maslow's Hierarchy of Needs in school as the force that motivates people. With baby boomers this wasn't true. What motivates baby boomers is the compensation plan. Whatever you put in the compensation plan, they do it. You tell them to go to Detroit, they move to Detroit. Now we're in the 21st century and we have a much richer tapestry of human capital that consists of baby boomers, millennials, Generation X and Generation Y.

They all have a different sense of history. They have a different purpose in life, a different

reason to work, and different value systems about work/life balance. It's a much, much more interesting organizational management problem and the only way that you can manage a tapestry that rich is through culture. You can't do it through rules. You can't do it through training. You need to come up with a set of cultural values that all these people share, that all these people find motivating, and use that to get everybody moving in the right direction at the right time doing the right thing.

We have a very unique culture and we don't pretend to be everything to everybody in this new generation where people work from home or from their Uber and stay in Airbnb's and show up at work only two days a week. That is not who we are and while we don't pretend that our value systems are always right, we're very clear about what our value systems are. For a certain type of psychographic, for which we very carefully recruit and very carefully select, C3.ai is a great place to work. If you're well educated, if you have a book in your hand, if you like to work, if you like to work in teams, if work is a big part of your life, if you like to work with customers and you like to work on really challenging problems, this is a great place. People love it.



If people need to work from home three days a week or they want to coach soccer five nights a week or want to be active in their church group or want to be a stay-at-home mom or a stay-at-home dad – and, by the way, I'm not going to argue that those aren't better decisions – they very well might be better and more wholesome decisions - but, if that's what you need in your life, you should go to work for a company like Google and as I interview those types of people, I offer to send their resume to Eric Schmidt.

However, for a certain type of person, we're a great place to work and we do a very, very good job of selecting that psychographic. Today, we employ 330 people. We hired 130 people last year. We'll give you the rough math. We had 100 open positions for which we had 26,000 applications.

We interviewed 1,700 people and hired 130. So we've done a very good job of selecting people who are like us.

Now, let's look at the problem. We have to go from 300 people to 800 people in a year, and to 2,000 people in two years. Will that process scale? That is probably the ultimate test of this company and what I think about more than anything else. You might be familiar with a phenomenon called Glassdoor.com where people anonymously evaluate their company. I think we're ranked as the best place to work in the world. People love working for us because we select people who will like working at a place like ours.

Are you concerned about the potential negative impacts of AI?

The negative aspects of AI concern me a lot and I'm very outspoken in this area. Our applications of AI tend to be industrial and commercial applications, which generally everybody will agree are positive such as smart grid analytics. This reduces the greenhouse gas footprint of the power grid by roughly 50 percent, increases cyber security and increases the reliability of power. It's a good thing. In precision medicine we can use AI to have more accurate disease prediction, more accurate diagnosis, AI assisted diagnosis and genome specific treatment protocols. That's all good and allows people to live longer, happier, and healthier. It also allows for lower-cost healthcare. We can use artificial intelligence to identify problems in aircraft before they manifest themselves, so aircraft don't fall out of the sky. These are all examples of good things.

I also think there are some very concerning aspects of AI, particularly as it relates to social media. What is going on in some of these companies in Silicon Valley today – and these are friends of mine who run these companies like Facebook and Google – is really scary. These people have figured out how to manipulate human beings, say 2.2 billion of them at a time, at the level of the limbic brain. We no longer have computers serving people. We have people serving computers. They've got the science of addiction down to where they can manipulate the limbic brain and manipulate the release of dopamine when somebody likes your photo or you have 15 new friends or whatever it might be. Roger McNamee just wrote a book called *Zucked*. Everyone should read this book; it is truly disturbing. I think it's entirely possible that, when history is written, social media might be the single most destructive force in the history of civilization. That's how concerned I am about AI.

I am not a big government guy. I think it has a role in defense and other matters such as running a judicial system and what have you. However, I think that we have an unbelievable failure of companies to regulate themselves. We're way beyond "do no evil." If we do not regulate these social media companies, we will be very sorry.

What made you feel the timing was right for your new book, *Digital Transformation*, and what is the message that you wanted to deliver with the book?

I have spent a lot of time in boardrooms over the past ten years in places like Shanghai, Rome, Paris, New York and Chicago. I kept on hearing this refrain of digital transformation coming from the CEOs and the chairmen. First of all, this was unusual in my experience – and this is my fourth

decade in information technology – for the CEO or the chairman to even be interested in information technology. Now, they're not only interested, he or she is the leader pounding on the table mandating this thing called digital transformation.

As I engaged with people and poked at what they were thinking about, it was clear that there was really no common view, but they knew it was important. I spent quite a bit of time thinking about it and then, over the past couple years as I was writing this book, I developed a point of view on what digital transformation is all about. I took a page in this book out of evolutionary biology. When Charles Darwin came up with the idea of natural selection, he thought this was the driving force behind the speciation of the planet. He thought evolution was a continuous function, kind of like Moore's law. Natural selection was the driving force that resulted in the evolution of species and speciation of the planet.

However, he could not explain the gaps in the fossil record, so he theorized that this was just because we haven't found those fossils yet. It wasn't until 1973 or 1974 that an evolutionary biologist by the name of Stephen Gould from Harvard explained it in a concept he called punctuated equilibrium. He said that evolution was not really a continuous process; it was actually highly discontinuous.

Planet earth has been around for 4.5 billion years. We've had life for 3.5 billion years. In the last 400 million years alone, we've had five mass extinction events on the planet where as much as 96 percent of the species on earth were eliminated. The most recent of these was the extinction event called the K-T extinction which took place when the meteor hit the Yucatan 65 million years ago and all the volcanoes erupted causing a massive climate change and the dinosaurs disappeared from the planet.

When the dinosaurs became extinct, so did 86 percent of the species on earth. After these mass extinction events, Gould theorizes that these are followed by mass re-speciation events. We have all these life forms with new DNA that fill the voids left by those that became extinct. In the case of the K-T extinction, the ecosystem that was occupied by the dinosaurs got filled by mammals, so that worked out pretty well for us, at least so far.

The same phenomenon, mass extinction, is taking place in the corporate world in the 21st century. If you look at the data, since 2000, 52 percent of the Fortune 500 companies have disappeared from the face of the planet; they're gone. Where is Sears? Where is Westinghouse? Where is Kodak? These companies are gone and how is it possible that they can just be gone? In the last year alone, 8,000 retail outlets have closed in the United States and, if you're Walmart looking down the barrel of the gun that Amazon has pointed at you, you're in a world of hurt.

At the same time, the companies with new DNA, like Airbnb, Amazon, Uber, Tesla, Lyft and Spotify, are taking over the world. These companies are really all about taking elastic cloud computing, big data, AI, and IoT and pointing it at the value chain, be it in transportation, housing or other fields. Look at Uber; with no cars and no drivers, they're completely upending the transportation business systems in New York and every other place in the world.

I think that digital transformation is about recognizing that this is an existential event. This is not

led by your mediocre CEO who just wants to survive the next three years until he or she gets retirement. These are leaders who feel that they have a fiduciary responsibility to make sure that their companies survive and who recognize that they need to reinvent their companies – either they're going to be on the train or they're going to be on the tracks. If they can adopt this new generation of technologies so they can play the game in the 21st century, they will digitally transform themselves. This is what the thesis of the book is about.

The book starts by addressing the parallels between what's going on in the business world and evolutionary biology. It talks about the collision of technology and sociology and then it talks about the various components of digital technology and what they mean, how to use them, and how to go about thinking about getting the job done.

Is it a book for those who are business leaders today or for those that are starting their careers?

It's a book written for business leaders, for CEOs, for managers, for leaders in government, in the military, as well as for people running utilities, oil and gas companies, consumer packaged goods companies, etc. I spent the past two years writing it.

In 1996, I wrote a book called *Virtual Selling* which basically talked about what CRM was all about, how I envisioned that market and laid out the roadmap. It was a best-selling book. I think it was a book that laid the groundwork for the CRM market as it exists today.

I would like to believe that, as people think about what's going on with information technology in the 21st century, this book will help them put it into historical context and help them understand what the components are and figure out how to take advantage of them to better serve their customers, their employees, their shareholders, and society at large.

You are very committed to philanthropy. What has made this so important to you and do the skills that made you a successful business leader translate to your philanthropic efforts?

The way that I do philanthropy, the skills I have in operating businesses apply directly. I'm very engaged in entrepreneurial philanthropy. We create things. We don't tend to contribute to things. We're not the guys to give to the opera. That's not us. However, we're very interested in and have created a number of organizations dealing with public health. We have created an organization called the Meth Project which was a very large-scale exercise in drug prevention as it related to methamphetamine, which has been hugely successful. We have a stem cell institute that we created at Berkeley and Stanford that is achieving miracles in the application of stem cell technology to therapeutic medicine. These people are curing stage IV breast cancer, for example, and that used to be a death sentence.

We tend not to contribute to organizations, but to create organizations that make a difference. Why do we do it? There are organizations that have had a large impact on my life. I am a product of the great public education system in the United States, particularly the University of Illinois, and have benefited greatly from the many years that I spent at the University of Illinois. It's a great privilege to be able to give back and contribute to a great

institution. I've had the opportunity to be associated with organizations like Princeton and Stanford and the University of California at Berkeley. To be able to make some small contribution to those efforts, be it in healthcare or energy research or the development of artificial intelligence or scholarships for underprivileged students, is a privilege.

I don't think it's an obligation. I'm not here to lay a guilt trip on anybody. I just happen to be in a position to make a positive contribution. I try to leave the neighborhood in a better place than I found it and I'm in a position to be able to make some small contribution on the edge of these institutions. That is what I try to do.

What advice do you offer young people beginning their careers?

There are people in my field and many of my friends and colleagues who are huge STEM advocates. They believe everybody should be studying science, technology, engineering and mathematics. I do not subscribe to that school. The advice I give to my kids and other people is that they should study what they like. They should take advantage of the opportunity. They're never going to be there again. If they want to study history, they should study history. If they want to study classics, they should study classics or if they like art history, study art history. They are in a candy store. They can do whatever they want. Go learn what you find rewarding. Life will work itself out just fine.

I don't believe you need to know as a freshman in college or even as a senior in college what you want to do for a living. You should be taking advantage of every opportunity that is put before you. You have this cornucopia of opportunities to study anything you want. Study what you like. Study what you find interesting and then figure out what you want to do.

Do you take moments to reflect and celebrate the wins or are you always looking at what is next?

I know that I am the luckiest person on earth. I have had the good fortune professionally to be in the right place at the right time a number of times. I don't know how that's possible, but when I went into the relational database industry I was as well trained in that field as anyone. I got into what was the relational market and, by the time we got a product to work, the market grew at around a 35 percent compounded growth rate for 20 years. In regard to CRM, we invented the idea. There was no market for CRM when we began. By the time we got customer relationship management down and the product to work, we looked over our shoulders and all of a sudden there was a house-high wave coming at us which was the CRM market and all we had to do was stay on the surfboard.

With AI, we did ten years of work beginning when there was no market and, at about the time, we got a product to work all and of a sudden we're looking at this tsunami scale wave, and the game is figuring out how to stay on the surfboard. The extent to which we have been successful is because we have repeatedly found ourselves to have been very fortunate to be in the right place at the right time and then manage not to goof up the opportunity.

Do you attribute this to skill or luck?

It's like when you see Tiger Woods win; is that skill or is that luck? I think if you train hard enough, for some reason, you get a lot of lucky bounces. Funny the way that works. ●