Don Tapscott

Good morning. I am very pleased to be here.

I have given probably 100 lectures to conferences like this over the last year and I must say it is really great to come to a conference where you are guaranteed a top notch cup of coffee.

Seriously, I am very pleased to be here, and as your opening speaker I would like to begin with an overview of the industry.

This is an important industry in terms of economic, social and political structures of more than 40 countries of Latin America, Asia and Africa. It generates income and employment for more than 20 million families around the world and is the second most valuable primary commodity in terms of international trade, second only to petroleum. In the past the market for coffee has certainly not been a perfect one. It has not been perfectly competitive, there are very low supply and demand elasticities, and international prices are highly volatile. This has been particularly true during the past 10 years because of the collapse of the International Coffee Agreement.

Enter the Internet, and enter the new economy. The Internet is going to fundamentally change the nature of business in every economic sector, but not the way that many people thought. Let's be frank. We have seen the rise and fall of the so-called dot-coms and learned many lessons about the meaning of the Net. Late last week I was driving along Highway 101 from San Francisco to San José in the heart of Silicon Valley. Highway 101 is a metaphor for what happened during the dot-com frenzy. Two years ago, 18 months ago, all along the Highway 101 seemingly every few metres were billboards with advertising from dot-coms. At the peak billboards could fetch 55,000 US$ per month in rent. Dot-coms flush with cash from venture capitalists bought buildings in order to slap billboards on them. The garden.com billboard had a full garden growing on it, and I remember a Chinese laundry in San Francisco, just off Highway 101, renamed itself "The new economy laundry" and "One hour delivery, clothes washed on internet time". There was a lot of euphoria and excitement, but when you drive down Highway 101 today many of the billboards are empty. The ones that are still there have advertisements for car companies, beer companies, toothpaste companies and coffee companies. The flowers and plants and the beautiful garden.com billboards have withered and died. Welcome to the post dot-com world.

There is a big discussion underway about what went wrong, and what the Internet truly means for businesses. For sure a lot of mistakes were made.

Many companies forgot about — or never learned to begin with — the fundamentals of business. They ignored the reality that profitability is the arbiter of business success. To succeed you need to create a good service and sell it to a customer that values it so much that they pay you more than it cost you to produce. For some reason many people felt this basic rule no longer applied. Many of the revenue models were indirect, with dot-coms thinking they could make money through advertising rather than create real value for customers. Many of these companies were doomed from the beginning because they were creatures of the venture capitalists. For many companies the whole point was not about creating value for customers but about creating market capitalization. That's why the billboards went up on Highway 101. They were advertising to the venture capitalists and to the analysts and to themselves. They were not advertising to customers.

This is absolute nonsense, as I have been saying all along in my books. The Internet is not about creating a great website that gets a lot of eyeballs and is really "sticky." Rather, a fundamental change is taking place in the nature and role of technology as it is used in business. We are in a paradigm shift. Now, I wrote the book entitled *Paradigm Shift* 10 years ago and maybe I should begin by apologising for helping to create a buzz-word: "paradigm-shift". I heard recently someone talking about how they are going to have a paradigm-shift in the decoration of their living room, and I knew I had done a bad thing. No, no, no, a paradigm is a mental model. It sets boundaries around what we think and they constrain our actions and are often based on a set of assumptions that are so strong that we don't know that they are there.

"The Earth is at the centre of the universe", is a paradigm. "The big problem in the world is communism", is a paradigm, remember that one? The purpose of computing in an organisation — agricultural, industrial, whatever — is to automate the existing processes with the goal of reducing costs. Something can happen in our science or culture or technology that causes a fundamental change to occur. That is what has been going on for sometime now. The computer is changing from being a tool to automate things to something much broader: a communications medium. And as this medium extends itself out into our economy, we are moving into a new period in human history. The way that we create wealth, the way we grow food, build widgets, or govern ourselves is beginning to change fundamentally. The trouble with the dot-com crash is that a lot of people have drawn the wrong conclusions from it. The irrational exuberance of the past is being replaced with a new kind of orthodoxy, where many learned Harvard business professors and others say that we need to just turn back the clock 20 years. They maintain that the Internet is not important and that e-business doesn't really exist. There is no such a thing as a business model, let alone a new business model. Moreover, there is no new economy and

conventional business wisdom is all we need to succeed. From my perspective this is a fatal error that any company and any industry can make. This is not the end, this is the beginning. We are 1 percent into fundamental transformation in the nature of business. Lets not have a "return to the fundamentals" become a new fundamentalism where business orthodoxy is all that counts.

There is another factor that is happening here as well, which I will be pleased to talk to you about individually or on the panel discussion. I can't discuss it now because of the limited time. There is a new generation of youngsters that is growing-up using this technology. Let me ask you, who here has children or grandchildren between the ages of 2 and 22 years-old? Would you put up your hands, please. Those of you who put up your hands, which of those kids use a computer? Hands up, please. OK, you can see that the same group put up their hands twice. Of course, this technology is not equally available around the world. Children especially in the developing world are not yet getting access to this technology, but increasingly around the world children are. And the main victim of time on-line is television. Television took away 24 hours of the week per baby boomer. But today's children don't want to be passive recipients of TV. With computers they are interacting, thinking, communicating, collaborating, authenticating, writing, composing their thoughts and reading. This is creating a generation that thinks differently. They are going to be very different as employees and they are going to be very different as consumers. I raise this because it is quite relevant when you thing about the emergent global marketplace for coffee.

Lets get into it. Is there a new economy and if so what is it? In 1994 Alan Weber who was then editor of the Harvard Business Review put out a challenge. He said what is so new about the new economy? And, I wrote a book in 1995, saying "here is what I think is new", and the book stands up pretty well. When I think about what is new today I'm reminded about the time when Albert Einstein was a physics professor and he had a big hall of students that were writing an exam. The students come into the examination hall, sat down, opened up the exam book and there was a bit of a gasp around the room. One student put up his hand and he said "Professor Einstein, this is the very same exam from last year with the same questions. " Professor Einstein said "Well, that's OK, because this year the answers are the different". Well this year the answers are different. One thing we know is that the new economy does not equal technology. Many people thought the new economy was NASDAQ, technology, Internet companies, dot-com. No, an economy is a system for the creation of goods and services and the distribution of wealth. One sector can never equal the economy.

We also know it is not new in the sense that it is still capitalism. We don't have state ownership of wealth, there is an open market, there is no government planning as existed in the former Soviet Union, or that exists in China today as economic planning. But, there are a number of things that are quite different. First of all, this does not mean that we will start eating bytes and be housed and clothed in information. As long as people have a need to eat and be clothed and mobile and housed, the physical world would be important. But what is happening is that there is a new infrastructure being created in economies all around the world that is changing everything, and just like the industrial revolution changed the agricultural economy from before – with tractors and milking machines and farming technologies and so on, machinery – so, this information revolution is changing the way that we conduct industry. Factories are filling up with robots and workers become knowledge workers. The percentage of factory workers with degrees in engineering and other fields is soaring. So the new economy changes the industrial economy and it also changes the agricultural economy, as farmers now have Internet access from tractors and milking machines now are networked and they communicate with each other. When your livestock are sick, you log-on to the Internet and do an interactive diagnosis to find out what is wrong. Fertilization, feeding and similar activities are all being effected by databases and networks.

Where this is going is what I like to discuss with you today. There are profound and far-reaching changes occurring in the basic model of business. This will have a big impact on everything that we know about the coffee industry, from research to production all the way down to distribution and consumption. So, let me explain. There is a new model of the corporation emerging that we call the business web. The business web is not a website. A business web is a new partnership of customers, suppliers, affinity groups and competitors that cooperate together in the Internet to create value in new ways. Because of this, business model innovation is turning out to be the key to success to competing and creating value for customers. This is a knowledge-based economy as we increasingly interconnect human brains. Intellectual capital becomes digital capital and becomes inter-connected. Furthermore, there is a massive growth of the interconnection of physical objects that become smart communicating devices. And this is happening because of the convergence of three kinds of technologies: computing technology, hardware and software. Carriage technologies like telephony, cable, broadcast satellites, CITV are crashing together with the technologies of content such as publishing, database technologies, entertainment and so on. And for each of this three technologies there is a corresponding industry. These industries there all crashing together, as everyone attempts to get out into the centre, because that's where you create value for customers, not on the corners. If you are a computer company you don't create value by making computers anymore. Hardware has become a

commodity with razor thin margins, so you create value through software, services and content.

I said this 10 years ago in *Paradigm Shift* and in that time period IBM services revenues soared from 2 billion to more than 30 billion dollars. IBM will be a software services company within a couple of years and Lou Gerstner last week announced that that is their new direction and strategy.

If you are a telephone company, say a long distance company such as Telmex, you don't create value through telephony, in the future they will be zero revenues from long distance. The cost of a long distance telephone call in America has gone from 120 dollars a minute, 70 years ago, to 5 cents a minute today and in 2005 it will be zero cents a minute. When voice becomes a byte you will not be able to charge for them. The things that will fill networks will not be voices. Instead, it will be the interactive Hollywood movie bytes, and the interactive navigations through the soil of my farm bytes, or the interactive helicopters through the stock market bytes. This is what will fill networks, so you will not be able to charge for voice. So all these companies need to rethink the value proposition.

The entertainment companies are now trying to change. You can see this with the music recording industry. Their value proposition — the physical distribution of music — has been destroyed by Napster and MP3. So they need to come up with something new. Broadcasting is on its final days. They will not be broad and they will not be casting. Nor will they be narrow casting as some suggest. Five hundred television channels in Bogotá? I don't think so. It will be more like 15 million channels in Bogotá. One of them is my 17 years old daughter's channel, already available in Bogotá. It is called Nicky's chatterbox. Nicky's discussion group is about the Backstreet Boys, her favourite band. There is also Nicky's movie of her trip to France. Every time she gets out that little digital video camera I am stiffen myself up, because 500 million people might be able to see me five minutes later. Nicky also has a forum on how teenagers can manage their parents. I hate that one since it is password protected. This is the new broadcaster, it will not be broad, it will not be narrow, it will be molecular. It will not be casting either, because the viewer, the listener, becomes the user. You do the casting, not CNN. Prime time is anytime, so is 9.05 am, give me the news, which is something you can already do. Or it is 9.05 am, give me the 100 metre men's final from the Sydney Olympics. In a year or two, it will be 9.05 am and I will say give me my favourite TV show. It's 9.05 am so give me David Bowie new hit single which cannot even be bought in a record store; you can only get it in the Internet. So this is causing a huge change, and the Net is at the heart of all of these industries crashing together.

Who in this audience surfs the Web using their own fingers on the keyboard. I am not talking about e-mail, I am talking about the web. Please put your hands up. To those who have not done this, please do it. Talk to your software people, talk to an outside vendor, talk to the association, talk to your 13-year-old daughter, and when you do, you will join 400 other million people. This is a new medium of human communications that is as important as the printing press, or the invention of fire, and you have no hope of understanding its potential unless you use it yourself, with your own fingers. Secretaries' fingers don't count. Personal use is the precondition for any kind of comprehension. One of the things I am doing now is collecting Internet jokes, and if any of you have one I will be very grateful. There was a great joke I have been using to show how crazy the dot-com thing was. A pan-handler on the street had his hat for money and had a sign "Will work for food". Beside him there was another guy who had his hat out and his sign was "Will work for food.com" and he was buried in money, all the people were giving him money. Just put a dot-com at the end of your name and it will bring you wealth. Another great cartoon is about the dogs. Two dogs are sitting in front of a computer surfing the Internet. The big dog says to the little dog "on the Internet nobody knows you are a dog." The funny thing is that soon this will not be true. On the Internet nobody knows you are a dog YET. The bubble is about to burst. There will be a full interactive video. If there is a dog at the other end you will say "Hey you are a dog. We don't sell coffee to dogs."

So, what is the point? This is creating a huge sector, but is much more than a sector. It is becoming the infrastructure for every sector of the economy. Is going to change the coffee industry. Why? First of all, the Internet is transforming into the Hypernet. Today, to get on to the Internet you use a computer tethered to a desk. The computer costs a couple of thousand US$. But we are entering a world where hundreds of billions of inert objects become Internet appliances and smart communicating devices.

Look at all the things in my briefcase. My car key is a communicating device that has a chip in it that internetworks with my car. Pretty soon it will have an Internet address. The front door from my house where I live has a chip that interconnects. Because I am travelling in Europe I have my GSM phone that opens up and becomes a full web browser. My phone is full of knowledge. My diary is now a smart communicating device. I was at the World Economic Forum in Davos, Switzerland, where they gave everyone an iPAQ. It is a smart communicating device from Compaq. This is my RIM pager. This is what I use for electronic mail. This is fabulous, since it is always on. I could keep going. This is a telephone. It is a PC card, it slides into my PC, it turns my PC into a smart communicating device. Shirts next year will have chips in the collar. The

shirt will have knowledge, they will know how it is manufactured, how it moves in the distribution channel. If I take the shirt back, the shirt will know about me. It will know when I bought it, how much I paid for it. Where is this going? I don't know. In 2005, the shirt will communicate with the washing machine. If you are Procter and Gamble, and I know people from P&G are here, you have a big interest in that conversation. You want the shirt to say to the washing machine something like "Wow, time out, are you using Tide? This does not feel right," says the shirt. The shirt in the washing machine says: "Tide washes whiter".

The coffee cup in Starbucks will be a smart communicating device that will advise the barista that the temperature is not right for an extra hot cappuccino. This will lead to a vast explosion of ambient intelligence where a physical world meshes with a cyber world. There will be an explosion in the number of users, especially in the developing world.

The Net is also exploding in terms of bandwidth and this the only time I'm going to get technical on you. Plain old telephone service has a bandwidth of about 56 kbps. If we use a highway analogy you could say current service is equal to a garden path, whereas the bandwidth of tomorrow, such as OC3, is a highway a mile wide. And that does not tell the whole story because this mile-wide highway a digital, so you can stack cars on top of each other going down this highway. This is going to lead to a vast explosion in terms of the number of applications.

There will be coffee cup temperature sensing applications and billions more. So, what are the implications for the corporation and for your industry? Throughout the twentieth century we had this model of wealth creation called the vertically integrated industrial corporation. It did everything from soup to nuts. Sixty years ago a Nobel Prize winner economist named Ronald Coase asked the question "why do these corporations exist?" He said that if Adam Smith were right and an open market is the best mechanism to determine how goods and resources are allocated, then why isn't everybody an independent contractor in every step along the way?

Coase said the explanation of the firm's existence could be summed up as transaction costs. There were search costs, such as finding information, money, materials, appropriate coffee beans, fertilizers, knowledge and so on. Secondly, there were the costs of contracting. If every single transaction was a contract it would be prohibitively expensive. Thirdly, there are coordination costs, such as getting all the staff to work together, negotiating contracts, executing transactions and so on. So, Henry Ford didn't just build cars. He owned a power plant, a shipping company, glass factory, mahogany forests in Honduras,

and so on. Why did he do this? It was because the costs of partnering were greater than the costs of doing things within the boundaries of the corporation. Ronald Coase was right. Companies expanded until the transactions costs within the boundaries of the firm became too great.

A decade ago, I said this is starting to change. The corporation is becoming more porous because of the networks, and you heard other terms, I call it the extended enterprise and other people called it virtual corporation or outsourcing. The direction in which we are heading is the replacement of the vertically integrated firm with business webs. Companies can focus on what is core to them and partner via the Web to do all the rest. This is possible because we have a deep, rich publicly available infrastructure which is becoming full of functionality. Transaction engines, search engines, payment systems, micro-payment systems, negotiation tools, collaboration engines and so on are part of a publicly available infrastructure. So, this is leading to totally new business models that have profound implications for all of us.

So, if you think of all the activities within the whole value chain of the coffee industry, we've got farmers, scientists, millers, shippers, bankers, insurers, agronomists, cooperatives, producer associations, government officials, port operators, warehouses, traders, futures markets brokers, analysts, meteorologists, roasters, packers, supermarkets, vendors, coffee bars, restaurants, hotels and home consumers, and that is not a complete list.

There can now be a better division of labour. Individual companies can focus on what they can do best and partner to do the rest. This industry lends itself beautifully to this model, because often it has a number of small companies. It is not only the P&Gs and Nestles, Starbucks and so on, that run the entire industry. There are also all kinds of small producers, small laboratories, contract consultants, meteorologists and so on. Small companies can now cooperate together in business webs enabled by the Internet where the metabolism speeds up and all kinds of new values can be created. So, how might this affect the industry? Well, we group this business webs according to the degree to which they organise themselves versus hierarchical control. Along the bottom, the degree to its value within the business web is low versus high integrated. So, something self-organising, of low integration of value, this is what we call the "agora" after the Roman or Greek "agora". There are about half a dozen different types of agoras, one of which is called the open market, and eBay is the best-known example.

Who here has bought or sold something on eBay? Put up your hands, please. OK, homework assignment number 2, go to eBay. There is something in your garage, attic or basement house that you would like to sell and somebody wants

to buy. When you go there you will join 6 million auctions currently underway. This is changing our concept of price discovery and auctions in the traditional sense that have existed in the coffee industry.

Now, a little self-criticism here. Five years ago, my company heard about eBay and we wrote a report about them. We said: "This is big, and even though they had no revenue, we think this company will be huge and it will change the world." We were right. The trouble is that while I was feeling very proud of my report, a fellow Canadian invested $70,000 in eBay. Today his investment is worth more than a billion dollars, but, hey, I wrote a great report. This hurt.

There are many different types of agoras. The second type is called the B2B exchange. In the old world buyers could connect with suppliers using EDI. This existed in the coffee industry for the large buyers and large suppliers. Every one of these hook-ups was costly because it involved lots of customised software, the use of proprietary technologies and so on. Now in most industries, there is a restructuring that is beginning to occur, where rather than hooking-up directly with your suppliers you hook-up with the central exchange and this exchange creates a market where there is much more open competitive bidding. Given the fact that the coffee market in the past has not been an open market in the sense of supply/demand elasticity and so on, this is something that will probably be very helpful for just about everybody involved. How can something like that occur in this industry? Well, maybe the association could provide leadership, so you can have a whole bunch of sellers of a certain commodity, or a certain type of coffee. The sellers keep bidding and they keep lowering their price until there is only one left and then the buyers make their purchase. This is happening in all the industries.

An open market is being created for foreign exchange. This is important for you, because you conduct transactions on a global basis. The market was set-up by 50 of the largest banks in the world under pressure from big companies like Daimler, and P&G is actually one of them. If you are Daimler and you are buying Chrysler the foreign exchange in that transaction is very important, you want to have the best interest rates, and all kinds of value added services. So Atriax is now an open market for foreign exchange based in the Internet. You can see this is starting to happen in the coffee industry where we have things like initial steps, such as the equal exchange movement that brings together various companies in Latin America, Africa and Asia.

The next type of business web is what we call the aggregation. This is hierarchically organised with low integration of value. Who here has bought or sold stock on the Internet? Hands please. OK homework assignment number 3. Go to E-trade or Schwab and sign up, it will take you just a few minutes to do

that and go on and buy yourself stock. Online trading now has one third of retail stock trade in the United States, it will be two thirds in 2 years. I am not suggesting that you become a day trader, because a lot of them were wiped out by the whole dot-com thing. It is important to note that cheap online trading doesn't mean you don't have access to advice. The power of this environment is that you can get advice as well as instant access to the market.

Schwab was judged to be the most successful corporation in America, last year, by Forbes Magazine, and Schwab is not really a company in the traditional sense, but rather is the heart of a business web. If you go to its web site you can, for example, ask for a chart comparing the performance to two different stocks over a given period. Instantly the chart will appear, but it is not Schwab that generated the image. This was done by a company called Big Charts, a partner in the Schwab business web.

Now, will people shop for coffee on line? This is an interesting question. A lot of these online grocery shopping environments are failing, but there are a number that are doing well. How many will survive in the long run is not clear. My personal view is that people will shop for groceries on-line in countries all round the world. The research supports this, especially if you are elderly or a young member of the Net generation. If you have a disability, if you are busy, if you are a yuppie you kill for this thing, because the shopping experience is really the replenishment of staples, and nobody *enjoys* replenishing staples. In Europe, of course people still go to the patisserie to buy pastries, but staples account for most grocery shopping and people want to do this on-line. Besides, when shop space becomes cyber-space, there are things you can do in a cyber-market that you cannot do in the supermarket. For example, you could ask the Web site to only list things that are on sale by 20 percent or more, or coffees that are decaffeinated with a certain process, or items that have a certain nutritional value.

In the near future, you will log on to the Internet and say "I'm having a dinner party on Saturday night, lets go Italian". Then, you say to yourself "who was Alfredo, anyway?" So you click on a link to Rome and there it is, a real-time animation of the chef that invented fettuccini Alfredo. I know he is dead, but it looks like him since it is a is real-time animation. Have you seen Sony's Play Station 2? The animations are starting to look like real people, and in Play Station 3 you will be hard pressed to tell the difference. You will say to your Internet linked refrigerator: "I have a question about coffee. Let me talk to Juan Valdez."

What will happen next is that you are out of milk for your lattes and your refrigerator will order milk for you. This is not science fiction. This exists

now. There are 3 companies that have electronic communicating kitchens. I was consulting to one of them and I said, I am worried that you guys might go on the wrong direction, that you might decide that kitchen appliances should start communicating with the people. You are having dinner one night and then telephone rings and the voice says "Hi Don. This is your refrigerator. Can you help me out? We've got a problem here. Sorry Don, I've got to put you on hold, the dishwasher wants to talk to me. Hi Don it's me again, I've got to go, but I'll have my people call your people, lets have lunch sometime." No, no, that's not the way is going to happen, when the fridge gets low on milk, when the coffee machine is low on coffee beans, the machines will just order more.

A couple more examples here, this is happening in every industry, these aggregations. There is this wonderful ad right now in United States on television for a company called Lending Tree and has a woman sitting there and in front of her, there is a banker sitting at this huge desk, and the banker with a three piece suit on says to the woman "I'm sorry madam, but this is the very best price that we can give you for this mortgage." She says OK, next, and his chair flies out of there, and another banker is brought in front of the desk.

Lending Tree aggregates a whole bunch of banks together to create a more open and competitive market for financial services. Travelocity, another aggregation service, is profitable with more than 20 million customers. The Specialty Coffee Association of America is an aggregation, bringing together a whole bunch of organisations, producers, all kinds of partners. If you click on members, the screen will give you a list of all of the participants in the business web. And that is the right way to think about this. Don't think about it as creating a website. The last thing in the world your company needs is a website. What you need is a new business model. A business web. Of course it has website technology, but that is the easy part, the hard part is thinking what's the value proposition of say, the Specialty Coffee Association, and how can that be different in this new environment? You then aggregate that value proposition, you bring together all the partners that can deliver the elements of that value. You brand it, you take it back to the market and then you create something that can be truly wonderful. What Colombia has done with the whole Juan Valdez idea is essentially a business web. It is not a website, but it brings together a whole bunch of partners within Colombia to create value and bring that back to the market place.

Companies like P&G and Starbucks and so on, are examples of what we call a value chain. They have real tight integration value, and they are hierarchically orchestrated. Herman Miller can be an example of a value chain business web. Herman Miller is a manufacturing company that does not make things. Its business web does. But, Herman Miller does not design its furniture. Its

business web does. They figured out they needed the best designer, but the best furniture designers were not working for Herman Miller, because the very best furniture designers were not furniture designers. They were just designers. Industrial designers that design toasters, automobiles, and buildings. So, Herman Miller built a business web that brought all of these people together, designers, various manufacturers and now they have even involved their customers. This profitable new business model is killing their competition.

Remember IBM used to do everything. They created a chip, then they created hardware architecture and an operating system and a bunch of applications to run on the operating systems, so someone would want to buy this thing, and a networking strategy, and a user interface, and a whole set of services and this was all done by IBM internally, within the boundaries of the corporation. Now, IBM is a brand and orchestrator of business webs involving thousands of partnerships. It does not build all its chips. It uses Linux, the operating system developed by a whole bunch of volunteers. It acquires applications from all over the place. It had its own customer relationship management application that was generating more than 40 million dollars a year in revenue. But it looked at Siebel Systems and decided Siebel had a better product. IBM mothballed its own product, partnered with Siebel, and now the arrangement generates 2 billion US dollars in revenue.

IBM is a computer company that does not make computers. Its business web does and, its doing great in the market place. Part of the business web of IBM is a company called Celestica, that builds printed circuit boards, that's all they do. But they are doing it so well they are growing at a compound growth rate of 60 percent. The company is profitable. There are others, such as Flextronics and Solectron, who also participate in such webs.

Starbucks is similar, it is becoming a business web, it has been an innovator in the use of information technology and now the Internet. It has a very tight value chain where it even controls its retail outlets within corporate boundaries for branding reasons. We will hear more from them later on in the conference.

Same thing for Procter and Gamble . Procter and Gamble is really a company that used to do everything, they even used to make their own soap operas. You know that Procter and Gamble invented the soap opera, and filmed them at their headquarters. In Cincinnati P&G now has become a vast business web of partners, all enabled by the Internet, it focuses on what it does best. It does a great R&D, great management of brands, but increasingly its manufacturing, logistics, distribution and of course retail is handled by others.

Another type of the business web is the alliance, which I think is magic. Alliances have tight integration of value but they are not owned by anybody. You know about the Linux operating system? This is a software system that runs on large computer servers. It is developed by thousands of people, all from different companies, they have never met and they do it on a voluntary basis, all on the Internet. In the book we called them digital Rotarians. Linux has one quarter of the global server market, taking major market share from one of Microsoft's strategic products.

If you can build an operating system this way, what else can you build? Could your customers self-organise and wipe you out? Well, we have seen this start to happen, such as with the Lego Mindstorm products. Lego marketed this product to youngsters as a little build-your-own robot kit than ran on Lego's proprietary operating system. But because children are an authority on information technology today, students hacked the code and started sharing their own Mindstorm applications via the Web. Lego had a big choice. It could be like the music recording industry and decide to sue the children, or it could take an opposite choice. It could open up its platform, and that is what it did. It published all the specifications and how to develop software for Mindstorm, and there are now tens of thousands of software engineers between the ages of 30 and 4 years old developing applications for the Mindstorm. They harnessed the genius of their own customers in creating their products and services. Could you build a schoolbook? There is a thing called the open source schoolbook based in San Francisco. They are attempting to create all text books K to 12 using the open source model. It is a great idea, a history book will be developed by historians, teachers, educators, parents, students, and it probably will not have Michael Gorvachev being the President of the Soviet Union, and the Berlin Wall still standing like my son's ancient history book does. If it happens it could wipe out the entire text book industry.

What else can you build? Can you build a network? It has already been done. It is called Seattle Wireless, a whole bunch of volunteers have got together and they are creating a network that will be free in the Seattle area.

The great example that we are struggling with in the self-organising alliance is the whole anti-globalisation movement. Young people are using the Internet to organise against globalisation. Overall I think this is mistaken, since protectionism is certainly no way to go forward and we will be having discussions about this throughout the conference. The Net is a powerful tool for organising. When I was a youngster if I disagreed with something and I was involved in the civil rights movement in the United States, and also the anti Vietnam movement, what could you do? Put a little poster on a tree, you could phone up somebody, you could write a letter to the editor. Now for better or for

worse, millions of people around the world have at their fingertips the most powerful tool for organising ever.

I got back from Davos from the World Economic Forum, and I got into a discussion with my 14 year old son about this, and he had been on the Internet with one of these groups, and he started telling me about what's happening in some Latin America countries, where private companies have bought the water supply and now in some countries 20 percent of the per person income goes to pay for water. This is a powerful tool for the distribution of information and knowledge and also for the distribution of misinformation as well.

The final type of business web is the thing that we call the distributive network. In the old economy we had the electrical power grids, the roads and so on. Now these are coming to be based on the Internet. So Enron is a business web brings together a bunch of partnerships and starts to distribute oil and soon after that gas, and then electrical power, and then bandwidths, and then content such as movies. What is next? Coffee? Money? Banks are just distributing networks really, they take money from someone and lend it to somebody else, take a profit, and all this is done via networks. Who better to attack the banks than a telephone or some software company? That is what took on Merrill Lynch and Goldman Sachs. It was not another brokerage firm but a software company called E-trade, which created a new business model and captured one third of the market. So, we will see all kinds of innovation starting to appear. Let me make another full disclosure. Following the heart-breaking eBay experience I decide to invest in companies that I think will do well. Now I am incubating a company called Maptuit, a new generation location based services company where we put guidance systems in delivery trucks and it tells the driver the fastest routes to 14 locations, takes into account traffic condition, finds the best place to have lunch and so on.

Consider the NTT DoCoMo mobile phone phenomenon in Japan. They captured 17 million customers in one year. It is now taking away transaction revenue from the bank. The popularity of the devices started with kids actually, the main applications were games, playing, communicating with each other and having fun. Now this is a vast network and is having a huge impact on the banks in Japan and many other things.

All these new business models are as different from the old vertically integrated corporation of Henry Ford as his model was from the feudal craft shop of the earlier agrarian economy. Siebel Systems is a great example. It is the fastest growing corporation in the United States. Tom Siebel says to me that he has 30,000 people working for him, but only 8,000 of them are on his payroll. All the rest are his partners in this vast network that has enable him to grow so

rapidly. So you will hear a lot more about the business web as companies who understand this new business architecture outpace their traditional competitors.

So this is the time of vast new opportunities and is also a time of great danger and I would like to close with a discussion of some of the dark side.

There are dangers for companies that can't transform their business models for this new environment, and there also dangers for societies. And I travel, I find many people wandering if the smaller world our children inherit is going to be a better one.

How will we insure that all these innovations and technology actually serve people? We have got a bunch of tough issues. As our world becomes smart in communicating and all these devices grow, there is a need of improvement in the quality of life and not just add stress and complexity.

There are a number of tough issues we must contend with. Every institution will have to change. Management guru Peter Drucker said the universities of America in 30 years will be relics because they were built in a period of human history where learning happened on a physical location. Now you can learn anywhere and get a degree from Motorola University on the Internet in Tokyo or in Buenos Aires. Also the universities came out of a period when learning happened for a certain period in your life, when you were a student. Well, now that has been eclipsed by lifelong learning. Once you graduate from university you are not set for life, you are set for 15 minutes. If you took a technical course, half of what you learn in the first year is obsolete by the time you get to the fourth year.

I personally hope that Peter is wrong because I think there is a role for the campus. The university is a place where young people can go for 4 years and get older, says Marvin Dresler from Princeton. I have a 17-year-old daughter and I can see certain merit in what Marvin is saying. But, we need to change these institutions for relevance and for effectiveness in a new economy.

What about privacy? Each of us is leaving a trail of digital crumbs as we go along, and these crumbs have been collected into databases. When you surf the Net you create a mirror image of yourself. The virtual you might know more about you than you do, because the virtual you can remember what you bought 13 months ago. This is potentially destroying everything that we have come to know as our basic right to privacy.

What about quality of life? A lot of tough issues arise. How do we handle them? Many countries in Europe had decided to adopt censorship legislation. These are very difficult issues.

What about the digital divide, the world of haves and have-nots? Will these becomes knowers and know nots, and doers and do nots, and people who can communicate with the rest of the world and those that cannot? Digital divides cause real divides, and real divides cause digital divides, and digital divides cause real discord creating a structural underclass.

This is happening within the OECD countries. The digital divide within the United States is growing as the richest third of kids have full access to all of this and for the poorest third, nothing has changed really in a decade. Around the world two-thirds of the children have never used a telephone, let alone the Internet. A friend of mine works at the OECD and he just came back from a big conference on the environment. He asked me if I knew what the number one lethal cause of air pollution is in the world, the thing that kills the most people. Can you guess? My first guess was automobiles and my second choice was industrial pollutants from factories. Both are wrong. The correct response: cooking fires. There are a billion people on planet Earth that cook inside their huts, without proper chimneys.

So, I know, as an audience you are much more in touch with the vast and depressing poverty that exists around the world. We have an opportunity now to extend the new infrastructure out around the world taking in hand social development, but will we do this?

How about governments? First of all, what is their role in creating a new economy? I had a wonderful meeting with Ricardo Lagos, who is the President of Chile, and he asked me what is the role of the Head of State, in creating this new digital economy? We talked about some of the challenges of leadership. Governments need to create the conditions in their country whereby the private sector will build a Hypernet infrastructure. No country can succeed without the state-of-the-art infrastructure of networks. Governments need to create the conditions whereby the technology sector can grow and particularly the development of software and content.

Governments need to be model users themselves. One of the most important things governments can do is transform their own business models. Just as the vertically integrated industrial age corporation grew in the private sector so did its public sector counterpart, the vertically integrated industrial age bureaucracy. Now, this can be transformed through networks. Governments can stimulate an economy and show real leadership by doing this themselves. We need

governments to address the dark side issues, to ensure that we do not have a structural underclass. Tax credits for low-income families to be able to acquire computers and to be able to use networks. Creating community computing centres. Wiring the schools, because there is nothing more important than ensuring that the new generation of children grow up digital and having access to this technology. There are many things that governments can do.

Ultimately, we need big changes in democracy itself, developing a much more sophisticated relationship between citizens and their governments. The printing press facilitated the distribution of knowledge. As people started to know about things, it did not make any sense to have a king making all the decisions in your life. The old feudal structures broke down, given rise to new structures and parliamentary democracy. The developing world led the land reform, colonial revolutions and independence movements and so on.

Now as we have this new medium of human communications extend across the globe, surely it would lead to new models of democracy. This does not mean the electronic town hall as American presidential candidate Ross Perot once said, with votes being held every night after newscasts. That is a frightening concept. Democracy is a lot more than majority rule on a nightly basis. A key function for democracy is to protect the rights of minorities. As we move into this new environment, surely there will be opportunities to change the relationship between citizens and their governments. People can become more involved. Consider the whole concept of digital brain storing. Prime Minister Blair, for example, could launch a nation-wide discussion on how to close the digital divide in the UK. It is a two-way discussion, where everyone is invited to participate. He chairs the discussion, he hires 10,000 political science students to be volunteers to help organise the discussion with different groups and sub-groups, regions and so on, straw-votes as we go along, all kinds of new initiatives will come out of something like that, not just because Tony Blair will get more educated, but because people will become involved. Rather than being cast as recipients of democracy, they will become participants in a democratic process.

That is the answer on all of this. My view is that there is nothing inherent in the technology that means that this is going to be great, or is going to be bad, because it is not technology that designs corporations, schools, universities, governments, institutions, or families. It is people. So please, get involved in your place of work, but also in your community group, your kid's school, your political party, wherever. Bring your values, your sense of social responsibility and your legitimate aspirations; bring all this to the table. If we do this around the world, by the tens of millions, maybe this new age, will be an age of promise fulfilled, and the peril unrequited or avoided.

To close, this is a paradigm shift and when you have one of these you get a crisis of leadership, because new paradigms cause dislocation, conflict, confusion, and uncertainty. They are nearly always received with coolness, even mockery or hostility, with vested interests against change. Leaders of the old paradigm are often the last to embrace the new. Imagine implementing markets in the coffee industry could be threatening, could increase price volatility, but you would see more elasticity in supply and demand, it would reduce transaction costs, it would change the structure of the industry, and it would be good for the consumer. That is one of a dozen initiatives that can be undertaken in this industry.

How would you find the leadership to change your company and to change this industry? We found that leadership can come from anywhere. Leadership is something that happens within an organisation because the person at the top cannot always learn for the organisation as a whole anymore. So if you can create the conditions whereby your organisation can learn, then you can provide leadership for this transformation. I think most companies today are facing two choices — door number 1 and door number 2. Door number 1 is the status quo and the return to orthodoxy, and for those who take that route I am convinced the future will be bleak. There is another route that we can take, and I tried to outline it to you today.

There is a French pilot from the World War II, Antoine de Saint-Exupéry, who said: "We should welcome the future for soon it will be the past. But we should respect the past for it was once all what was humanly possible." As a customer of your industry, I have great gratitude for the fact that you did what was humanly possible, you created a wonderful industry that delivers untold value to billions of people. But it is now possible perhaps, to go forward, and there is another Frenchman, Victor Hugo, who said "there is nothing so powerful as an idea whose time has come."

Let the dot-com bathwater go down the drain but don't loose the baby. Fundamental change is occurring. A new infrastructure is transforming the way that we create wealth, the way that we conduct commerce and every institution in societies around the world. With open minds and fresh thinking we can help ensure the smaller world our kids inherit will be a better one.

The time has come for some profound changes in our institutions and governments and hopefully the time has come for each of you that find that leader within you to change your company, to change this industry and in doing so to change our world.

I'll tell you one thing for sure, the next period for you will not be boring, and I wish you a very good conference.

Thank you very much.