"Innovation is Served"
Annual Innovation Lecture - Ministry of Economic Affairs, The Netherlands
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Thank you for that kind introduction, and thank you to the Minister of Economic Affairs, Mrs. Van Der Hoeven and to all of the other kind people from the Ministry who have made my visit possible today.

I am truly honored to be chosen to give the innovation lecture here in The Netherlands in this beautiful and historic place and to be graced by the presence of the Princess, many important government officials and by esteemed members of the business community.

Within the topic of services innovation there are three areas that I want to spend time talking about today:

First: What service innovation is, and why it should be important to all of us.

Second: I want to talk about some of the factors I have observed that can inhibit innovation in the services sector; and

Third: I'd like to talk a little about how government and the business community can play a role in fostering more innovation in this important segment of our economies.

So why service innovation, and why now?

Traditional mindsets about innovation no longer tell the whole innovation story. Up until about a decade ago when we heard the word innovation, most people would think of either innovation of a purely scientific nature such as, say, nanotechnology or biotechnology, or a product innovation – such as a digital cameral, a new running shoe or new office chair.

While these categories will remain important, the rise of services as more than three quarters of GDP in most developed countries requires we pay special attention to this majority category of economic output or suffer the potential consequences of being left behind in an area that is literally exploding with opportunity.

The information age has been upon us for some time, but the last decade has been particularly important in fostering the growth of the services economy. Tremendous advances in computing power, storage, communications technology and the democratization of the internet have provided us with new capabilities that we are using in profound and surprising ways.

At the same time, demographic trends such as immigration, religious diversity and aging populations are stretching conventional wisdom about culture and values and at the same time opening up vast new markets. Many nations like my own need better health care solutions and better education and oh, by the way, let's build a sustainable planet, too.

Like Dorothy famously said to her dog in the movie "The Wizard of Oz," … "Toto … I don't think we're in Kansas any more …"

One of the first areas where we started to see things change was in capital intensive equipment, aerospace, commercial climate control equipment, mainframe and now server hardware as well

as software, and expensive medical diagnostic machines -- <u>billions</u> of dollars of equipment brought to you by enormous global companies such as GE, Siemens, Philips, Johnson Controls, Boeing, IBM, etc. are all now moving to sophisticated levels of service delivery. This started with very straightforward leasing programs to take the financial burden of ownership off their customer's books, then quickly moved to outsourced maintenance models to relieve the burden of customers having to employ highly technical staffs to fix ever more highly technical machinery.

Lately we've seen two more varieties of services emerging, one being data and networking enabled in the form of remote monitoring, data analysis at the "job" level, and meta data analysis at the overall enterprise level. But we've also seen new models in this domain that are more human-resource based that support extensive customer training efforts, professional services to support strategic planning for equipment deployment, and portfolio management as well.

These types of services are all designed to make the customers of the companies I have mentioned business run more efficiently for a plethora of reasons. These reasons include managing very high levels of complexity, providing distributed decision-making tools, and creating a level of predictability that is a welcome addition to many quarterly-based income statements. It is a trend that is on the mind of most product companies who are looking to both transcend the competitive pressure in commoditizing markets as well as increase their margins, while also providing more value to the customers.

The big take away in this example is that by looking for creative ways to solve customer problems, these clever companies are innovating in services *using mostly existing technology* while creating more partnership-oriented relationships. And they are transforming themselves into quite different entities in the process. Not only are new business models required, but also entirely new organizational capabilities have needed to be built.

Consider that many new businesses and business models are forming that are entirely based on web-hosted applications.

Knowing that Rotterdam is the biggest port in Europe, I thought you'd be interested to know about a successful company called Total Quality Logistics based in Cincinnati, Ohio. TQL can be categorized as a SME or small-medium enterprise which I know every government is trying to support to the greatest possible degree. These types of businesses are tremendous engines of prosperity and employment, particularly in support of building strong regional economic activity. I know that TQL is certainly a fantastic story for Cincinnati, Ohio.

TQL is a non-asset based third party logistics company, meaning that it manages full load container shipments but owns no trucks or containers itself. This is a business that represents only about 20% of the logistics category in the U.S., but nevertheless is a big segment estimated to be about $60 billion. Its owners, who were formerly in the perishable produce business, were frustrated that shipments were frequently late, they had no idea where they were or when they would arrive, and there was a lack of professionalism about the business that didn't make sense given what was at stake in on-time delivery of the contents of most shipments.

It took the TQL team about seven years to perfect their technology platform and staffing concept, but after that this business began to scale in a big way. TQL's web-based system allows 24/7 visibility for the status of all shipments they handle through their network of 12,000 carriers, a rating system for the best carriers, and email notification so interested parties can know when their shipment has arrived. Customers have access to their account executives at any time, day or night, 365 days a year.

Taking the professionalism challenge on, TQL has built the most knowledgeable and professional staff in the business. Candidates go to school for 6 months learning the trucking business as well as sales and account management. This company is in an entirely different world compared to most of its competition. TQL has grown its revenues over 1200% in the past five years to over $575 million. They handle over 300,000 loads a year for over 3,200 clients and have won over 30 industry awards for what they do. The company expects it will hit $1 billion in revenue within 15 years of its founding.

The thing that is so compelling about this story is that two entrepreneurs with a great concept can build and scale a business like this so fast. And what were their ingredients for success? Industry knowledge, especially the latent needs of potential customers; computing and networking capabilities, software development, and the effective use of human capital.

Entrepreneurs are disrupting conventional businesses like the moribund trucking business regularly now. For one reason, the cost of funding a business like this is no longer as capital intensive as it once was ten years ago. But let us not forget that promoting an environment where entrepreneurs can flourish is a big part of this story as well.

If we move to the consumer side of things, consider that ever more sophisticated and time-strapped people are reveling in offerings from companies that support their busy lifestyles. Almost every aspect of life as a consumer has been profoundly impacted by today's technological capabilities. Traditional experiences in so many areas have been completely redefined – shopping, entertainment, travel, exercise, education, community building, among many others. Aside from the obvious search and social networking sites, just have a look at the 100,000 applications available through Apple's App Store and see if your life can't get just a little easier and more fun.

To explore this a little further, let's take the company Amazon.com. Here is a company that has grown leaps and bounds, now $19B in worldwide sales. If you are their customer, they strive to have a personal relationship with you. Its system seeks to learn your preferences and help you shop by showing you what items were purchased by others that also purchased what you are interested in. A community of enthusiasts provides independent reviews of your item that the manufacturer has no control of. Using Amazon is extremely convenient and if you do have a problem their customer service group will bend over backwards to fix it. In many ways, it's much better than going shopping in a conventional sense.

The point here for me, with respect to this discussion on service innovation, is <u>not</u> that Amazon is innovative, we all know that. It is that the Amazon *"experience"* is redefining the performance expectations for all service providers, whether you serve consumers, other businesses, or

taxpayers. We naturally think that if our experience at Amazon is possible that every other entity ought to be able to do the same thing.

One important implication here is the phenomena of the "experience" as a consumer reference point. In our consulting practice in service innovation we now perform a task called "analogous experience mapping." Analogous experience mapping seeks to look at your target customer and understand the experiences brought to them by providers that they consider "great." We do this in an attempt to design something for them that is both relevant and can resonate with what they are used to in a big way.

A big shift that we see is that, because our minds are so tuned to … memorable-, efficient-, personal-, wow- or for that matter, terrible-type experiences, that the main focus for service innovation strategy in the business to consumer area today is no longer a company's direct competition. Rather, it is your customer. This is because you are largely not being compared to your direct competition; you are being compared to the experiences offered by great providers like Amazon whom your customers love. You need to know who they love and why.

Let's think about this for a minute. What are the aspects that make the Amazon experience a great experience? It's personal, it's usually very gratifying because you get what you need fast, it's web- based so it's basically ubiquitous, you can co-create your experience, and you can take advantage of the community-based activities that are offered that make you smarter or at least more well informed. No one seems to care that this system is highly automated unless they really want to do business with a human being, which is easily available.

Now let's all transplant this type of experience into our own environments. Can your organization provide an "Amazon-like" service experience? If not, what's missing?

One last point about customer experience that I'd like to make is that our research has found that companies across a variety of industries that are focused on this aspect of service innovation grow faster and are more profitable than their competitors, which has in turn, driven higher stock prices for customer experience exemplars.

So if you seek to foster fast growing, high-margin companies in The Netherlands, then understanding more about what drives great customer experiences is something for everyone here to take to heart.

So maybe you find it strange, like I do, that even though services now comprise more than 80% of GDP in most developed countries, that service innovation seems *"new."* Let's all recognize that the shift to predominantly a service-based economy has happened fairly quickly – about the last 20 years. Savvy businesses seem to be adapting swiftly, but certainly most governments and academic institutions are behind in recognizing and supporting this profound change.

One reason to care is that services can contribute to trade balances in a positive way. In the U.S., we have a $160 billion trade surplus in services. Professional and financial services certainly factor in this number prominently, but also automated services like telecom and web-based businesses are particularly powerful because once a technology platform is built, an

incremental customer is quite inexpensive to service. With the internet, that customer can be any place on the globe.

You have probably seen this happen with your successful and fast growing GPS business Tom-Tom that serves customers in 30 countries fairly easily using basically the same technology platform. To a certain degree with the capabilities we have today it has never been easier to go global, especially if you have an information-based business.

To summarize on a few of these points – innovation in services is being driven by both new technological capabilities and competitive companies that are busy finding and filling customers' needs. The main reference point for strategy development is not necessarily your direct competition any longer.

So, no doubt services are important to the health of any economy, but let's look now at some things that can get in the way of progress.

In the majority of developed countries, government tax incentives for R&D has gone to traditional scientific research. These are tax incentives to fund the private labs of many of our largest corporations who are funding advances in long-term projects primarily of an industrial nature – materials, science, computer chips, chemical advances and energy.

Information technology, which is one of the primary drivers and really the "factory" for services, doesn't normally qualify for R&D tax credits, at least in the U.S., which is unfortunate given the level of investment required to do remarkable things with computing power, graphical interfaces and sourcing new definitions of customer value.

I understand that in The Netherlands you have broadened the scope for R&D tax credit to ICT-related service innovation. This is a major accomplishment that I know will serve the country well, especially based on how popular it has been since its introduction earlier this year.

But putting aside all infrastructure-related types of activities, and thinking about what I've seen through our research as well as consulting activities with large service providers through our global service innovation consortium, I'd say that typically line item budgets for service-related R&D activities are often small or even nonexistent, especially the "R" part of R&D.

Most of the time, the budget to do something new would reside in the systems design area, but often it would not include much for social or cognitive research or prototyping to inform how a system might behave.

Here's a case in point. I feel a special affinity for the new Chief Technology Officer of the United States, Aneesh Chopra. Before his appointment by President Obama, he was the Secretary of Technology for the State of Virginia, where my business is located. He is special to me because, unlike many in his type of position, he had the foresight to want to do some field research to inform a new $45 million IT program to dramatically upgrade the Commonwealth of Virginia's unemployment system. He came by my office one day and explained that he had a portfolio of $600M in state government-run IT projects and that he was frustrated because there seemed to be no drive to provide better customer experiences nor, for that matter, productivity

gains as part of the normal development activities provided by typical government contracting firms.

Typical of this type of effort, the Virginia Employment Commission's very competent CIO had been drafting a request for proposal for the system without the benefit of much first-hand knowledge of the functional and emotional needs of the unemployed people he was seeking to serve.

With Aneesh as our sponsor, my team fanned out across the state of Virginia which is a very diverse state with not only high-tech workers and military contractors, but also farmers and coal miners. In Northern Virginia, the population is very prosperous whereas in southern Virginia it is the opposite. Very quickly we developed profiles and customer journeys for four very different archetypical users of the system. Using design-thinking methods, these ultimately got turned into scenarios to help inform how the system would behave differently to support each archetypical user.

So what was once a very generic and monolithic requirements document for a big systems investment became informed by the contexts, wants, needs and feeling of real people. Of course this kind of research should always happen when making such a big investment, but more often times than not, doesn't, which has resulted in many a failed IT systems effort.

I wrote this story up as a case study with the help of Nigel Melville, who is a professor of information technology at the University of Michigan. His observation about the matter was that managers of IT systems think about these types of projects as simple building-a-system rather than building-a-service.

If you were building a service you'd go about it quite differently, but unfortunately the mindset and know-how to build services is not a commonly held perspective amongst the IT community who too often focus on information architecture and coding to the exclusion of customer convenience, context and personal workflow.

Obviously, to do better with large systems projects that support services, the process of developing requirements needs to be better informed by customer perspectives.

This story starts to explain what I will simply call the "know-how gap." As many of you might surmise, having spent so many years working with designers, I am a big believer in using design methods and tools to create innovative solutions. My observation about this genre of innovation -- *service innovation* – is that using design methods can dramatically help taking concepts that are really fuzzy and turning them into compelling experiences:

- Ethnographic research – puts user needs at the center of the problem;
- Prototyping and visualization – allows everyone to see and comment on improvements;
- Co-creation – allows the producer the opportunity to get inside the mind of the person who the service is being created for, and
- User testing – seeks to get it right through an iterative process.

Unfortunately these methods are largely absent from the majority of service innovation efforts.

This is bad for conceptualizing what a new service might be, but there is also another problem – effective change management commitments often do not accompany these efforts either. In my opinion, this "know-how gap" accounts for many underwhelming offerings and failed attempts at new services.

To put how these methods are being used effectively within another context, let me offer you an example of an organization that I believe is making serious headway in service innovation in one of the most critical areas of concern today – health care.

In the U.S., Kaiser Permanente is a $40 billion health maintenance organization, commonly known as an "HMO," based in northern California and serving several states in the U.S., including the District of Columbia where I am a member. Kaiser employs 156,000 staff, including 14,000 physicians. It serves 16 million patients from 40 hospitals and 350 clinics and medical offices. It was one of the first large systems to have a functioning electronic health record, which puts it ahead of 95% of companies in its category.

Some years ago, in anticipation of a $30 billion investment in hospital facilities, Kaiser rented a 37,000 sq. ft. warehouse near Oakland Airport in northern California in order to have a place to mock-up important areas of its hospital, such as the operating room, labor and delivery room, emergency room, nurse stations, among others. At the same time, the company became seriously committed to driving quality and productivity in its system through design-led innovation. The two efforts were combined, and the Garfield Innovation Center was born.

Today, in this living laboratory, a permanent staff of six professionals reporting to a senior executive of the company direct numerous innovation programs in three areas – national facilities, information technology and patient care services. Working with people who are on the front line with patients, the staff at the Garfield Center facilitates field research with a plethora of stakeholder types, leads brainstorms, uses various types of visualization and prototyping methods to envision and test possible solutions, works with outside vendors like Intel and Cisco to develop new technology solutions, runs pilots and, most importantly, plots the strategy for how the innovation they create will be scaled throughout the larger organization.

Here is a picture of Kaiser's innovation process. Notice the "O-Gap" in the middle of the process map. This is the recognition that a good idea and a successful pilot are not enough to drive successful innovation. New skills, processes and systems must be able to operate at scale in order to be considered successful in Kaiser's world.

No doubt this is the hardest, least glamorous part of service innovation and you certainly don't hear about it much. In my ten years of working in product design, I never once heard the words "change management." Why would I? When you are making a new product, you do change the manufacturing line, aspects of the supply chain, and the instruction manual, but don't usually have to deal with organizational capability.

The idea that change management should be seen as an integral part of service innovation is one of the most important take-aways I can offer you today. One key to effective change management in the services domain is to involve the people who are likely to operate the

service from day one of project work. Not only can they contribute their front-line perspectives, but also they think of all the contextual things that can get in the way of implementation – policy issues, culture, and the like.

Another important aspect of change management is thinking through the various kinds of skill sets to do effective service delivery. Going back to TQL's story, trying to find the right profile for their critical account management positions proved challenging. In 2006, over 11,000 applicants applied and less than 4% were hired. The majority of people didn't have the right skills to do the job.

With these ideas and case studies in hand, let's discuss how government and business can play a role in fostering more innovations in services.

On the government side … What if government could position itself to tackle social and economic issues through design-led innovation? In 2004, the U.K.'s Design Council set up a "Do Tank" instead of a "Think Tank" known as "Red" To Do Just That. Today, an interdisciplinary team of designers, policy analysts, and social scientists work on a variety of projects that will inform new types of public services.

What if government could build a platform of best practices similar to what Peer Insight did with our global service innovation consortium, to provide a forum for companies to share their know-how and discuss common issues? I must say that one of the best things about our work was how much the participants enjoyed meeting and learning from each other. And the surprising topics they wanted to discuss – Managing your boss! How to keep from getting fired while managing innovation! The list goes on …but suffice it to say this is an area where tacit knowledge is more plentiful than explicit knowledge at the moment. Government could play a key role in the diffusion of this knowledge.

What if government, through effective policy and not necessarily direct funding, could foster private sector activity to support its own innovation goals?

There is an interesting experiment going on in Washington at the moment called The Open Government Initiative. It was a campaign promise of Obama's to make government more open, transparent and responsive to its citizens.

One of the elements of this initiative is to open up government data for all people to use however they would like. This has meant there has been a directive from the White House that all government agencies need to port and maintain non-secure government-generated data into machine readable formats, and to provide web services to promote access to the data to whomever would like to use it.

As you would imagine, this has proven to be quite controversial, not to mention difficult, but some very interesting applications are starting to appear using things like geospatial mapping and mash ups of all sorts. I expect once data becomes more widely available, we will see a torrent of innovation, including new lenses on government spending and accountability driven by the non-profit sector, and many new business models generated by the private sector.

Those of you in the business community can do a great deal to foster more service innovation in the commercial sector as well.

Something very important to look at would be to try to reallocate resources from pure technology or science-based R&D activities to shorter-term commercial applications that involve smart uses of information and communications technology. Something that has always bothered me about organizations with large R&D departments and budgets is how the guys in the white coats can go about dreaming all day inventing new technologies on long-term time horizons and how commercialization teams don't often get enough funding to develop proper market insights!

With a view towards developing a real competitive advantage, investments in social research to understand user contexts and motivations along with visualization and user testing can have a high return on investment. I've seen where a baseline of good field research with customers can serve an organization's development needs for over five years. Another pursuit from this type of work could be the development of really "Wow-" type customer experiences. These take very hard work indeed and require not a small amount of funding. Here is where your initiative to support your creative industries can have a huge payoff.

As smart as this may seem, these are not mainstream practices today. Adding this set of activities to a program may look hard to justify and certainly costs real money but it has been my experience that commercial risk can be mitigated tremendously as a result. "Getting it right" is easier when you have customer intimacy on your side.

Take inspiration from Kaiser Permanente who has put change management at the center of their process. Unlike in product innovation, with service innovation, the organization is the factory and should be treated as an integral part of any effort. Many, many programs have failed, careers jeopardized, and money wasted because the organizational antibodies killed the proposed innovation. People hate change, which is one of the hardest things about service innovation.

Finally, we all need to recognize that today's world is extraordinarily complex. This may sound crazy, but precisely because it is so complex I believe we need to de-emphasize our traditional left-brained analytical approaches and seek to enable our work with more right-brained creative inputs. We need people who see things differently, who can tap into what makes people tick, who can get to the "soul" of the matter.

Using more of the right sides of our brains, it is my belief that more empathy will drive more relevance; more pattern recognition will inform bolder hypotheses; more sketching and visualization will help us better communicate with our colleagues from other disciplines; and more iteration will get us closer to the target than our competitors who believe they can get it right the first time.

As I look around the world for companies that are on top of what service innovation is all about, I see effective uses of our technological capabilities, a grasp of the right know-how, and strong commitments to manage change as distinguishing characteristics of winners in this domain.

With this, I wish you all the best in your endeavors and would like to say thank you very much for your attention this afternoon. I look forward to your questions.