NCET2 Welcome Speech

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December 3, 2009

Good Morning! In 1608 Hans Lippershey applied to the Dutch government for a patent on the telescope. Old Hans was the first of many who wanted to form a startup company to make telescopes. Unfortunately, his petition for a patent was denied. I am sure Hans had some harsh words to say about the technology commercialization process and the Dutch patent office. Does this sound familiar? Fast forward 401 years! Is it any different today? What would Hans say about a US patent system that takes three years to get a patent issued? We like to think that modern is not old – and that we are not reliving the past. But is that true?

With that thought, it is my pleasure to welcome you on behalf of The University of Texas System to the NCET2 Conference on "Creating Jobs and Powering Innovation with University Startups." It is also a pleasure for me to join with my colleagues from the University of Maryland System in co-hosting this conference. Having grown up in North Carolina as a Demon Deacon, I appreciate the strength and vitality of the Terrapins.

But we're not here to discuss sports rivalries. We're here to discuss one of our Nation's most pressing challenges: How to survive in the era of global competitiveness! The pundits have spoken. With great wailing and tearing asunder of the temple veil, they've proclaimed defeat for America. We can't compete! We're going to be overrun by the BRIC nations. Our children are the wireless, social networked generation. "Whatever" is their mantra.   Indeed, Norman Augustine said that: *"The US is not competing well in this new world."* Representative Frank Wolf said: *"We must choose to innovate or abdicate."*

Wow! Tough Words! With the financial crisis we hopefully have averted and with the economic downturn we have to endure, one could get very depressed about our future. I don't believe it! America is in a much stronger position than advertised. As President Obama said in his American Promise speech of 2008:

> *We measure the strength of our economy not by the number of billionaires we have or the profits of the Fortune 500, but by whether someone with a good idea can take a risk or start a business.*

Indeed, we're here at this conference because we believe that universities are engines of innovation and economic development. We believe that startup company formation from university intellectual property will lead to jobs and economic prosperity. But there are issues with that assumption. As one who likes to make trouble, I want to address some of those issues in the hope of stirring you up and generating debate as you network at this conference.

First, the urban myth: university technology commercialization offices are difficult to work with! Folks! It's a negotiation! It's all about making quality deals. It's about a win-win outcome. I don't doubt that you can still find university Offices of Technology Commercialization where licensing agents have zero negotiation skills, or the licensing strategy is too one-dimensional -- such as maximizing return on investment, or lawyers rule the day with red-lining instead of business decisions being made. But every day, universities negotiate lots of successful deals without that much angst. If someone really wants to change the process and behaviors, we need case studies to delve into – not the anecdotal stories that feed the pundits. As Joe Friday from Dragnet said, "All we want are the facts, ma'am." As we say in Texas, let's stop bashin and start fixin.

So, how about the myth that "faculty members just don't get commercialization?" I recall serving on tenure and promotion committees back in the 1970s and hearing that industrial funding of research was dirty money, not to be counted toward tenure or promotion. How strange is that? Mercifully, we moved past that barrier to innovation. What about considering commercialization activity, such as formation of a startup company, as part of a tenure or promotion dossier? The good news is that we will soon be past that barrier as well. In The University of Texas System, the Board of Regents passed a resolution in the Spring of 2008 stating that it was acceptable to consider commercialization activities. In other words, it was a "laying on of the hands" and blessing for commercialization activities by faculty. These are important culture change milestones, but we need more of them.

There are some who believe that the proper course of action for society is to command innovation from universities. You will innovate and commercialize! Oh, and I want it done by Friday. You know what? I tried that method on my children. It didn't work. It doesn't work in the innovation ecosystem either – especially for innovators whether faculty members or garage inventors. What does work? What kind of system do we need?

I believe we need gateways, not gatekeepers. I thank the Kauffman Foundation for this metaphor. What do I mean by gateways? Let me give you an example that demonstrates how innovation can be slowed down by gatekeepers – namely, the system for scientific publications. We demand peer review, so our drafts are sent to qualified reviewers who comment on material they normally would not read – wasting valuable time that could be spent innovating. But tenure and promotion demands peer review of research papers. We must have gatekeepers or bad science will be published. Dan Brown, author of The Lost Symbol, will lead a Noetic science revolution. We'll prove that talking to the dead is possible. Hmm, you know what? I talk to zombies every day, present company excepted. What are we afraid of? Bad ideas and goofy science sometimes lead to the right idea.

So here's my simplified version of how to replace a gatekeeper publishing system with a gateway system. We create an open posting, open access journal where reviewers blog about the papers. Tenure and promotion committees then use the package of blog reviews, number of downloads

and so forth to judge the paper. My God, faculty might even have to read their colleagues papers as opposed to using the publication system as a surrogate. Now that's a novel and innovative thought!

Guess what! This open system will work; it will satisfy all the needs of scientific publishing as well as tenure and promotion committees; and it will spur innovation by freeing up innovators time from the exponential growth of reviewing each other. I think it is where we are headed and it's what the younger generation will demand. Research journals will become gateways to innovation, not gatekeepers.

Let me briefly touch on another system that chills innovation – namely, grantsmanship. It's an authoritarian gatekeeper system where the Establishment decides who gets funded.   The game is to tell the Establishment what you are going to do before you even do it. It's not really a performance-based system, nor a risk-taking system. It drives "me too" research. It rewards longevity and grant-writing skills and punishes the young and the unconventional. It promotes incremental innovation, not the disruptive, transformational innovation we need.   I have some thoughts on how to fix this problem, but I'll defer that to another time.

Don't get me wrong. Gates and filters are important -- but we need to break down siloed command and control structures and replace them with relational, networked, open innovation systems. That is the framework that is adaptable and will provide us the infrastructure we need to be globally competitive.

But let me turn now to the business of startup formation as a gateway and touch on university business incubators. In The University of Texas System we currently have twelve business incubators, depending on how you want to do the count.   Five of them are standalone physical structures or buildings. Others are distributed over university laboratories and facilities, but with a central office. Here is a fact you should know about our incubators. Approximately 85% of the companies in them are not derived from university intellectual property. Yes, you heard me right, 85%! That means over 200 companies in Texas. Folks, by any measure, that's regional economic development. And guess what, this university startup activity is not measured and shows up on no one's radar screen. The companies don't fit the definition to be counted in AUTM data. How bizarre is that!

In some sense this 85% data point challenges the notion of whether universities should be in the incubator business. Why would universities want to mentor companies that are not direct spinouts? In some sense, we don't have a choice but to mentor them. But it's not something we begrudging must do because political correctness demands it. It's actually a positive affirmation of the core mission of universities to educate the workforce, discover and disseminate new knowledge through research, and provide service to our communities through engagement. I view university incubators as an experiential laboratory for students and faculty, not as a real estate venture or source of income. If the latter two motives drive a university incubator, it should immediately be shut down or else given a culture shift.

But are incubators and mentoring of companies enough for universities? No, we need training programs for faculty to help them understand all parts of the commercialization equation. We need

entrepreneurship programs for students that provide real world experiences, not just academic learning. We need mechanisms to move invention disclosures across the technology gap through "proof of concept" funds and innovation centers. We know that "proof of concept" funding works as shown by the MIT Despande Center and our own fund at the University of Texas System – the Texas Ignition Fund. We find that over 30% of our TIF grants are producing startup companies. Now that's acceleration of startups!

But what about innovation centers? I want to finish up by briefly telling you about an innovation center concept that was realized during my time at The University of Alabama. It is the Alabama Innovation and Mentoring of Entrepreneurs center or AIME. The core concept of the AIME program is the notion that commercial value must be added to invention disclosures. To accomplish that goal, student and faculty teams triage invention disclosures and move the best commercial candidates into the AIME program where other teams carry out developmental research, market studies and all the other needed functions. The ultimate goal is to form startup companies in the university incubator founded on enhanced intellectual property. It's the university version of an industrial R&D laboratory, but one that engages students. AIME has enjoyed considerable success as an innovation center, but we'll have to wait to see if this concept is sustainable.

Well, I've probably stirred up enough trouble this morning, so I'll conclude by inviting each of you to Texas. Our motto is "Texas, Wide Open for Business" and we mean it. We've got a quality deal just for you. We want your startup companies. Our universities will work with you and if they don't, call me. I'll make sure they do. And while you're at this conference, have fun! Enjoy the debate! Network and make new friends. Start up some new companies! Thank you.