

AeA Texas Competitiveness Summit

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The University of Texas at Dallas

Panel Discussions on Advancing U.S. Competitiveness

#1 Education

- Dr. Doug Otto, Superintendent, Plano ISD
 - Lee Jackson, Chancellor, University of North Texas System
 - Dr. Da Hsuan Feng, Vice President of Economic Development, University of Texas at Dallas
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Comments on Research Universities: Regional and Global Issues

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Good morning. After listening to several keynote speakers this morning, Senator Cornyn, AeA's CEO Bill Archey, my boss Dr. Daniel and Phil Wilson from the Governor's office, I thought that this conference should actually be called "US, India and China Competitiveness Summit." ☺ I am of course not surprised that all these excellent speakers zeroed in on this subject because these are not only Texas challenges, but global challenges. It is really by sheer coincidence that just last weekend in Dallas, I had the honor of attending the annual convention of TiE, which is one of the most active global Indian professional associations. Amazingly the title of the conference was "The Emerging Tri-Polar World: USA - INDIA - CHINA: challenges and opportunities." Some of the keynotes presented here could fit into that conference like a glove.

The issues raised by the keynote speakers certainly are an excellent segue to the issue of this panel. My two colleagues, Dr. Otto, superintendent of Plano School District and Dr. Lee Jackson, Chancellor of University of North Texas both have discussed some of the fundamental challenges facing the US workforce pipelines, especially from K-12, in the 21st century. As

seasoned educators, they both made a number of excellent suggestions, and some are already being implemented as we speak.

Allow me to turn the page to talk about the challenges facing research universities, a subject I have some knowledge.

Although the concept of universities was rooted from western culture since the 11th century (Oxford University was created in 1096,) the mission of universities made, in my opinion, an important and fundamental switch after the US civil war: It was the 1867 Morrill Act of Land Grant Universities. This Act had a very specific mission:

“.....to teach agriculture, military tactics, and the mechanic arts as well as classical studies so that members of the working classes could obtain a liberal, practical education.”

In other words, land grant universities were set up for the purpose not merely for “intellectual enlightenment,” but to educate and train the masses, the “working class,” in order to support the economic needs and developments. This fundamental mission shift of education from the European tradition of the past millennium, may be the first time where economic development was linked up with advance education. It was the beginning of how universities must work with relevant industries of the time.

By the middle 20th century, United States became the undisputed global leader of research universities. Intellectuals from universities, and also from industrial research centers, such as Bell Laboratories, and national laboratories, such as Los Alamos National Laboratory, often all working together, created new ideas and innovations which not only enhanced the quality of life of humanity, but also had profound global economic impact. In fact, in Texas, we contributed to some of these innovations, such as the integrated circuit (IC) of Jack Kilby of Texas Instruments.

The reasons why this happened were many. I believe that at least the following were contributing factors. First, in the first half of the 20th century, the nation was protected by a natural moat called Atlantic and Pacific oceans. It spared the nation land-wars of the century. Coupled this to the fact that this is a nation of law, it soon became the “attractor” for the best and the brightest from all corners of the globe to come and contribute, intellectually and economically. That continued well towards the end of the 20th century,

and one would hope that it will continue in the 21st century. Although, as the keynote speakers succinctly mentioned, today, this could be a challenge.

In the 21st century, we in the United States can no longer take for granted that we could continue to lead in the quality of research universities. In fact, all regions in the world with greatly improved economy started to revamp or build new universities. And they are doing it with dizzyingly fast speed.

Allow me to give you one example. Granted the speed of development of this university is off-scale. Still, it underlines what we could expect in the 21st century.

In the middle 80's the President of San Francisco State University, Dr. Chia Wei Woo, together with a group of friends, had to dream to build a world class research university in Hong Kong. This group of dreamers had the intuition that in the 21st century, Asia Pacific could be one of the major economic and intellectual centers of the globe. They then went to Hong Kong and convinced the government and the communities to support this idea. And they were successful. Then they came to the United States and recruited many of the best and brightest Chinese Americans to help them build such a university. Incredibly, in 1991, the first class of students entered a magnificent campus at Clear Water Bay of Kowloon. The sight of the campus is absolutely breathtaking! Dr. Woo was the founding and first president and the name of the university is Hong Kong University of Science and Technology, or HKUST.

Three weeks ago, UTDallas was the venue for the 6th Emerging Information Technology Conference (<http://www.eitc.org>). The 2nd president of HKUST, who is also a distinguished professor of University of Houston and the discoverer of high temperature superconductivity, Dr. Paul Ching-Wu Chu, was one of the attendees. In his talk (which can be downloaded from <http://eitc2006.xwiki.com/xwiki/bin/download/Main/KnowledgeBase/HKUST.pdf>), he showed how HKUST had climbed the academic excellence ladder in its first 15 years. For example, its executive MBA program is now ranked number 2 globally. He also outlined what is the strategy of developing HKUST in the coming 15 years. I should say that 15 years, by university time scale, is a very very short time. Also, I would be remiss if I did not mention that other three Asian universities leaders from Taiwan also were at the conference. With varying degrees of optimism, all made it clear

that in the coming decades, their universities will also be aggressively moving forward!

So, what does that mean for north Texas?

There is no question that this region known as Metroplex is one of the most exciting high technology centers for the United States. If you need data to support this statement, I urge you to contact my colleague Don Hicks. However, there is one area where more improvement needs to be made and that is the quality of research universities. Even though in the past decade, research universities (here I meant the comprehensive universities, UNT, SMU, UT Arlington and UT Dallas) all have made great improvements, compare to some other regions, we still have a lot of work to do.

I should say that while research dollars is not the only measurement of the quality of universities, and should not be, it is nevertheless one such measurements. If one added up all the research dollars flowing into the above four universities, it has gone from around \$50 million in 2000 to nearly \$100 million in 2006. This is very impressive growth indeed and it was the result of hardwork of many people. However, it is also important to recognize that far more work still needs to be done in the decades to come. We cannot let up now, especially now the momentum for pushing our research universities to greater height is on! For example, Georgia Tech alone “raked in” some \$400 million per year. This is the collective challenge of the research universities of our region.

For our region to be recognized as one of United States’ “change agents,” we need to have universities in the region where we have wave after wave of brilliant students and faculty creating innovations to change the world, intellectually and economically. For UTDallas, I believe that this must have been the dream of our founders, Eugene McDermott, Cecil Green, Erik Jonsson, and others.

This is why I believe that it is so important that AeA, a national powerhouse with the motto “Advancing the Business of Technology” holds its conference on a university campus. Organizations such as AeA in the region should and have put pressure on universities to move to the next level.

Together, we will.

Thank you for your attention.