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UNC-Tsinghua Center promotes U.S.-China trade with research and solutions

The new Suzhou Industrial Park U.S. International Commodities Exhibition Center in Suzhou, China, is exactly the kind of success story planners envisioned when they launched the UNC-Tsinghua Center for Logistics and Enterprise Development in 2007.

The exhibition center, opened in October, showcases North Carolina products to the Chinese market and serves as a forwarding staging area for sale and distribution of U.S. products and services—an easy, cost-effective way for companies to gain access to new markets in China and other Pacific Rim countries.

“This is the culmination of several years’ work by our industry partner, Longistics, to lay the foundation for this important facility that can provide a considerable export boost to North Carolina,” says Noel Greis, co-director of the UNC-Tsinghua Center with Linning Cai, professor of industrial engineering at Tsinghua University in Beijing.

• CENTER GROWS OUT OF COLLABORATION

The UNC-Tsinghua Center grew out of a 2007 summit of logistics experts from the University of North Carolina at Chapel Hill, planners of the 2008 Olympics, Chinese government officials, and leaders from China’s top technology university, Tsinghua. They convened to plan China’s response to the enormous logistical and crisis-management challenges the country would face hosting the 2008 summer games.

“From those early collaborations grew the idea to combine the industrial engineering expertise of Tsinghua with the Kenan Institute’s knowledge of logistics and business to form a joint research center,” Greis says.

Today, the center serves as a bridge between academia and the private sector and between the two countries to foster trade and commerce.

“As the number one and two economies in the world, more and more information, material, and money are flowing between the two countries,” Cai says. “Our center serves an important role in making that happen in a way that serves both countries.”

• INITIATIVES

Dignitaries cut the ribbon to open the Suzhou Industrial Park U.S. International Commodities Exhibition Center.

LINK MAJOR PLAYERS

The center’s work focuses on industry practices that help U.S. companies enter the Chinese market and China develop a better domestic supply chain.

“We work directly with companies to solve logistics challenges to stimulate trade and economic development,” Greis says.

Among the center’s initiatives:

• Cold chain logistics—developing new practices, technologies, and regulations that keep refrigerated food fresh and safe as it moves through the supply chain.

• SIMSpace Lab—a virtual supply chain laboratory that tests new concepts and tools, such as radio frequency identification and other automated systems.

• Real-time software systems—developing smart software applications that are data driven and knowledge centered.

The center also hosts symposia, convening global experts to focus on such issues as food safety and modeling environmental conditions into supply chains.

A 2012 symposium, “The Internet of Things,” will examine new track-and-trace technologies that electronically observe and control items in the supply chain in real time.

A new Global Supply Chain Leaders Program, targeting mid- to senior-level managers in China, will also launch in 2012. Executives who complete the 20-month dual-degree program will receive an MBA degree from UNC Kenan-Flagler and a master of engineering management degree from Tsinghua.

• INDUSTRY PARTNERS OFFER KNOWLEDGE AND SUPPORT

Industry partners play a key role, providing real-world challenges and networks for center researchers and students and funding for center activities.

The center’s founding partners—Boeing, China Railway Container Corp., General Motors, and Lenovo—have been joined by many others, including CP Group, DaChan, HCT Logistics, FoxComm, Longistics, Yum! Brands, and Yuchai Group.

N.C.-based Longistics has provided major financial support, creating the Kenan-Flagler China Logistics Excellence Fund. The fund enables the center to expand its services to U.S. companies that seek to conduct business in China.

“Our partnership with the Kenan Institute’s UNC-Tsinghua Center allows us to use our deep knowledge and understanding of the Chinese business world to help N.C.-based businesses,” says Longistics Chairman Duane Long, industry board member and advisor to the center and member of the Kenan Institute Board of Trustees. “With the new SIP Exhibition Center, we’re providing an affordable platform and turnkey solution to help companies expand into new markets.”

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Institute researchers assess viability of North Carolina’s toll-road finance plan

The opening of North Carolina’s first toll road in the Research Triangle Region in December marks a new approach by the state to pay for much-needed transportation improvements. The $1 billion project is the largest single transportation infrastructure project in the state’s history.

Kenan Institute researchers played a key role in the project by helping ensure the funding model represented a sound financial investment. “The need to repair old transportation infrastructure and create new systems throughout the country is simply more than can be financed by traditional methods,” says John D. Kasarda, director of the Kenan Institute and its Center for Air Commerce, which conducted the study. “The North Carolina legislature saw that it couldn’t keep pace with the state’s growing transportation needs unless it found new ways to finance construction.”

• TACKLING FINANCING CHALLENGES
A complex range of factors must be evaluated when planning a toll road, such as location and feasibility, statewide and regional significance, local support, and financial feasibility. Transportation planners hired by the N.C. Turnpike Authority (NCTA) contracted with the Kenan Institute to audit the socioeconomic data used for the financial component of the Triangle Expressway project as well as the Monroe Bypass Connector and Gaston Garden Parkway, two proposed toll roads near Charlotte.

“Toll road funds come from private investors who put up money in the form of bonds that are repaid over the long term,” says Stephen J. Appold, Ph.D., senior research associate, who led the study team. “Investors want assurance that once the roads are built and operating, the projected revenue from tolls will be there. That’s why it’s crucial that the socioeconomic data used for the financial models be as accurate as possible. The threat of default due to overoptimistic projections is real.”

North Carolina’s Triangle and Charlotte regions are nearly ideal for this kind of investment, he says. Both have grown at a pace that is generally consistent and sustainable over the long term in contrast to boom towns, which can experience sudden growth followed by dramatic downturns.

• CRUNCHING THE NUMBERS
Raleigh engineering consulting firm Wilbur Smith Associates led the project to estimate Triangle Expressway toll revenues. It combined data from metropolitan planning organizations on the numbers of people living in the region, traffic patterns, and estimates for future traffic demand with findings from rider surveys to find out where people are traveling and how much of a toll they are willing to pay to gain the convenience of less traffic congestion and shorter drive times.

Socioeconomic projections were factored in to estimate how many people are expected to move into the area over the next 15-20 years, where those people will be driving, and the likely incomes of potential toll road users. The data were then analyzed to create revenue projections. The Kenan Institute conducted the audit of those projections, a state requirement to ensure objectivity.

An “accident of history” made the audit for the Triangle Expressway unusually difficult, Appold says. “The original socioeconomic projections were calculated based on the tremendous growth North Carolina experienced during the economic bubble years,” he says. “When that bubble burst and the recession hit in the middle of the planning process, we had to reevaluate those numbers and, in fact, did have to lower some estimates. Fortunately, the planning organization was also revising its numbers and our analysis reinforced their new results. Still, the new numbers caused the state to rethink its design, which delayed the process.”

While no one was pleased with delay, that was better than risking default due to inaccurate data, he says.

• DESIGNING FOR SUCCESS
Historically, toll road use can be slow to catch on in areas where they have never been used, but the Triangle Expressway is expected to be successful for several reasons.

“One, there are no toll booths. People simply drive through the tolls and receive a bill later, which is possible due to new technology that scans their license plates or a prepaid NC Quick Pass transponder. It’s very easy to use,” Appold says.

“Two, the gridlock is already there,” he says. “The toll road will provide immediate relief to people currently spending a lot of time in traffic. The cost is worth the tradeoff.”

All of these factors are making toll roads an appealing option for traffic planners. “Toll roads impact the people who use those roads most, and people are seeing the benefits of using them. They are an effective way to capture demand,” Appold says.

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Kenan Institute goes One-on-One with urban expert Jim Johnson

Shifting demographics, economic upheaval, and globalization are creating a dramatically different world and set of competitive challenges for the next generation. How should the nation’s K-12 education system respond?

Kenan Institute scholar James H. Johnson, Jr., has spent the past two decades examining and testing strategies for successfully educating children who live in areas of concentrated poverty.

The Kenan Institute speaks one-on-one with Johnson about what he has learned. Here are excerpts of that conversation.

JOHNSON: We’re in the midst of an unprecedented demographic transformation in this country and, indeed, in the world. We are in a knowledge economy and are also an aging population, with 80 million people turning 65 to the tune of 8,000 per day. It is very important to focus on the next generation. If we’re going to compete globally, it is very important that we create a world-class educational opportunity for every child.

The population of K-12 students is changing dramatically, becoming far more racially and ethnically diverse. At the same time, the next generation of children is caught between a rock and a hard place, through no fault of their own, where they are not getting a quality education today.

It is too important for us as a nation, as a state, and as a set of communities not to get this right. You cannot leave a whole generation of kids behind. If you do, it will catch up with you rather quickly.

KENAN INSTITUTE: What is the Global Scholars Academy?

JOHNSON: Global Scholars Academy is a K-8 laboratory charter school in Durham, N.C., that we built in collaboration with Union Baptist Church. It is the next generation of a William R. Kenan, Jr., Charitable Trust-funded initiative called Durham Scholars, which is an after-school, weekend, and summer program we’ve been running since 1995 to guarantee college access to kids from [disadvantaged] neighborhoods.

What we learned is that those programs are necessary but not sufficient to transform education. We decided we needed our own school to ensure kids get a consistent message for as long during the day as possible. We start at 7:30 in the morning, we go to 6 p.m. daily, and we’re a year-round school. Even in intercessions, we don’t close. It’s a culture that you have to create and a set of expectations.

KENAN INSTITUTE: What does the research reveal about today’s educational models?

JOHNSON: We have an education system that operates on a deficit model. We say, “Everything is wrong with you, and I’m going to fix it.” Everything isn’t wrong with these kids. If you look at the average concentrated-poverty neighborhood, not all kids end up a failure out of those communities. Some kids succeed against the odds.

The research shows that kids who succeed are typically embedded in what is called a “mediating institution” in that neighborhood, an institution that encourages them to pursue mainstream avenues of social and economic mobility and discourages them from engaging in dysfunctional behaviors.

If you ask Denzel Washington what’s the key to his success, he always says, “The Boys and Girls Club.” What we’ve done in Durham is build our own mediating institution. I think we can reengineer schools to be better mediating institutions.

The second major finding from the successful pathways literature shows that the kids who succeed out of these environments typically have some adult—parent, caregiver, other being—who has the savvy to connect them with institutions and role models outside of their neighborhood environments.

The more diverse your networks, the more geographically expansive, the denser your ties with people who are different from you, the better off you’re going to be in society. It’s not your strong ties that matter; it’s actually your weak ties that make a difference.

The other piece is how we build bridges to diverse institutions and people from diverse backgrounds for kids who grow up in these kinds of environments.

At the Global Scholars Academy in Durham, every year we have about 120 MBA [students] who adopt our kids from kindergarten through grade 4. Every kid gets two mentors. By the time they graduate from the eighth grade, they’ve got 16 to 18 people from the world of work and networks from all over the world.

We know how to create global citizens. Can we develop a franchisable model of K-12 education—a model that we build from soup to nuts and then say, “This is the way you do it. This is the pathway to the future.”

This is not just a social and moral issue; it’s a competitiveness issue for us. If we don’t make sure that they have a high-quality education, there is no way we can compete on a global scale in the years ahead.

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