PANAMA'S EXPERIENCE

TITLE: Georgia Tech Logistics Innovation & Research Center in Panama

GEORGIA TECH
Logistics Innovation & Research Center
Panama City, Panama
A Unit of the Supply Chain & Logistics Institute

Country: Panama

Institution: National Secretariat of Science Technology and Innovation of Panama (SENACYT)

Type of Institution: Public

Other institutions involved: Provider: Georgia Institute of Technology, Atlanta, GA, USA; Local Academic Partners: Universidad Tecnológica de Panamá; Universidad Latina de Panamá; Universidad Santa María la Antigua
Partner and Donor - "Observatorio Mesoamericano de Transporte de Carga y Logística" Project - Interamerican Development Bank (IDB)
Partner and Donor - " Diseño de política de innovación en el sector Logística y Transporte en Panamá" Project- Interamerican Development Bank (IDB)

Date: June 2010 to June 2015

Other countries involved: United States- Knowledge Provider /Recipient, Panamá- Donor and Knowledge Recipient/Provider

Webpage: www.gatech.pa/es/

Context

The desire to transform Panama into the most important Commercial and Logistics Hub in the region is what motivated the Panamanian Government via the National Secretariat of Science Technology and Innovation (SENACYT) to invest in the creation of the first Georgia Tech Logistics Innovation & Research Center in Panama. The agreement between SENACYT and the Georgia Tech Supply Chain & Logistics Institute (SCL), unit of the prestigious Georgia Institute of Technology, was signed and in September 2010 the operation of a unique research and education center focused on the improvement of logistics and trade in the region started.

Panama´s National Strategic Plan of Science Technology and Innovation, the country´s policy in science and technology, includes the creation of this center and highlights the need to strengthen Panamanian human resource. For this, a unique dual master´s scholarship program designed to train talented human resource in Logistics and provide them the analytical tools and skills needed to work towards the

betterment of this sector was also created.

Although the main partner and funder is the SENACYT, the project receives the support of institutions, such as the Ministry of Commerce, the Panama Canal Authority, the main local universities and the private sector, all represented as part of the advisory board that reviews the Center´s progress quarterly.

Objectives

The center has three core thrusts: applied research, education, and competitiveness. The strategic objectives of the Centers are to improve the logistics performance of the country and to aid in developing the logistics and trade capabilities that will enable Panama to become the trade hub of the Americas.

Relevance

The researchers of the center have developed a unique virtual platform (http://www.gatech.pa/research/portal/) which includes all the information pertaining to the local logistics assets. The platform serves as a useful analytical tool which can easily calculate trade trends. With the implementation of the free trade agreement with the United States and the completion of the construction of the Panama Canal Expansion, being able to have access to this information is of paramount importance. The Center has been recognized by the Inter-American Development Bank as the Mesoamerican Logistical Observatory and as such is responsible for gathering and analyzing relevant supply chain data not only from Panama but also from the region. Given the lack of trained human resources in this field, the Georgia Tech Panama Center has offered certifications for over 100 professionals from Panamá and the region in topics such as Demand Driven Supply Chain Strategy, Inventory and Transportation Planning and Management, Warehousing, Supply Chain Management Technology among others. In addition, the dual master's program in Supply Chain Engineering has trained over 40 talented Panamanians through the SENACYT scholarship program.

Implementation

The activities of the Georgia Tech Panama Logistics Innovation and Research center are predominately associated with the development of databases, models and analytics to assess and improve the capabilities of Panama's logistics infrastructure and services to enable growth as a logistics and trade hub. The Center determined that the transshipment of ocean containers, particularly those that arrive by ship at ports on one of Panama's coasts, traverse Panama by rail and depart by ship on the other coast was a dominant factor in Panama's attractiveness as a logistics and trade hub. This system allows multiple container ports on two oceans to function as if they were a single port with regard to container transshipment. This unique capability is a major factor driving the "connectivity" of Panama with other container ports in the region and world. However, the integration necessary to assure the uninterrupted flow of containers between Panama's two oceans have become increasing complex due to the advent of much bigger ships unloading large quantities of containers that require transshipment during very short time periods. Integration requires that the stakeholders utilize data and analytics to optimize the entire network rather than focus only on their piece of the network.

Distribution of tasks

The Georgia Tech Panama Logistics Innovation and Researched Center has developed methodologies to organize the data associated with the various container moves, perform analysis to determine where delays occur and container inventories become excessive and recommend where resource reallocation or expansion or other operational changes can lead to better system performance. The Center also analyzes the combination of infrastructure and services to determine current system capacity and the infrastructure expansions necessary to increase capacity. There are five groups of stakeholders working

together to use this analysis to address these integration issues. The shipping line determines which containers are to be transshipped and the ships that they must connect with on the other ocean. The receiving ports unload the ships, determine how and when the containers move from the ships to the rail and provide transportation for the containers for ship to rail. The railroad loads the containers on trains, schedules train movements and unloads the containers. The receiving port transports the containers to the port and ultimately loads them on their departure ship. Each of the operational entities work on improving both their individual operations and the tasks associated with the integration of their operations with the other entities.

Achievements and results

Regarding the research agenda, with the cooperation of the various stakeholders (shipping lines, ports and railroad) the Center has developed analytics to determine the performance of the system, to identify where problems have occurred and to demonstrate to the affected parties the problems and assess their impact. The stakeholders have agreed to work together to address the issues that could disrupt or slow the movement of containers through the logistics network. This will both improve logistics performance and reduce the risk of delays and disruptions that will benefit the participating stakeholders but more importantly with provide faster and more dependable service to the shippers who are the ultimate customers of the system.

Regarding the education agenda, over 140 professionals have been trained and the Logistics Center and its staff have become a powerful source of data for logistic users and academic centers accross the hemisphere.

Unexpected achievements

There have been unexpected achievements, such as the demand for similar projects but with an expanded regional reach and funding by multilaterals such as the Interamerican Development Bank. In addition, thanks to the Center´s initiatives there has been an improvement in the local coordination of the different governmental and private sectors actors and a desire to improve their processes. Another unexpected achievement has been for Panama to receive students from Dominican Republic, Colombia and other Latin American countries for the professional certification programs. These achievements contribute to the sustainability and relevance of the center´s activities.

Experience and sustainable results

Even though the contract with SENACYT is set to end in June of 2015, all measures are being taken for the Georgia Tech Center in Panama to be able to support its operations beyond that period. The Center in Panama is legally able to receive private funds, making it easier to receive local and international funds from multilaterals, private corporations and individuals. In addition, with the support of the local universities, the IFARHU, and the private sector all efforts are being made for the scholarship program not only to continue but to have students completing masters to pursue their PhDs and eventually get reinserted into the local university system, be replicators of knowledge and further the research agenda established.

Modalities that are considered appropriate to facilitate the exchange of this experience

Information sharing
Experts visits
Technical tours
Videoconference
Workshops

Previous experiences that show the potential for replication of this experiences

The previous experience with a similar scholarship program was with Georgia Tech in Singapore 10 years ago via an agreement with the National University of Singapore. In the Americas, there has not been a similar scholarship program in place nor a similar partnership that allows for such thorough research to be done.

Human, operational and institutional capacities to transfer this experience to other countries

The GT Logistic Center in Panama has the human and the institutional support both from Panama and the US to share this experience. In the last couple of years GT faculty, the Center director and Senacyt directors of the initiative have been invited to Ecuador, Chile, Uruguay and many cities in the United States to share the experience of the Panama center. In addition, the local portal http://www.gatech.pa/research/portal/ is open to any interested user.

Good practices and concrete lessons

There are many good practices to be shared:
1) The partnership between a prestigious US Academic Institution such as Georgia Tech and a Latin-American government. This has been a win win partnership that has allowed knowledge transfer not only for Panamanian students and faculty but also for US faculty and researchers who are gathering data and acquiring relevant information from all the key players in logistics in Panama, the Panama Canal, the Ports, Shipping Lines, airports etc.
2) The creation of the first interactive logistics portal developed with the guidance of US faculty but programmed by Panamanian students. http://www.gatech.pa/research/portal/
3) Lessons learned from the creation of the first dual Masters in Supply Chain Engineering model. A unique model that encourages student exchange in accordance to the US State Department´s 100,000 strong initiative, where the first semester is taught in Panama with Panamanian and US Faculty; the second semester is being completed in Atlanta, GA, and the third semester the student returns to Panama and works in projects relevant to the Center´s research agenda.
4) The support of the public and private sector advisory board and the increase support of the community for this types of programs have been of paramount importance to guarantee the sustainability of this initiative.

Experiences and subjects to learn from other RIAC members

With the goal of having this platform serve a regional purpose, it will be interesting to learn from other member countries if they would be interested in creating similar models that could feed into this initiative. In addition, it will be interesting to learn from Chile and Colombia tools to incentive innovation in the logistics center and make these types of projects more sustainable. From the US perspective it will be interesting to compete for funding for innovative collaborative ideas the Center staff students and faculty could develop.

Key persons involved in the design, implementation, and evaluation

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