CENTRO LATINOAMERICANO
DE INNOVACIÓN EN LOGÍSTICA

Third Academic Workshop

Sao Paulo, August 2009

Agenda

Tuesday. August 25th

8 – 9 p.m. INSPER Welcome
9 – 12 a.m. GC-LOG 2010 Review
12 – 2 p.m. Lunch
2 – 3:30 p.m. GC-LOG 2011 Planning
4 – 6 p.m. CLI Research

Wednesday. August 26th

8 – 9 p.m. USP Welcome
9 – 10:30 a.m. CLI Research
11 – 1 p.m. Scenario Planning Workshop
1 – 2 p.m. Lunch
2 – 5 p.m. Natura visit

GC-LOG Class 2010

19 Applicants

- Colombia: 10
  - ICESI (1), UniSabana (1) , UniNorte (3), UNal Bog (3), UNal Med (2)
- México: 2
  - ITESM CEM (2)
- Brasil: 7
  - INSPER(3), UFMG (2), USP (2)

14 Accepted

- Top Performers
- Average Age: 28
- Average Years of Experience: 5.4
- 6 from Brasil, 1 México, 7 from Colombia
- 7 from Business programs, 8 from Engineering programs

GC-LOG 2010 Review

GC-LOG Schedule

July 2009 Session

	Sunday 12 Jul	Monday 13 Jul	Tuesday 14 Jul	Wednesday 15 Jul	Thursday 16 Jul	Friday 17 Jul	Saturday 18 Jul
8:30 - 10:00	Villa de Leyva (Team Building)	Villa de Leyva (Team Building)	Advance Setup (Edgar)	Finance & SC (Alejandro)	Finance & SC (Alejandro)	Finance & SC (Alejandro)	Care Visit
10:30 - Noon	Villa de Leyva (Team Building)	Villa de Leyva (Team Building)	SC Basics (Edgar)	Finance & SC (Alejandro)	Finance & SC (Alejandro)	Finance & SC (Alejandro)	Care Visit
2:00 - 3:30	Villa de Leyva (Team Building)	Villa de Leyva (Team Building)	SC Basics (Edgar)	Finance & SC (Alejandro)	Free	Free	Canal Speakers
3:30 - 5:00	Villa de Leyva (Team Building)	Villa de Leyva (Team Building)	Free	Free	Free	Free	Canal Speakers
Evening	Villa de Leyva (Team Building)	Return Bogotá				Trip to Panama (6:00 pm)	Return (8:30 pm)

	Sunday 12 Jul	Monday 13 Jul	Tuesday 14 Jul	Wednesday 15 Jul	Thursday 16 Jul	Friday 17 Jul	Saturday 18 Jul
8:30 - 10:00	Free	Demand Mgmt (Larry)	Demand Mgmt (Larry)	Risk/Contracts (Geoff)	Risk/Contracts (Geoff)	SC Technology (LOGyCA)	Optional Tour
10:30 - Noon	Free	Demand Mgmt (Larry)	Demand Mgmt (Larry)	Risk/Contracts (Geoff)	Risk/Contracts (Geoff)	SC Technology (LOGyCA)	Optional Tour
2:00 - 3:30	Free	Demand Mgmt (Larry)	Demand Mgmt (Larry)	Risk/Contracts (Geoff)	SC Technology (LOGyCA)	Leadership Session	Optional Tour
3:30 - 5:00	Free	Demand Mgmt (Larry)	Capstone Project Session	Risk/Contracts (Geoff)	SC Technology (LOGyCA)	Leadership Session	Optional Tour
Evening							

	Sunday 19 Jul	Monday 20 Jul	Tuesday 21 Jul	Wednesday 22 Jul	Thursday 23 Jul	Friday 24 Jul	Saturday 25 Jul
8:30 - 10:00	Free	SC Strategy (Mahender)	SC Strategy (Mahender)	SC in LatAm (Speakers)	Global Drivers	SC Case Study (Edgar)	
10:30 - Noon	Free	SC Strategy (Mahender)	SC Strategy (Mahender)	SC in LatAm (Speakers)	GC LOG Review	SC Case Study (Edgar)	
2:00 - 3:30	Free	SC Strategy (Mahender)	SC Strategy (Mahender)	CC Visit (Femsa)	Free	Leadership Session	
3:30 - 5:00	Free	SC Strategy (Mahender)	SC Strategy (Mahender)	CC Visit (Femsa)	Free	Leadership Session	
Evening	Free					Awards Ceremony	

GC-LOG Evaluation

Overall Quality of the 3-week	4.3					
Topic	**Finance**	**Dem. Mgmt.**	**Risk**	**Strategy**	**SC Basics**	**Average**
Overall Rating	4.8	3.8	4.4	4.6	4.5	4.4
Instructor Knowledge	4.9	4.7	4.9	4.8	4.8	4.8
Subject Relevance	4.4	4.6	4.9	4.7	4.6	4.6
Subject Applicability	4.1	4.5	4.7	4.7	4.6	4.5
Pace of Session	4.5	3.3	3.8	4.3	4.1	4.0
GC-LOG Activity	**Rating**		**GC-LOG Activity**		**Rating**	
Orientation - Villa de Leyva	4.0		Sonia Acuna - FeceraCafe		3.6	
Leadership - Friday Session	3.7		Sem cayse - Argos		3.5	
Panama Canal Visit	4.2		Familia DC Tour		3.6	
Panama Speaker Series	4.4					
Overall Other Activities	**3.9**					

Learnings

Academic insights

- Reinforce inventory models (newsboy vendor)
- Good logistics knowledge
- Good

Proficiency in English was adequate

Age / experience variability was not a problem

Orientation / leadership session was key

- Optional physical activity

Improve speakers from the region

- Same challenge @ CTL, ZLC

January Planning

Mandatory: Jan 4th to 15th (Boston)

Optional: Jan 18th to 29th (Boston & Zaragoza)

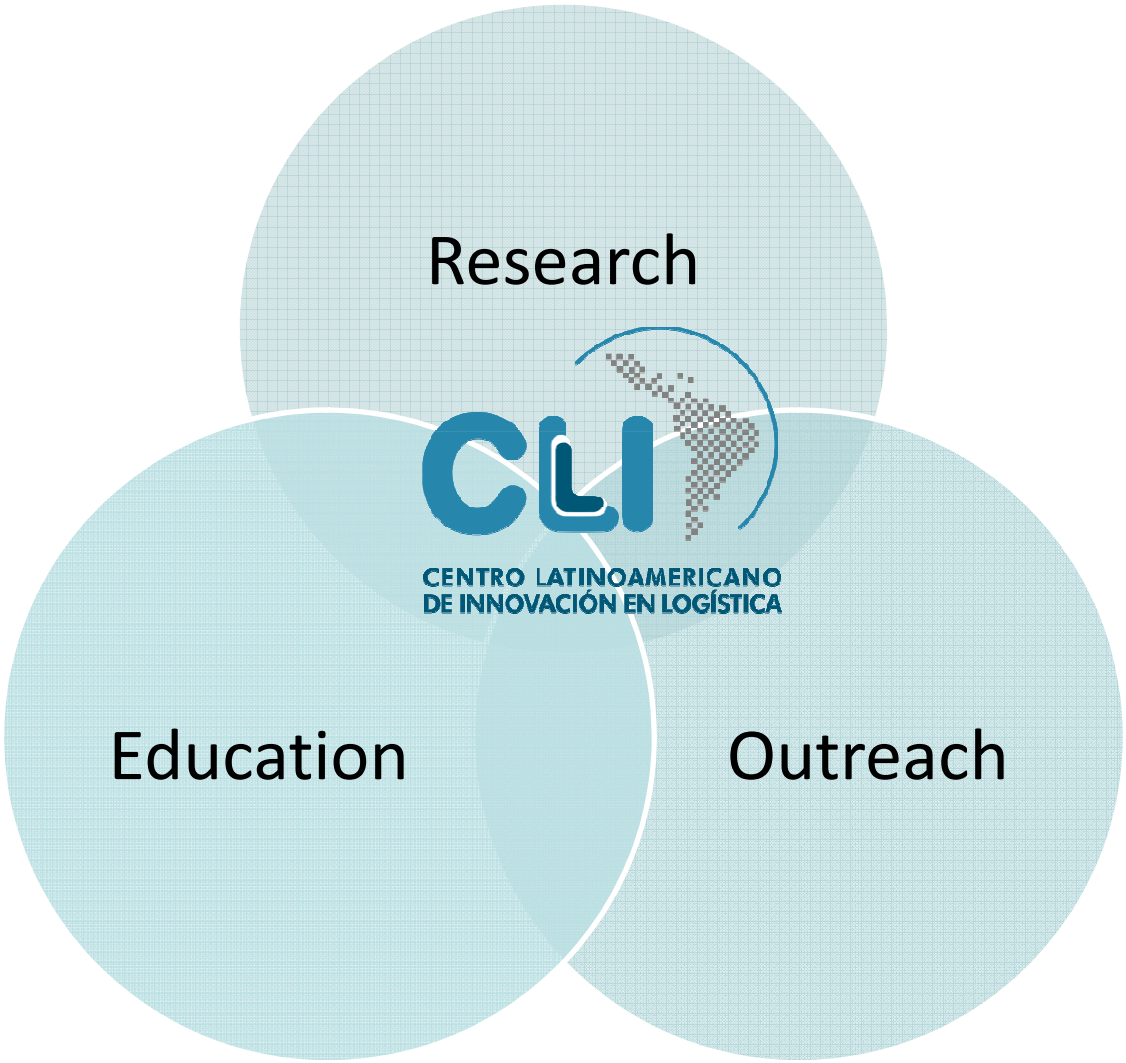
GC-LOG 2011 Planning

Goals…

- 20-25 accepted students
- At least, 5 countries in the program

If this is the vision, what do we have to do to make it real?

CLI Working Areas



Research Vision

Economy / *SC Elements*	**Developed** (US/Europe Centric)	**Emerging** (China/India/LatAm/Africa)
Basic (Cost, Service, Assets)	MIT GLOBAL SCALE NETWORK "Traditional" Supply Chain	CLI "Innovative" Supply Chain
Extended (Environment/Development)	CLI "Sustainable" Supply Chains	MIT GLOBAL SCALE NETWORK "Sustainable & Innovative" Supply Chain

E. Blanco, MIT-CTL,
Adapted from H. Lee, 2009

CLI Research Projects

Sustainability

- Carbon footprint [CLI]
- Sustainable mega-cities [CLI ~ Secretaría]

Logistics Enablers

- Logistics Benchmarking LatAm [CLI + AA]
- Logistics Map LatAm [CLI + AA]
- Logistics Plattforms [CLI @ ZLC

SC in Emerging Markets

- Retail distribution strategies in Emerging Markets [CLI]
- Cellphone Technology for SC Fragmentation [CLI + MIT]
- EPC/RFID in textiles, liquids and metals [CLI ~ Colciencias]
- Visibility in transportation [CLI ~ SENA]
- SC Innovations in Commodities [CLI @ MIT-CTL]
- SC2020 Case Studies [MIT]

Healthcare

- Patient Security [MIT]
- Demand & Distribution Planning

GC-LOG Capstone Project

Project Timeline & Milestones

All thesis projects follow the schedule below.

- 1 Sep. First draft of capstone project due. Include project description, basic literature review & methodology (5 - 10 pages).
- 15 Oct. Second draft of capstone project due. Include final project description, literature review & preliminary findings (20 - 30 pages).
- 1 Dec. Third draft of capstone project due. Include final project description, literature review, findings & research open items (20 - 30 pages).
- 15 Dec. Poster due & Slide presentations for Jan Research Fest (10 – 15 slides).
- Jan 2010. GC-LOG Research Fest at MIT
- Feb 1. Final capstone project due.

Picking Advisors

- It is the student's responsibility to secure a faculty advisor at his / her home school. CLI and / or MIT researchers will be available for co-advising capstone projects.

1. CO2 Footprint Analysis of Candy Products

Key Research Question / Hypothesis

- What is the carbon footprint of a candy product? Where are the opportunities for carbon reduction? How do they relate with current supply chain practices?

Team Profile

- - 1 student

Project Description

- Colombina is one of the largest candy companies in Colombia. Colombina's portfolio includes a wide range of food products including: cookies, wafers, snacks, candies, lollipops, chocolate, pastries, chewing gum, ice cream and preserves. It currently exports to 45 countries. Colombina's wide portfolio reaches over 421.000 clients throughout the world. The company's main raw material is the sugar cane that grows in the Cauca Valley region.
- With global operations, there are many issues with measuring and monitoring carbon efficiency of their manufacturing, logistics, and transportation functions. This project looks to complete a life-cycle assessment for the Colombian supply chain from the sugar cane crops to the stores (incorporate national & international distribution is TBD).

2. Supply Chain Case Studies in LATAM

Key Research Question / Hypothesis

- What are the channel cost differences between LATAM countries in CPG products and what factors are driving these differences? What are the incentives that explain the current distribution strategy?

Team Profile

- 2 to 4 students independently working located in different countries in LATAM.

Project Description

- This project examines these different channel costs. The analysis needs to include outbound logistics from the warehouse through the wholesaler and retail channels all the way to points of sale.
- The analysis also needs to include development of underlying factors driving those differences and the development of a framework to assist in decision making going forward.

3. Global Risk Initiative

Key Research Question / Hypothesis

- Are there regional differences in supply chain risk attitudes and experiences around the world? If yes, what are those differences? What attitudes and experiences are predominant in each region?

Team Profile

- This thesis requires at least one, and possibly two, 2 person teams.

Project Description

- The Global Risk Initiative (GRI) is the first project that will be conducted simultaneously across all of the MIT Global SCALE Network Centers and other affiliated researchers. Research teams in four continents will be working together to learn how business risks are identified, perceived, and managed. Coordinated from MIT, the initiative will include researchers from the ZLC (Europe), CLI (Latin and South America), CTL (North America), and affiliated researchers in India and/or China.

Global Risk Initiative (Cont.)

- The project has three phases that build on each other. Phase one is a broad global survey to understand regional differences and patterns. Phase two explores how differences in risk perceptions are managed (or mis-managed) in supply chains that cross multiple regions. Phase three develops quantitative models to better understand how much more efficiently multinational supply chain risks could be managed through better collaboration. This MLOG thesis project is part of Phase 1.
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- The students will help develop, conduct and analyze a survey of supply chain risk attitudes and experiences in several regions of the world to include North America, Latin America, Europe, India, and the Far East (China). The survey will help the research team identify patterns and trends in risk management and understand the similarities and differences across regions, cultures, and industries. A common Risk Attitudes and Experiences survey will be used in each location.
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- In addition to the survey, each student team will conduct several in-depth interviews with corporations within their regions. Case studies and other learnings will be drawn from these analyses. The initial results will be presented at a CTL Risk Symposium in December 2009.

4. Feasibility analysis of a 3PL hub in Panama

Key Research Question / Hypothesis

- What are the benefits and challenges of establishing and operating a logistics hub in Panamá?

Team Profile

- 1 student

Project Description

- This project looks to develop a methodology to establish the pros, cons, feasibility, and risks of implementing a centralized logistic hub located in Panamá. Variables to be considered include lead times, labor, transportation and warehousing costs, tax benefits, political and economic stability, product category characteristics, among others.
- The project also involves the definition of key industries / products that the 3PL should serve based on the feasibility analysis.

5. Logistics Impact of Panamá Canal Expansion in Colombian Ports

Key Research Question / Hypothesis

- What is the logistics impact of the Panama Canal expansion in the Colombianports?

Team Profile

- 1 student

Project Description

- A major logistics hub is taking shape in Latin America. Panama has embarked upon a far-reaching development plan, and is widening its famous canal to keep pace with the growth in international trade.
- The expansion project involves the construction of a set of locks at the canal's entry point on the Pacific Ocean. To allow for the passage of larger vessels, the new locks will be wider and deeper than the current ones. Expected to generate close to 7,000 jobs, work on the canal locks should be completed by 2014.
- On July 15th 2009, the consortium Gupos Unidos won the bid for the canal expansion. The final price was 3.2 billion dollars.

6. Regional Produce Distribution to Small Convenience Stores in LATAM Megacities

Key Research Question / Hypothesis

- What is the supply chain of produce distribution to small convenience stores in LATAM megacities? What is the approximate outbound logistics cost as a % of sales per distribution channel? What recommendations can be made to include small farmers to this produce supply chain?

Team Profile

- 2 to 4 students located in different countries in LATAM.

Project Description

- Half of the Latin American population is poor. Neighborhood stores, remains the primary option for this portion of the population. Proximity and low prices are the some attributes that preserves the traditional channel to survive against the big-box retailer. In the case of some regional produce, there is also a highly fragmented supplier base (small scale farmers). Intermediaries & wholesales act in the middle of this chain aggregating demand or hedging price variability.
- The goal of this project is to describe and characterize this system emphasizing cost, risk & incentives of each of the players.

GC-LOG Projects & Students

Project	Student
1. CO_2 Footprint Analysis of Candy Products	TBD
2. Supply Chain Case Studies in LATAM	Adriana (BR), Paulo (BR) & Alejandro (CO)
3. Global Risk Initiative	Marina (BR), Daniel (CO) & Arturo (MX)
4. Feasibility analysis of a 3PL hub in Panama	Thiago (BR)
5. Logistics Impact of Panamá Canal Expansion in Colombian Ports	Diana (CO)
6. Regional Produce Distribution to Small Convenience Stores in LATAM Megacities	Candida (BR), Cesar (CO) & Sebastian (CO)

Research Capabilities Survey Results

University	Number of Researchers	Topics
Insper (BR)	5	*No formal project with CLI* Areas of Interest: System Dynamics / SCM / IT / RFID / Ops Man / Ops Strat / Ops. Research / Service Management
UdeA (CO)	4	*CLI Project: Logistics Benchmarking LATAM* Areas of Interest: Health / SC in Emerging Markets / Ops Research / Hospital Logistics / Humanitarian Logistics
Unisabana (CO)	7	*No formal project with CLI.* *Active involvement in research project related to areas of interest.* Areas of Interest: Ops & Pdn Scheduling / Routing / Analysis and simulation of logistics and production systems / Collaborative SCM / Sustainability / SCM in Emerging markets / Combinatorial optimization & Decision-making / Meta-heuristics / Discrete-event Simulation / Logistics infrastructure/ Multi-objective optimization / Distribution logistics / Linear programming / Port management / Social responsibility / Expert systems / Marketing metrics & intelligence / Corporate social responsibility

Research Capabilities Survey Results

University	Number of Researchers	Topics
Monterey Tec EDOMEX Campus (MX)	4	*No formal project with CLI. Active involvement in local transportation projects.* Areas of Interest: Logistics / Transportation / Intelligent transportation systems / AII applied to transportation
UFMG (BR)	5	*No formal project with CLI. Active involvement in local transportation projects.* Areas of Interest: City Logistics / Urban Logistics / Logistics Process Simulation, Transportation Systems / Demand Management / Network Design / Customer Service / Risk Management / Transportation & Inventory Management / Transportation Systems / Economic Evaluation / Transportation Systems / Traffic Engineering
U. Nacional (CO)	4	*Active involvement in local transportation projects.* Areas of Interest: SCM / Finance & SCM / Transportation & Mobility Transportation / Inventory / Warehousing
UniNorte (CO)	6	*Active involvement in projects.* Areas of Interest: SCM, System Dynamics, Ops Research, Data Mining, Optimization, Transportation Engineering

Still missing: Monterrey Tec (Campus Monterrey & Guadalajara, UMIP, UTP , Icesi, USP

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Gracias…

CLI -Centro Latinoamericano de Innovación en Logística– un proyecto de LOGyCA, miembro de la Red Global Supply Chain and Logistics Excellence de MIT

LOGyCA

MIT CENTER FOR
TRANSPORTATION
& LOGISTICS