



Logistics, Promised Land for Youth

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Empowering Youths”**

Logistics, Promised Land for Youth: 5W1H



- ▶ What
 - ▶ Profitable
 - ▶ Growth
 - ▶ Opportunities
- ▶ Who
 - ▶ Supply chains intermediaries
 - ▶ Logistics service providers
 - ▶ Government
 - ▶ Community
- ▶ When: to prioritize
 - ▶ Short-term
 - ▶ Mid-term
 - ▶ Long-term
- ▶ Where
 - ▶ Nationwide
 - ▶ ASEAN, ASEAN+
- ▶ Why
 - ▶ Supply chain Intermediaries: logistics can reduce cost and improve responsiveness
 - ▶ Logistics Service Providers: Logistics service become commodities, price war
 - ▶ Government: physical and institutional connectivity
 - ▶ Community: CO2 emission, traffic, truck ban etc.
- ▶ How:
 - ▶ People: Be Cooperative
 - ▶ Process: Be Seamless
 - ▶ Technology: Be Intelligent

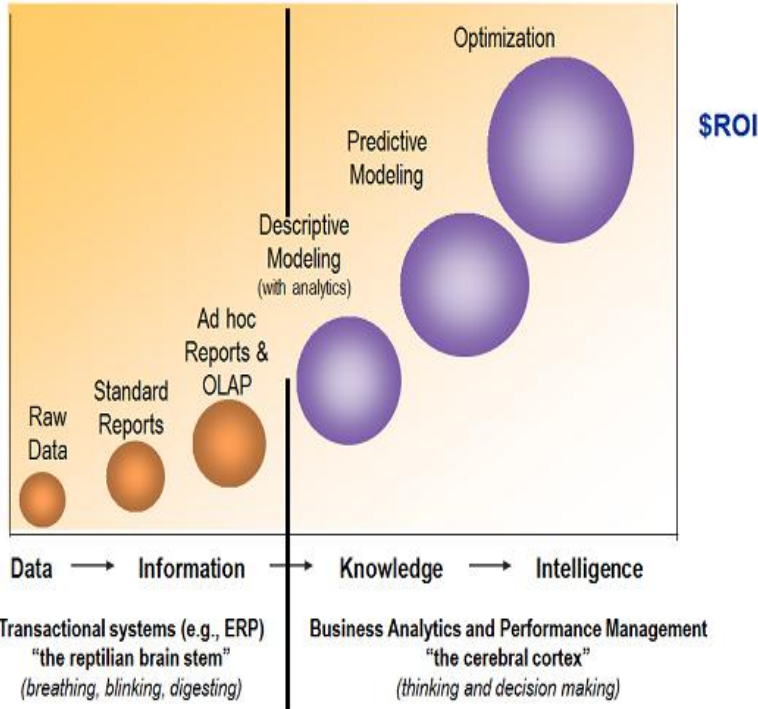
“Be Intelligent”

Supply chain perspective



The Intelligence Hierarchy

Power of Information



ASEAN perspective

ASEAN Single Window(ASW)

- ▶ **Definition:** a unique regional initiative that combine direct exchange of data between ASEAN Member States and regional operations that allow National Single Windows(NSWs) to synchronize the data exchange across borders.
- ▶ **Objective:** to expedite cargo clearance within the context of increased in ASEAN
- ▶ **Benefits:** e.g. improved risk management and targeting, track-and-trace capabilities, supply chain integration etc.
- ▶ **Use of ICT is inevitable for the regional single window**

Be Intelligent : Optimization on Logistics and Supply Chain Planning



Vehicle Routing Problems

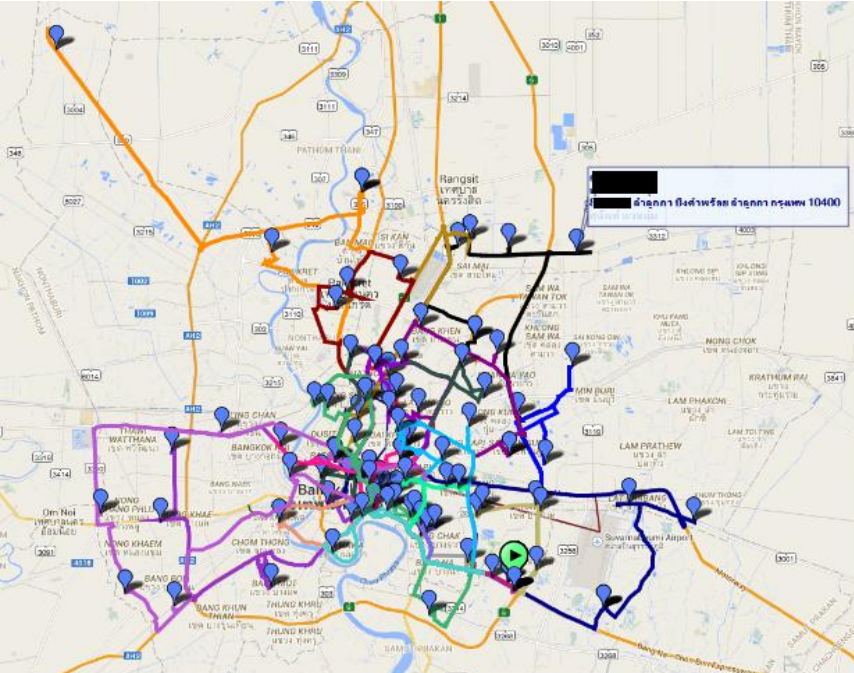
- ▶ Routes have to be planned in
 - ▶ logistics businesses
 - ▶ all industrial sectors producing physical goods.
 - ▶ passenger transportation
- ▶ Deal with the optimal assignment of a set of transportation orders to a fleet of vehicles and the sequencing of stops for each vehicle
- ▶ To minimize total transportation costs
- ▶ Subject to constraints such as
 - ▶ Time windows
 - ▶ Capacity

Benefits

- ▶ Efficient planning: low cost, timely manner
- ▶ Effective planning: high service quality
- ▶ Avoidance of unnecessary long routes with low capacity utilization
- ▶ Fleet Acquisition and operational planning
- ▶ Cost saving 5%-30%, typically
- ▶ Improve traffic flow for freight as well as passenger transport
- ▶ Avoidance on traffic congestion, increase mobility
- ▶ Reducing emissions, pollutions

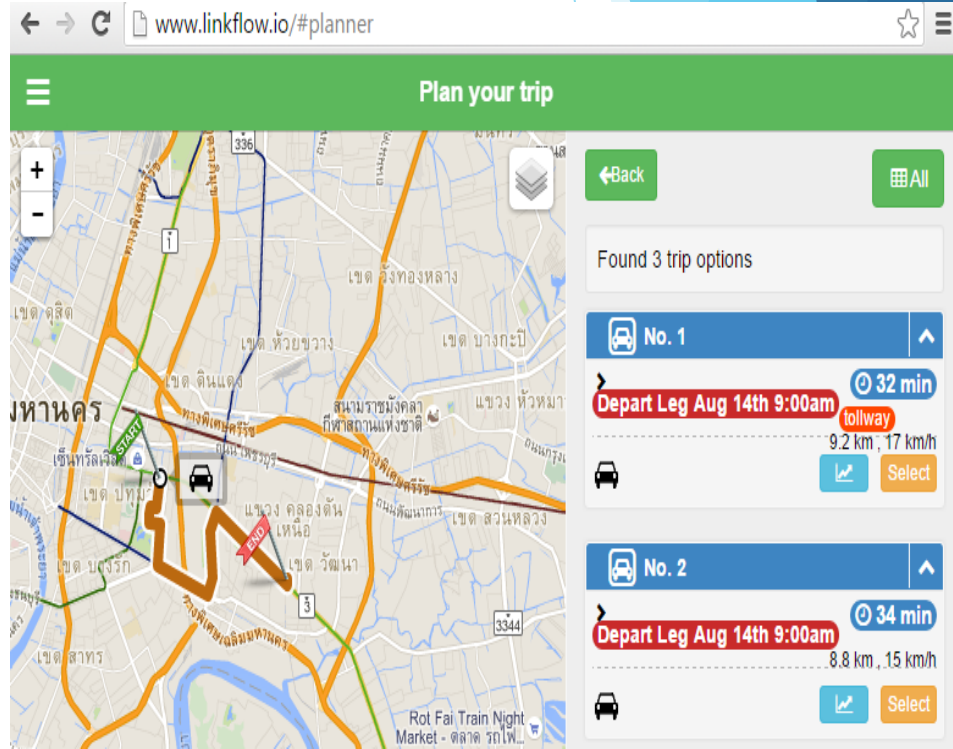
Be Intelligent : Optimization on Logistics and Supply Chain Planning

Artificial Intelligence for Vehicle Routing



Source: Author

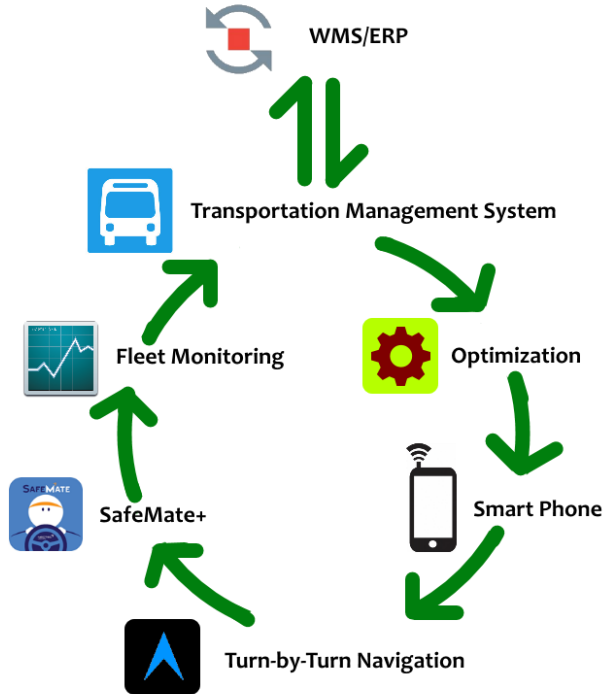
Traffic-dependent Shortest Distance Estimation



Be Intelligent : Optimization on Logistics and Supply Chain Planning

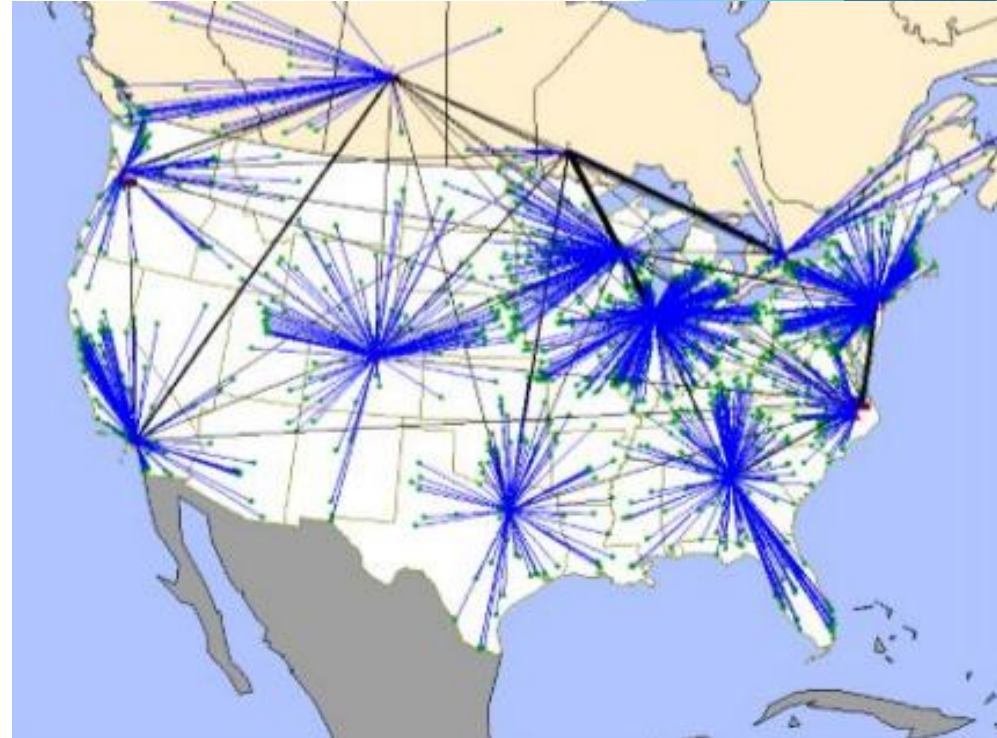


Optimization and Monitoring for Fleet Management



Source: Author

Network Design Optimization



Source: IBM Corporation, 2011

Be Intelligent: ASEAN Single Windows



“...There is the need to accelerate the pace of work to fully implement trade facilitation initiatives, namely the ASEAN Single Window, ASEAN Trade Repository, ASEAN Self-Certification and ASEAN Customs Transit System as soon as possible...”



Minister of International Trade and Industry, Datuk Seri Mustapa Mohamed

KUALA LUMPUR,
4th Aug 2016 (Bernama)

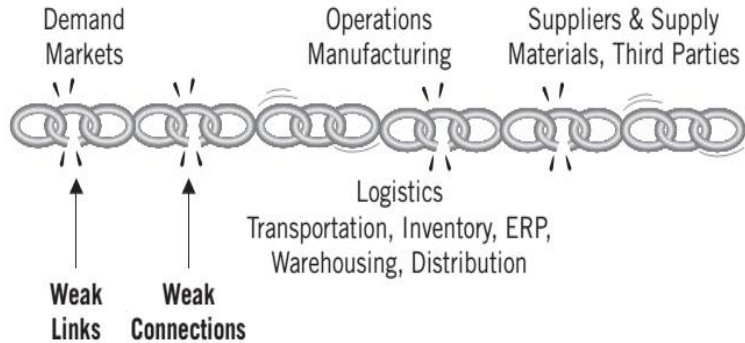
Challenges

- ▶ “The idea is that each country will first implement their national single window and then interact with other countries’ single windows; but how to connect is a big question.” Jonathan Koh mentioned
- ▶ One suggestion ... “Trade is confidential and sensitive and companies did not want their data to be shared around. A combination of centralised and de-centralised data would be introduced, and the ASEAN single window gateway could connect to the national single windows.”
- ▶ Vast amount of data requires robust automated, risk management system, complex interface scripts (ESCAP,2012)
- ▶ Different information systems varying on architectures, mix of messaging enablers, business mandates (ESCAP,2012)
- ▶ Planning and preparation cost to operating and maintaining (ESCAP,2012)

“Be Seamless”

Supply chain perspective

- ▶ Be seamless for information, physical and financial flows
- ▶ A supply Chain is only as strong as its weakest link



Source : Gary S. Lynch (2009), "Single Point of Failure - The Ten Essential Laws of Supply Chain Risk Management"

Require IT infrastructure, strategic alignment, process improvement and relationship management



ASEAN perspective

- ▶ ASEAN Connectivity: physical, institutional, people-to-people linkages
- ▶ To reduce the costs of moving goods across border and promote seamless flow of goods at, between and behind national borders.

Kuala Lumpur Transport Strategic Plan

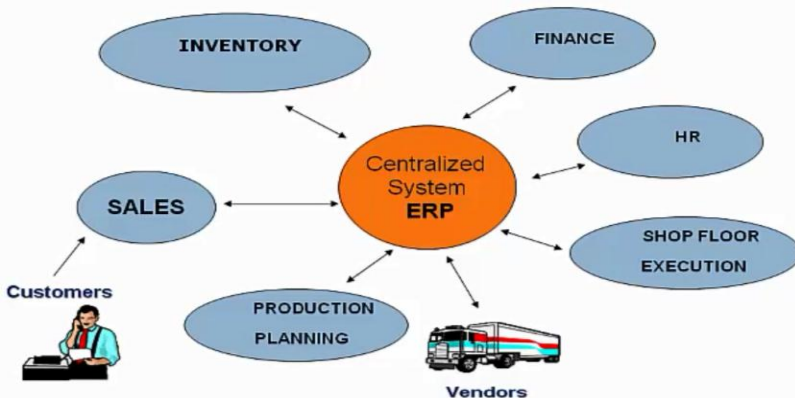
- ▶ *TF1* Accomplish the implementation of AFAGIT and AFAFIST
- ▶ ASEAN Framework Agreement on the Facilitation of Goods in Transit (AFAGIT)
 - ▶ Establish an efficient, effective, integrated and harmonised transit transport system in ASEAN
- ▶ ASEAN Framework Agreement on the Facilitation of Inter-State Transport (AFAFIST)
 - ▶ Governs door-to-door delivery of goods using various modes of transport

Be Seamless: Supply chain perspective



Enterprise resource planning(ERP)

- ▶ Manage transactional data on a continuous, real-time basis
- ▶ Provide seamless integration of planning, materials management and procurement, manufacturing, financial and business intelligence process



E-commerce and ERP

- ▶ E-Commerce, any channel that allows to make online sales.
- ▶ Manual practices cause pain, human errors, incomplete, unscalable etc.
- ▶ To seamlessly integrate e-commerce and ERP, key data is synchronized 24/7
- ▶ Reduce time spent managing data entry, increase throughput, reducing error, streamline synchronization, allow customers to track the delivery, scalable, maximize profits

Be Seamless : High demand on seamless cross-border transportation; Thailand and Malaysia



- There exist 300-500 dual registration trucks (Thai-Malaysian) without international transport agreement, violating the Land Transport Act B.E.2522 (Thailand)
- There exist more than 300 Malaysian registration trucks, especially latex transportation for Malaysian rubber industries, pickup the latex in Thailand beyond the restricted route and violating The Land Transport Act B.E.2522 (Thailand)
- High demand for cross-border transportation
- Recommendations
- Implementation of ASEAN Framework Agreement on the Facilitation of Inter-State Transport (AFAFIST)



Be Seamless : Cross-border Transportation between Thailand and Malaysia



- ▶ Traffic Congestion at Sadao- Bukitkayu Hitam Boundary Post takes up to 6 hours per trucks for both Thai and Malaysian Trucks.
- ▶ Trucks arrive after 5 p.m. usually wait 14 hours for the next day delivery-pickup.
- ▶ Additional costs from waiting, fuel waste, opportunity costs more than 10 million ringgit from August 2015
- ▶ Mutually agreed from the provincial government officers from Thai and Malaysian sides about the issues related to the redevelopment of Bukit Kayu Hitam ICQs and traffic management both Thailand and Malaysia
- ▶ No measure effectively implemented so far.



“Be cooperative”

Supply chain perspective

- ▶ Vertical
 - ▶ Cooperate with shippers, customers
 - ▶ Collaborative planning activities across supply chain
- ▶ Horizontal
 - ▶ Cooperate companies operating at the same level(s) in the market.
 - ▶ consolidation of shipments of different shippers, carriers and customers
 - ▶ Aim at increasing productivity, e.g. by optimizing vehicle capacity utilization, reducing empty backhaul

ASEAN perspective

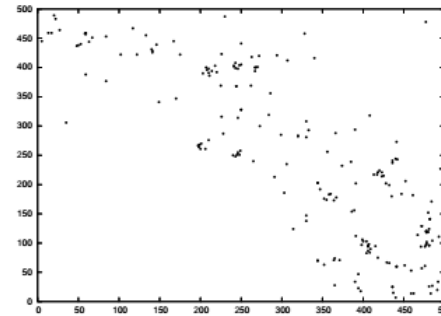
- ▶ Master Plan on ASEAN Connectivity: Roadmap for Integration of Logistics Services
- ▶ Kuala Lumpur Transport Strategic Plan (2016-2025)
 - ▶ TF7-Promote Logistics Regional Cooperation within ASEAN and with Dialogue Partner
- ▶ Deputy Secretary-General of ASEAN, H.E. Mr Bagas Hapsoro “...the youth need to unite to create a strong network with other young people from all aspects of life so they can consequently reach mutual understanding and boost regional cooperation...”



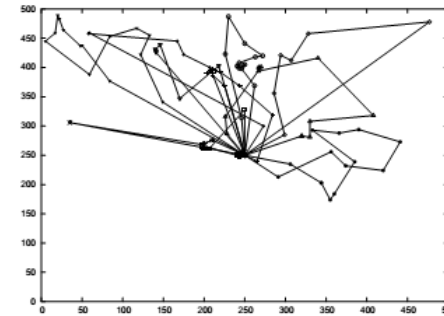
Be cooperative: Horizontal Cooperation



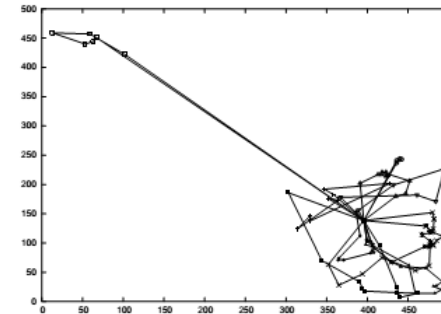
- ▶ Problem: Empty mileage
- ▶ Order sharing estimated to increase productivity, reducing empty mileage, cost saving generally from 5 to 15%
- ▶ Barriers (Dullaert et al., 2004)
 - ▶ Difficulties in finding a trusted party to lead the cooperation
 - ▶ Difficulties in finding partners
 - ▶ Hard to guarantee a fair mechanism and estimate the saving in advance
- ▶ How to cooperate: possibilities
 - ▶ FTL: Matching and Commission paid per request
 - ▶ LTL: Use optimization for fair request allocation and fair profit sharing mechanism
 - ▶ Association cooperation could be a goods starting point



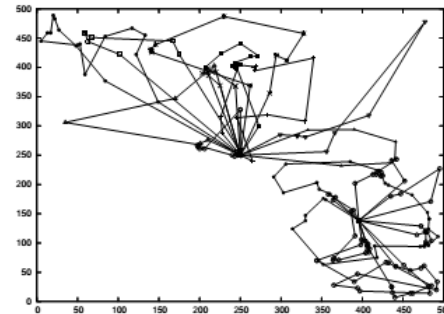
a. Pickup and delivery locations of all requests



b. Fulfillment plan for carrier 1



c. Fulfillment plan for carrier 2



d. Fulfillment plan for the coalition

Be cooperative: Introduction of ASEAN Trucking Federation



The beginning of ASEAN Trucking Federation at AEC Logistics Summit 2015 on 18 September 2015 in Bangkok, Thailand

Be cooperative: Introduction of ASEAN Trucking Federation



**MOU Signing for the Establishment of the ASEAN Trucking Federation (ATF)
at AEC Logistics Summit, 18th September 2015, Bangkok, Thailand**

Be cooperative:

Introduction of ASEAN Trucking Federation



- ▶ **IN LINE** with the ASEAN Framework Agreements on transport facilitation namely the ASEAN Framework Agreement on the Facilitation of Goods in Transit, the ASEAN Framework Agreement on Multimodal Transport and the ASEAN Framework Agreement on the Facilitation of Inter-State Transport
- ▶ **AIM** to promote, develop and enhance land transport, multimodal transport and border exchanges among ASEAN countries;
- ▶ The objectives of the MOU are:
 1. To establish a cooperation network of ASEAN based logistics and trucking entities
 2. To exchange best practices in the ASEAN logistics and trucking industry
 3. To share issues and concerns that may affect the ASEAN logistics and trucking industry
 4. To represent when needed the voice of the ASEAN logistics and trucking industry at related ASEAN working groups and forums.



Thank you

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