KEY TRENDS SHAPING GLOBAL SUPPLY CHAIN MANAGEMENT

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1. INTRODUCTION: THE FUTURE?

The ‘design/make/deliver anywhere’ world is upon us, thrusting supply chain professionals into uncharted territory where the ‘fix it’ paradigm of today will not work.....
WHAT IS A ‘DESIGN ANYWHERE, MAKE ANYWHERE, DELIVER ANYWHERE’ WORLD?

- The world is flat (Friedman 2005/6):
  - ‘the cost of communications is falling to zero’, and marginal costs are falling... ‘more people can plug, play, compete, connect and collaborate with more equal power than before’; a flat world is a connected world...it is an equalizing opportunity world.

- It is a globalized world; a global marketplace; a global village...God is a shipowner...

- The supply chain is a force ‘flattening the world’
  Supermarket checkouts...and inventory control. WalMart moves 2.3 billion cartons a year down its supply chain into stores...‘collaborating horizontally...to create value’; HP sells 400,000 computers through 4000 stores in one day at Christmas...some supply chain!!

WHAT IS THE ‘UNCHARTED TERRITORY’ FOR SUPPLY CHAIN PROFESSIONALS?

- ‘Radical uncertainty’...and the need to ensure ‘irreducible uncertainty’ in supply chains; continuous and rapid change...unrelenting competition, unrelenting value migration; increasing complexity, scale, ‘reach’ in supply chains across international boundaries with complex cultures, regulatory policies and unstable exchange rates.

WHAT IS THE ‘FIX IT’ PARADIGM FOR TODAY’S SUPPLY CHAIN MANAGERS?

- Constantly finding another 5% to take out of the supply chain day by day.... squeeze suppliers? gouge customers? short-change labour? a ‘race to the bottom’? Re-engineering...quality control...lean logistics?
WHAT IS THE NEW ‘FIX IT’ PARADIGM ...FOR 2020, 2050?

THE TECHNOLOGY FIX?

- The 'internet of things'...
  refers to the advanced connectivity of devices, systems and services ...
  and covers a variety of protocols, domains and applications; if all
  objects and people..were equipped with identifiers, they could be
  managed and inventoried by computers!! (RFID, bar codes, digital
  watermarking). Think...100 tonne driverless trucks in iron ore
  operations in the Pilbara. By 2020, 30 billion devices connected
  wirelessly to the Internet of Things

- Cloud computing...
  A computing process that runs on one or many connected computers
  at the same time...IBM Smart Cloud offers tools for cloud based
  collaboration...analytics...b to b integration...security

OR MAYBE.....PARADIGM SHIFT AS THE NEW FIX?

- Some pointers? Where to from here?

  ‘Most (supply chain professionals) understand that sustained growth
  in efficiency comes from solving bigger problems cooperatively rather
  than shaving pennies at the transactional level’. Does it?

  The future supply chain.....’will recognize and manage the closed-
  loop system that is inherent in everything from agriculture to steel
  production and design the network accordingly” (O’Morah, SCM World . March
  2014)
2: BEYOND THE RHETORIC: MANAGING WOOD FLOW SUPPLY CHAINS

- Wood Flow Logistics...particular characteristics?
  - Bulk/mixed product; fewer, larger firms; each with some competitive advantage; capacity-critical; regulatory issues...

- Wood Flow Logistics... It is about markets, sellers and buyers, chain integration, chain efficiency, value delivery and value capture... it is not just about movement!

- Cooperation... but it is not about ‘warm and fuzzy feelings’

- WARNING: THEORY AHEAD....

THINK ABOUT WHETHER WE ARE MANAGING SUPPLY CHAINS... OR DYNAMIC VALUE CHAINS?

Chains are sets of functions performed by firms to make $$$
Chains are business models – they deliver and capture value.
Chains are closed-loops...
EFFICIENT CHAINS... ARE DESIGNED!

- A whole-of-chain paradigm is critical

- Wood Flow chains must be managed as entities; and may be structured in such a way as to benefit from cooperation – not all chains do; but fewer, larger firms enjoying competitive advantage may capture the joint gains of cooperation (compare chains for widgets; and there is no room for ants at an elephant’s picnic!)

- Cooperation, in the context of the capturing of joint gains, has a special meaning...it is not about warm and fuzzy feelings!!

- Cooperative strategies are about two critical issues understanding
  - what overall levels of reward are possible and
  - how they are to be allocated (Greenwald and Kahn 2005)

THINK....‘THE SINGLE INTELLIGENCE MODEL’

- How to maximise the joint rewards...

  ‘Think of the industry (chain) as governed by a single intelligence capable of directing the behaviour of all the constituent firms ...in effect, how the industry would run if it were a coordinated monopoly’. This would define the best possible outcomes for an efficient chain and provide guidelines for cooperative behaviour.

- How to divide the benefits of cooperation

  According to the principles of fairness (Nash principles) – individual rationality; of symmetry; and of linear invariance.
BACK TO THE REAL WORLD: WHOLE-OF-CHAIN THINKING AND PARADIGM CHANGE

- Whole-of-chain in export bulk coal chains; paradigm shift from supply push to regulated demand pull chain
- Woolworth’s whole-of-chain perspective; BHP’s integrated iron ore chains and paradigm shift
- The Hunter Valley coal chains and cooperation; the single intelligence model and paradigm shift

LOOK FOR CLOSED LOOPS!

NORTH QUEENSLAND EXPORT COAL SYSTEMS
2010/2011/2012
130 Million tonnes +++
LANDSIDE OPERATIONS

FOR BULK CHAIN SYSTEMS
THINK CHAIN SEGMENTS,
CHAIN ELEMENTS IN WHOLE-
OF-CHAIN STRUCTURES

BLUE WATER OPERATIONS

BULK SYSTEMS...

Contract of sale/carriage

Demand from buyer: Coal types; volume; delivery date

Pre-loading process
Cyber nets...

De jure channel master?

SUPPLY PUSH TO DEMAND PULL CHAIN ARCHITECTURE... MARKET DRIVEN INTEGRATION

THE WOOLWORTHS' STRATEGY

BHP'S INTEGRATED IRON ORE CHAINS
Current: SUPPLIER DC’s
Future: SUPPLIER DC’s

Woolworths’ Demand Pull Retailing Model

Cyber information nets; includes some transport links
DEMAND PULL SHIPPING AND WHOLE-OF-CHAIN INTEGRATION... BHPB AND THE PILBARA IRON ORE SYSTEMS

1. Contract of sale/carriage
2. Demand from buyer: Coal types; volume; delivery date
3. Pre-loading process
4. Baltic Exchange?

MICRO - MANAGING A DEMAND PULL CHAIN SYSTEM

1. Contract of sale/carriage
2. Demand from buyer: Coal types; volume; delivery date
3. Pre-loading process

Cost and freight (CFR) Terms of Trade

Baltic Exchange?

BHP Shipping

FOB/buyer
CHAIN DYNAMICS FOR WHOLE-OF-CHAIN LONG TERM EFFICIENCY: HUNTER VALLEY COAL CHAINS AND PARADIGM SHIFT
Worth some hard thinking?