 THIS PAPER IS ABOUT

• Efficiency.. Efficiency in supply chains...Efficiency in port-oriented supply chains

• It has implications for

• Port efficiency; and port development strategy...

  • Port efficiency is certainly about ‘operational efficiency’; but it is also about chain efficiency ...

  • Ports are elements embedded in chains or supply chains; it is the chain, not the port, which delivers value to the customer; the port must deliver value into the chain and to its chain partners; and it must capture value for itself to stay in business
Supply chains are inherently ‘inefficient’…

• They are atomistic… disintegrated rather than integrated
• They are disintegrated because they comprise individual firms; and firms are about making profits, preferably about maximizing profits!
• Power, and power relationships, disintegrate chains.

• The supply chain efficiency issue is about ‘how to integrate’ chain activities?

Integration, and chain efficiency, is for the most part an outworking of, or a net result of, control mechanisms in the chain.

Consider …
...CONTROL THROUGH

• CONTRACTUAL LINKS..
  Formal, legally binding relationships between chain partners…too many, too few?

• FORMALISED COOPERATION
  G&K and the exploitation of ‘mutual benefits’, not head to head competition in some markets?

• MARKET PROCESSES..
  Restructuring through mergers, acquisitions, alliances

• REGULATION..
  The regulation of port authorities to prevent the abuse of monopoly power; but regulation of the chain?
BUT NOTE ALSO...

• That control is a function of the ‘whole-of-chain’ business model
ONLY THEORY...NOTHING TO DO WITH THE REAL WORLD?

• FROM SUPPLY PUSH TO A DEMAND PULL CHAIN: EXPORT COAL THROUGH THE DALRYMPLE BAY COAL TERMINAL (DBCT)

• EMERGING DEMAND PULL SUPPLY CHAINS IN CONTAINERISED RETAIL IMPORT CHAINS
• In March 2005 50 bulk carriers queued off the port of Dalrymple Bay in northern Queensland. The demurrage bill was over $50m/month; and added $10/tonne to the cost of shipping coal.

• Clearly, the demand for system capacity exceeded its supply; and inadequate infrastructure was a key issue.

• But it was clear, also, that dysfunctionality in the mine-to-port supply chain was a critical issue. The solution?
• In April 2005 the coal terminal operator (owned by major coal companies in the chain) sought authorization from the Australian competition regulator (ACCC) that it be allowed to introduce a Queue Management System (QMS). The QMS was designed to reduce the queue and the demurrage costs.

• The ACCC agreed; and under its legislation protected the company from possible litigation on the grounds of monopoly behaviour and the restriction of export trade.

• The new dynamics?
THERE WERE TWO SETS OF CRITICAL ACTIONS

The first was the need to match the demand for coal to system capacity (effectively rationing, on a pro rata basis, mine outputs) – the so-called QMS process.
THE QMS PROCESS....

Calculation of System Capacity

- Determined by Independent Expert
- Quality information from all stakeholders (e.g. Quarterly Utilisation Advice from Mining Companies, Maintenance plans from NA)

Determination of Queue Reduction System Capacity (if required)

- Reduce vessel queue to a working queue (~1.26Mt)
- Monthly contract tonnage
- System Capacity
- Aggregate monthly contract tonnage

Calculation of Initial Allocation of Entitlement

- Entitlement amendments due to revised QRSC, swaps, pooling, buffer

Revised Allocation of Entitlement

Preloading Requirements

Vessel Loading

System Management Report

- Entitlement updates
- Terminal performance
- Discretionary loading
- Other relevant information
The second was the need to manage the end-to-end logistics pathways – from mine to ship loading (the so-called pre-loading process).
THE PRE-LOADING PROCESS...

3 Month User Forecast

Parcel Nomination

Ship Nomination

Ship Arrival Notification

Berthing Plan

Coal Availability Confirmation

Parcel Assembly Plan

T.L.

48 Hour Schedule

Loading Vessel

Final at 14 Days (User)

Initial Advice no later than 10 Days from ETA (Vessel)

14 Days prior to berthing (Operator)

7 Days prior to berthing (User)

7 Days prior to berthing (Operator)

72 hours prior to berthing (User)

48 Hour Schedule

Report and Review

Copyright © 2004 Accenture
Effectively, the critical actions restructured the supply chain from a supply push to a demand pull chain involving

• The creation of the terminal manager (DBCT P/L) as the de jure ‘Brand Manager’ or ‘Channel Master’; and

• The creation of cyber networks for real-time information exchange between chain players – as in an effective ‘demand pull’ model!

• Not simply a new chain architecture...but a new business model expressing itself in a new chain structure!
THE CHANGE FROM A SUPPLY PUSH CHAIN...

Where is the brand manager?
TO A DEMAND PULL MODEL?

THE DE JURE BRAND MANAGER

REAL TIME INFORMATION NETWORKS

VESSEL INFORMATION
- 14 days prior to arrival, confirmation of coal availability; vessel;
- 10 days prior to arrival, notification of vessel ETA
In Australia the retailing industry, and particularly the food, liquor and grocery sector, is dominated by two very large players – the Coles Group and Woolworths.

In 2007, the two firms

- Generated sales of around A$80b; operated about 5500 retail outlets; employed around 350000 people; and accounted for about 75 percent of sector sales
- Were long-established firms – Coles from 1914 in Victoria; Woolworths from 1924 in Sydney, with its ‘Stupendous Bargain Basement’ store; but remained exceptionally competitive;
- From around 2000 both had defined strategies which focused strongly on redefining their supply chains
For simplicity the focus is here on

THE WOOLWORTHS SUPPLY CHAIN STRATEGY

• In 1999, Woolworths introduced its ‘Project Refresh’ program
  • Its ‘four strategic pillars’..
    • ‘Every day low prices to drive sales
    • Establishing cost leadership to allow greater price reduction
    • Inventory and supply chain management to further reduce costs…
    • And capital and balance sheet management to drive earnings per share growth’

In August 2007, the Project had reportedly delivered A$7.3b savings over 8 years.
Key elements in the Woolworth’s supply chain strategy

By 2006, the firm had rationalised the number and location of its distribution centres from 32 to 11 regional centres and 2 national centres – though in mid 2006 only 6 of the 11 were operating.

The firm’s supply chain strategy has been designed to achieve improvements to service levels, to end-to-end costs and to working capital ratios with its key characteristics being

- ‘A demand-driven integrated end-to-end supply chain
- With control over both primary and secondary transport and
- Minimization of ‘direct to store delivery’ and
- An optimized network with flexibility to meet future business needs.
WOOLWORTHS’ SUPPLY CHAIN ARCHITECTURE

<table>
<thead>
<tr>
<th>SUPPLIER DC’S</th>
<th>RETAILER DC’S</th>
<th>STORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier Logistics</td>
<td>Retailer Logistics</td>
<td>Retailer Logistics – Control &amp; Visibility from End-to-End</td>
</tr>
</tbody>
</table>

Current: Supplier Logistics | Future: Retailer Logistics – Control & Visibility from End-to-End
WOOLWORTHS’ DEMAND PULL RETAILING MODEL

Cyber information nets; includes some transport links
DIFFERENT MARKET SPACES, SIMILAR BUSINESS MODELS...

• Efficiency in the port-oriented export coal chain
  • Has been facilitated by regulation
  • Which induced chain redesign
  • But which reflected a new business model

• Efficiency in the retailing chains
  • Has been imposed via market power;
  • Which induced chain redesign;
  • But which reflected a new business model!