The Emerging Global Direct Distribution Business Model – Its Making and Research Opportunities

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Size of Global Trade

- World merchandise exports have risen from $157 billion in 1963 to $8.907 trillion in 2004.
  (close to 57 times growth in about 4 decades)

Source: WTO Statistics
## TRADE VALUE OF THREE MAJOR TRADING BLOCS IN THE WORLD

<table>
<thead>
<tr>
<th>Trade Region</th>
<th>Total Trade in US Billion $</th>
<th>Trade inside Region (% of Total Trade)</th>
</tr>
</thead>
<tbody>
<tr>
<td>America (NA + LA)</td>
<td>1,375</td>
<td>834 (60.7 %)</td>
</tr>
<tr>
<td>European Union</td>
<td>3,145</td>
<td>2,130 (67.7 %)</td>
</tr>
<tr>
<td>Asia</td>
<td>1,901</td>
<td>949 (49.9 %)</td>
</tr>
<tr>
<td>Total</td>
<td>6,421</td>
<td>3,913 (60.9 %)</td>
</tr>
</tbody>
</table>

Changing Global Business Logic

• Customer-centric
• Time sensitive
• Demand-driven
• Lean and Agile
Natures of Global Supply Chain

• globalization
• electronic revolution
• global logistics express network
Country A

- Worldwide source of expensive components

Country B
- Regional assembly plant taking advantage of:
  - Good geographic position
  - Strong infrastructure
  - Skilled work force
  - Good airport and port
  - Local sources for low value/high bulk components

Country C
- Local assembly and sourcing of some products because of import duty differentials

Country D, E, F
- Local inventory to provide same day delivery to match competition

Country G
- Use of local dealer in country G with experience of distributing to country H

Country H
- Customers
Revolution in Notebook Computer Supply Chain

<table>
<thead>
<tr>
<th>Notebook</th>
<th>Shipment Volume (10,000)</th>
<th>Ave.Unit Sales Price (US$)</th>
<th>Tot.Mkt. Sales (US$B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>2,575</td>
<td>1,630</td>
<td>42</td>
</tr>
<tr>
<td>2002</td>
<td>3,003</td>
<td>1,500</td>
<td>45</td>
</tr>
<tr>
<td>2003 *</td>
<td>3,786</td>
<td>1,370</td>
<td>52</td>
</tr>
<tr>
<td>2004 *</td>
<td>4,737 (4,608&amp;)</td>
<td>1,285 (1,370&amp;)</td>
<td>61</td>
</tr>
<tr>
<td>2005 *</td>
<td>5,591 (5,944 &amp; )</td>
<td>1,080 (1,131&amp;)</td>
<td>61</td>
</tr>
</tbody>
</table>

• How about 2006?
Structural Change

BEFORE – MTS Supply Chain

AFTER – JIT Supply Chain
Reasons for Change

- Competition drives the change of business models of brand companies – competing not just on price, product, recently more on services (logistics).

- The change of business models drives the change of operational models in the supply chain, particularly ODM and domestic and international logistics service providers. – the emergence of Taiwan Direct Distribution Model (Quasi-Borderless Physical Direct Shipping).

- The change of operational models in the supply chain drives the change of government regulations on international cargo movements. - partnership status, 24 hours customs clearance, electronic customs clearance, etc.
Emergence of Global Direct Distribution Business Model

- Global Direct Distribution Business Model (GDD): the business model that combines and synchronizes the fast production cycle and the fast delivery cycle of global products similar to that of the notebook computers’ supply chain.
Forward Logistics  China-based NB Computer Global Supply Chain

Global Direct Distribution

CEC

JIT Production (BTO&CTO)

M-2d  IV-0.5~1d  T-0.5d

NA

AF-1d

AF-2d

DC

IV-7d

LD

NA

DS-1d

DS-2d

Users

OTD – 7 to 14 days

Land

Air
Industry Case Studies

• Acer Computer’s Shift to Direct SCM
• Pentax’s Advanced Direct Distribution System
• Timex’s Global Direct Ship Program
Acer Computer’s Shift to Direct SCM

• Before 2001, Acer was both a brand name PC/NB company and an ODM manufacturer with separate internal business units handling these two major customer segments.

• Due to the shift of notebook computer distribution of her major competitors such as Compaq (now merged to HP) and DELL to GDD, Acer could not compete effectively and often have operational conflicts between her two internal business units for setting up production and delivery priorities to own brand distributors or ODM customers.

• The consequence was the loss of major orders from ODM customers and the worsening of the profits. This had shown also directly on Acer’s stock price at home, with historical poor record of 10 New Taiwan Dollars (exchange rate at 1US$ to 30 NTD in 2003).
Acer Computer’s Shift to Direct SCM

• Acer made a major corporate decision to reorganize the company to spin off ODM manufacturing unit to an independent and purely ODM manufacturer and keep only brand name unit as a sole business for Acer Computer.

• The supply chain strategy for new Acer after 2001 has been “Direct SCM” which is the term used by Acer for supply chain communication purpose but the essence of “Direct SCM” is actually GDD.

• This dramatic shift of supply chain strategy has brought to a large leap in Acer supply chain efficiency and effectiveness, that had shown in the dramatic increase of stock price to 60 NTD, a 5 times increase since the implementation of the new supply chain strategy.
Acer Computer’s Shift to Direct SCM

Before – Lack of Integration

Acer HQ
Acer Plant
Acer Regional office/DC
Distributor/Customer

After – Supply Chain Integration (2001)

A Manufacturer

A Brand name firm

Acer HQ
Acer Regional Office
ODM Plant
Distributor/Customer

Product distribution strategy:
- minimum inventory
- direct SCM
- partnership
- duplication/inefficiency reduction
Pentax’s Advanced Direct Distribution System

- Japan’s Pentax Corporation manufactures and sells high-value digital and film cameras in the global markets.
Pentax GDD – Thrust for Change

• An entirely new business model that allowed Pentax to maximize sales potential and minimize long-term inventory levels.
Pentax GDD – Before Change

- User Markets: the U.S., Canada, and the Caribbean.
- **Indirect** factory-to-retailer lead time: 1 Month
- Push-based **two-layer** Supply Chain (Make-to-Forecast)
Pentax GDD – After Change

- User Markets: the U.S., Canada, and the Caribbean.
- **Direct** factory-to-retailer lead time: 5 days
- Pull-based one-layer Supply Chain (Make-to-Forecast)
## BUSINESS MODEL COMPARISON - TGD AND GDD

<table>
<thead>
<tr>
<th></th>
<th>Traditional Distribution</th>
<th>Global Direct Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Distribution</strong></td>
<td>Multi-echelon</td>
<td>Direct to customer</td>
</tr>
<tr>
<td><strong>Supply Chain Design</strong></td>
<td>Push-based</td>
<td>Pull-based</td>
</tr>
<tr>
<td><strong>Inventory</strong></td>
<td>Buffer inventory at each echelon</td>
<td>Inventory only on two ends of supply chain</td>
</tr>
<tr>
<td><strong>Logistics</strong></td>
<td>Only between adjacent echelons</td>
<td>Highly integrated from end-to-end</td>
</tr>
<tr>
<td><strong>Information</strong></td>
<td>Only between adjacent echelons</td>
<td>Highly integrated from end-to-end</td>
</tr>
<tr>
<td><strong>Flexibility</strong></td>
<td>Low (in months)</td>
<td>High (in days)</td>
</tr>
<tr>
<td><strong>E-Commerce Support</strong></td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>
Global Direct Distribution
Conceptual Framework

Tariff
Customs Clearance
Int’l Logistics Infra.
Domestic Logistics Infra.

Close partnerships between public and private sectors among multi-countries

Producer X
Freight Logistics Service Provider Z
Brand Y
End Customer 1
End Customer 2

Supply chain/Logistics capability
Information capability
Research Opportunities

- **Business issues:** What kinds of products are best for the use of GDD? How does a firm without previous experience of GDD design her GDD? What competitive advantages applying GDD can create? How does a firm assess the performance of GDD? Which information and logistics solution providers should be chosen as the supply chain partner in GDD? Which foreign markets should be first to penetrate through GDD? How to develop a foreign market that is GDD ready? Will GDD be too lean to cause supply chain disaster when supply chain is disconnected for man-made or natural reasons? et al.
Research Opportunities

• **Organizational issues**: What are the rules or policies to be followed by the supply chain partners in private sector? Similarly in public sector? How can a firm develop human resource needed for GDD? What metrics should be developed to evaluate the contributions of supply chain partners to ensure strong bondage? et al.
Research Opportunities

- **Technology issues:** What are the technology requirements to ensure necessary connectivity with end customers, contract manufacturers, and logistics service providers? Should company develop in-house or procure from outside technology vendors? What and how collaboration platform should be used? et al.
Research Opportunities

• **Resource management issues:** Can small companies jointly use facilities in GDD supply chain? Can SMEs in the same trade region jointly design internet trading platform to market fine products to other trade regions? et al.
Research Opportunities

• **Economic issues**: Since GDD application is growing, what will be its impact on global trade? Is there any economic model that can be developed to better describe the total economic impact of this emerging global business model? Is there any negative economic effect caused by GDD, for example, fuel consumption exhaustion? What are the economic justifications for SMEs to use GDD? et al.
Research Opportunities

• **Environmental issues:** What are the environmental impacts of GDD? Will the fast growth of global trade by GDD speed up the depletion of energies and cause energy crisis in the future? Will GDD allow stronger connectivity and fast economic growth of developed economies but cause the stagnation or even deterioration of the poor economies region of the world? et al.
CONCLUSION

• This paper hopes to disclose enough information of a fairly new global business model: Global Direct Distribution and provide a foundation for global business and research society to explore and study.