

TRANSPORT INTERMEDIARIES: TYPES AND SELECTED DRIVERS OF EFFICIENCY

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The efficiency of transport intermediaries is described as the ability of those entities that provide third party supply chain logistics services to achieve the desired goal of timely, safe and compliant delivery of the shipper's goods through the international supply chain at the lowest practical cost.

Introduction

Transport intermediaries play a critical role in international commerce and the development of the global marketplace. While large producers often possess the ability to execute many logistics functions in-house, smaller companies and inexperienced exporters lack the expertise or resources to do so.

Freight intermediaries link the international supply chain by facilitating market access for exporters. The use of freight intermediaries allows a firm to enter foreign markets without specific operational knowledge or experience in those markets.

Eighty percent of the world's cargo passes through the hands of freight intermediaries. Freight forwarders, consolidators, customs brokers, NVOCCs, and 3PLs operate in every country, and the international share of revenues for freight intermediaries is projected to continue increasing by as much as ten percent annually.

Types of Intermediaries

Freight Forwarders

Freight forwarders typically act as a shipper's agent during the shipping process. Freight forwarders select the mode and carrier for their clients' shipments, provide and process documentation, and make freight, terminal, and handling payments on behalf of their clients. In operational terms, forwarders primarily focus on consolidating or combining many small ship-

ments into a single large shipment, which can then be shipped at a lower cost. Typically, a freight forwarder will purchase unit(s) from a carrier and sell space within the unit(s) to several shippers. The cost charged for this space is significantly less than the cost of an entire unit and thus allows small shipments to be processed efficiently.

A forwarder can engage a number of intermediaries on both ends of the cargo movement to enable door-to-door service. Door-to-door movement of cargo can reduce transportation costs and give control of the shipment to the exporter.

To learn more about freight forwarders or to view a listing of national representatives of the International Federation of Freight Forwarders Associations, visit:

<http://www.fiata.com/>

NVOCCs

Non-vessel operating common carriers (NVOCCs) buy space from ocean carriers for consolidated shipments from a variety of clients. NVOCCs specialize in less-than-container load (LCL) shipments and perform many of the same functions as freight forwarders. Unlike forwarders, however, NVOCCs are common carriers that use containers rather than vehicles or vessels. NVOCCs are frequently the customers of freight forwarders and the clients of ocean carriers. A typical situation might involve a NVOCC combining a partial load from Durban bound for Antwerp from Forwarder A with a partial load bound for Antwerp from Forwarder B, and subsequently hiring an ocean carrier to



**Case Study:
The Integrated Export
Packaging Information Kit
(PAckit)**

In cooperation with International Trade Center (ITC) and a local consultant, the Jordan Export Development & Commercial Centers Corporation (JEDCO) has prepared "The Integrated Export Packaging Information Kit (PAckit)" which will be finalized and available to interested Jordanian companies soon.

The study covers foreign trade and logistics infrastructure, basic information on the market for packaging and the packaging industry, aspects of quality and standards, and governing environmental laws in addition to other useful information.

For more on Jordan's export development program, visit: <http://www.jedco.gov.jo/>

move the loaded container from Durban to Antwerp.

As transport costs for loaded and empty containers are often the same, NVOCCs try to find backloads for empty containers returning to port from inland locations, which allows NVOCCs to obtain revenue on the return of empty containers to port while enabling the flow of goods.

For a list of major NVOCCs and other ocean transport intermediaries, visit the U.S. Federal Maritime Commission: <http://www.fmc.gov/>

Customs Brokers

Customs brokers escort goods through the customs process and have experience with local customs regulations and trade practices. Brokers ensure compliance with laws and verify that customs documentation has been completed.

To learn more about customs brokers, visit the International Federation of Customs Brokers Associations: <http://www.ifcba.org/>

Export Packers

Export packing firms supply packaging materials and services for overseas shipments. Export packers specialize in packing for maximum shipment cost efficiency and typically are familiar with any agricultural restrictions and quarantines that pertain to packaging material.

Typical clients of packers are producers that are capable of marketing products locally but that lack the expertise to correctly protect their goods for international movement. Packers are also employed by exporters that require specific packaging of their goods for transport.

For details about the requirements for export packing, see US International Trade Administration: <http://www.export.gov/packing.html>

Export Management Companies (EMC)

EMCs act as agents for domestic firms in overseas markets. Using an EMC gives a producer immediate access to foreign market knowledge and export know-how, regardless of its experience

in foreign markets. An EMC is an independent firm, which in effect acts as the exclusive export sales department for a producer or industrial group. An EMC functions in foreign markets just as a sales representative or exclusive wholesaler functions for a manufacturer in the domestic market.

Export Trading Companies

Export trading companies locate buyers in foreign markets and manage most of the export arrangements for the product. This may include documentation, inland and overseas transportation, and compliance with foreign governmental regulations.

Efficient intermediaries enable a manufacturer to effectively move goods in three ways: through heightened compliance, timelier clearance and movement, and more cost-effective allocation of resources.

It is essential that the efficiency of transport intermediaries be achieved through universally agreed-upon trade procedures and practices with the use of electronic techniques for information transfer. Such practices will significantly improve trade efficiency.

For an example of an export trading company, see:

<http://www.exportjamaica.org/jetco/>

For more information about the range of services offered by export management companies, see US Department of Commerce's "Basic Guide to Exporting."

Indirect Exporting:

<http://www.unzco.com/basicguide/c4.html> - *Approaches*

Export Intermediaries:

<http://www.unzco.com/basicguide/c3.html> - *Intermediaries*

Drivers of Efficiency

Market Size

The market for freight intermediaries determines the number and type of agents, as well as their efficiency. Factors such as transportation infrastructure, transparency of customs procedures, volume of trade, trade imbalance, product type, geography, accessibility of product

source to passable roads and other transportation links, political stability, and investment climate all act as market forces that determine the scope of freight intermediaries in the marketplace.

Regions with high volumes of trade attract regular carrier traffic. Regular traffic of large vessels and wide body freighter aircraft in turn attracts sophisticated global players from the freight intermediary sector. A region that requires significant imports of finished goods, but that exports a modest amount of commodities shipped in bulk, attracts a different set of freight intermediaries than a region that has a larger and more balanced trade profile. Proximity to port of export and quality of transportation infrastructure between the producer's location and the port affects the number of producers and intermediaries that can afford to enter the market.

Even in regions where demand for intermediaries is limited, one or more global logistics players may exist on the market. Foreign intermediaries such as DHL, Pan Alpina, and even ocean carriers such as Maersk Sealand, offer door-to-door international service and expertise in distribution networking, and work with concepts such as just-in-time delivery. Door-to-Door services offered by these intermediaries, however, are comparatively costly and in many markets serve only the needs of a small percentage of exporters. Typically, local operators that provide fragmented and unsystematic services serve the most lucrative export regions; these services offer little in the way of helping exporters gain a competitive advantage through efficient transport practices.

Political Concerns

Political concerns impact the market in many ways. A 2002 World Investment report by the United Nations Conference on Trade and Development (UNCTAD) cites four policy framework factors that impact export competitiveness:

- ◆ Political and socio-economic stabil-

ity;

- ◆ Rules related to setting up and operating firms; and
- ◆ Standards and treatment of foreign affiliates; and.

To purchase any of UNCTAD's World Investment Reports, visit:

<http://www.unctad.org/Templates/Page.asp?intItemID=1485&lang=1>

A politically stable environment can offer better potential for long-term investment from freight intermediaries seeking to establish distribution centers or trade hubs. Recent attempts to establish trade zones demonstrate that free trade policy creates market demand for sophisticated freight intermediaries that are able to transact electronically and offer global services. Tariff elimination or reduction influences trade and therefore the volume of goods moved. Political will to invest in transportation infrastructure can drive business development, especially in those regions located far from ports.

Movement of goods between ports and remote regions requires freight intermediaries that are intermodal-savvy and capable of integrating domestic and international forwarding services.

Set-up and operating costs frequently determine the players on the market. A less transparent set of rules governing operations tends to limit the number of freight intermediaries willing to enter the market. Treatment of foreign affiliates and agreements with foreign direct investors may attract or discourage multinational freight intermediaries.

Of the traditional microeconomic forces that shape markets, competition is worth close examination in the context of freight intermediary presence in a given economy. Political concerns influence the number and type of players on the market as well as the intensity of rivalry. Monopolistic competition and pricing strategies act as barriers to new entrants and generally drive service quality down and prices up. For example, government ownership of rail lines and rail forward-

Trade Corridors

Trade corridors have an important effect on the efficiency of freight movement.

- ◆ Poor roadways and slow truck traffic along routes from ports to inland destinations reduce efficiency and increase costs.

- ◆ Inland cargo movement contributes significantly to the cost of international transport and inefficient intermediation.

- ◆ Ocean carriers supply containers to their customers but frequently require them to use the ocean carriers' designated, frequently exclusive, agents to move the container inland by truck.

In contrast, efficient markets have intermediaries operating in field load consolidation, container leasing and independent trucking, all of which can reduce the cost of transport.

ing is common in developing economies. This forces freight service providers to buy rail freight from only one supplier, frequently of substandard service quality. Regulations restricting freight intermediaries through market qualitative processes such as licensing and examination requirements (FIATA, IATA, IRU, FMC) tend to increase the quality of freight intermediaries on the market, provided compliance to regulations is a transparent procedure and not one that is enforced arbitrarily.

According to the WTO 2004 World Trade Report, freight costs in developing countries are, on average, 70 percent higher than in developed countries. A recent study in the Journal of Business Logistics indicates that poorer economies pay disproportionately higher costs to transport goods. In 2000, the poorest economies spent 16.5 percent of GDP on logistics, while the wealthiest economies spent 11.8 percent of GDP. For commodities sourced in parts of sub-Saharan Africa, transportation can represent as much as 40 percent of the cost to bring the commodity to market.

Much of this difference can be attributed to inefficiencies in the transportation infrastructure and customs procedures. Thus, the competitive advantages represented by tariff reform, cheaper labor and lower output costs can be readily offset by higher logistics costs and perceptions of irregular or unreliable delivery of product.

Type of Product

An economy that is largely dependent on the trade of a small range of goods calls for less sophisticated freight intermediaries. Such an economy may require primarily bulk facilities and vessels to export traditional agricultural products, as these economies possess limited facilities for handling container vessels and little in the way of customs facilities to process express courier parcels at airports. Those economies trading in a broad range of product types at signifi-

cant volume levels have, or are in the process of developing, an infrastructure to support all modes of cargo movement. Such markets require advanced logistics service providers that operate across the transportation spectrum.

The drive toward containerization and intermodal movement of cargo requires physical and policy infrastructure to support container movements. Carriers are unlikely to call on ports where poor infrastructure and few available cranes mean that vessels will be committed to lengthy unloading and loading times. Fewer carriers calling on port reduces the number and the efficiency of freight intermediaries on the market.

For the full 2004 WTO World Trade Report, see: http://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report04_e.pdf

Measuring Efficiency

Performance Measurement Through Benchmarking

Until quite recently, transportation functions were largely treated as cost centers, and few tools have been developed for measuring performance of freight integrators. Advances in data collection have outpaced industry's ability to properly mine and analyze data to create complex measurements.

Contemporary performance metrics employed by the purchaser of freight forwarding services include losses or claims ratios, on-time delivery, budget variance, compliance to pickup schedule, correct classification ratios for customs declarations, time to market (order cycle), fill ratios (product availability), average inventory levels, cost of carrying inventory, percent of orders shipped complete on first shipment, and changes in cost versus time for movement of goods along the same lane.

Internal metrics for various freight intermediaries differ. Carriers look at revenue per ton, revenue per ton-mile, and number of ton-miles accrued for a given period. Forwarders may track profitabil-

ity of certain traffic lanes and the compliance of subcontractors to service requests, as well as on-time delivery, loss or claims ratio, and customer satisfaction data.

For more information and sample metrics, see Supply Chain Metric.com:
<http://www.supplychainmetric.com/trans.htm>

Information Flows

Effective information flows and data exchange are crucial to efficiency in freight movement. Flight and vessel details, sailing schedules, bills of lading and customs documents must be produced accurately and processed in a timely manner in order for intermediaries to move freight successfully. A recent report by the Economic and Social Commission for Western Asia notes that the clearance of goods through ports and customs, on average, involves 40 steps and requires 20 signatures.

Manual entry, paper-based handling and manual transmission of information act as significant bottlenecks and sources of error in the effective handling of freight. A lack of specific data or variation in shipping information frequently results in delays or failed shipments.

The use of Electronic Data Interchange (EDI) offers the ability to resolve many of the inefficiencies caused by the errors in documentation that are typical in non-automated data processing. EDI is used by efficient transport intermediaries to transmit documents such as purchase orders, cargo manifests, customs declarations, insurance certificates and other paperwork. EDI is also used for tracking and tracing shipments and containers and for transfer of funds. The appropriate use of EDI or other information-sharing platforms allows freight intermediaries to accomplish many of the necessary steps to orchestrate efficient freight movement at a high speed and low cost.

Multiple stakeholders must have access to information about the shipment in order to execute the service. Govern-

ment officials, customs brokers, consignees, forwarders and carriers may all require data about a particular shipment in order to process the goods through the supply chain. The efficiency of transport intermediaries relies on the entity's infrastructure to obtain, process, and retain information related to shipper's transportation needs, government's requests for information, and carrier's requirements. Poor information sharing by freight intermediaries, port authorities and government officials may lead to delays and associated cost variances even though internal information flows between each party are efficient.

The development of Internet sites by freight intermediaries has allowed services and transactions to be executed more efficiently. Major carriers and forwarders continue to increase the scope of services offered online, which can greatly reduce transaction costs and the amount of time required to arrange freight movement.

Emerging technologies such as RFID and Telematics have the potential to foster significant gains in efficiency for freight intermediaries. These technologies take automated data exchange to the next level by enabling automated equipment identification, toll and payment transactions and the tracking of individual units within shipments.

Clearance and Payment Procedures

An efficient customs/border administration greatly contributes to the efficiency of freight intermediaries. The traditional approach of customs authorities in many developing countries is still largely transaction-oriented and is therefore inherently inefficient. Those customs regimes that practice a modern approach of incorporating risk management principles offer special treatment and faster processing for trusted traders. In this scenario, freight intermediaries that have proven to be reliable and trustworthy are

Case Study: India's Mangalore Customs

India is presently moving to adopt a strengthened EDI system. While still in its infancy, India Customs acknowledges the advantages of such a system and offers a website that outlines many of the associated improvements. These include significant reductions in cost and time for goods clearance, which enables both the public and private sectors to reallocate resources to other areas of need.

To learn more about India's EDI program, visit:
<http://mangalorecustoms.kar.nic.in/edi/EDI-content.htm>

It is important to note that government and commercial operators' requirements for clearance differ. The efficiency of trade may not be the primary focus of government regulators and border protection agencies. In those customs regimes where revenue collection and border security are the main emphasis, the freight movement tends to be less efficient. Introduction of less trade restrictive measures while not compromising the quality of control should be explored.

in a position to gain significant efficiencies. Expedited customs/border formalities such as two-step processing and pre-arrival clearance offer substantial time and cost savings to intermediaries.

Transparency

Transparency in documentation and procedure can also greatly improve efficiency.

- ◆ Complex clearance and payment procedures can unreasonably restrict trade.
- ◆ Greater efficiency of intermediaries may be achieved through better collaboration of parties in the supply chain.
- ◆ Inefficiencies in customs/border operations can drive carriers' operational decisions about scope and frequency serving a particular market. Insufficient equipment and personnel along with a lack of automated procedures at customs/borders contribute to poor facilitation of cargoes and often result in delays and unreliable processing times. Freight intermediaries' may lose service commitment in a given market as a result of border inefficiencies.
- ◆ Intermediaries typically prepay packaging and freight charges and may wait several months for reimbursement from exporters, putting a strain on cash flow.
- ◆ Exporters vying for financing will be evaluated not only on current financial health, but also on performance. Part of the performance evaluation of the borrowing exporter is its ability to fulfill the assumed commercial obligations, up to and including its capability to ship the right quantity and quality of product on the right date. Efficient intermediaries can support exporters by offering their expertise for consideration in the performance evaluation of the exporters.

For more information about the role of EDI in efficient transportation and customs facilitation see the ESCWA report, "Trade and Transport Facilitation: E-Business and Information and Communications Technology Applications": <http://www.escwa.org.lb/information/publications/ictd/docs/ictd-03-8.pdf>

Identification Requirements

Individual consignments must be discernible for purposes of handling, security and customs clearance.

- ◆ Transport intermediaries should be able to easily recognize and separate one consignment from another.
- ◆ New technologies such as RFID and bar codes can increase identification accuracy.
- ◆ A Unique Consignment Reference (UCR) provides a means to separate one consignment from another.
- ◆ Government mandates to ensure that shippers/intermediaries be able to certify integrity of all aspects of the supply chain, i.e. conveyances, operators, drivers, handlers, warehousemen, etc. *For additional information about UCR, see WCO Recommendation www.wcoomd.org*
For additional information about identifying, branding and packaging shipments, see US Department of Commerce's "Basic Guide to Exporting " Branding, Labeling, and Packaging <http://www.unzco.com/basicguide/c7.html> - branding

Benefits of Efficient Transport Intermediaries

Developing countries spend a far greater proportion of GDP on transportation and logistics than developed countries. Trade facilitation can significantly improve trade volumes and thus positively impact the overall wealth of nations. Efficient transport intermediaries can contribute to the trade competitiveness of a country, thereby boosting economic growth. The presence of transport intermediaries offering a range of value-added services better enables exporters to meet the demands of buyers abroad. Many buyers prioritize reliability of service, speed of delivery and good condition of cargo ahead of transportation cost.

Efficient transport intermediaries can help drive down the cost of transportation services in the market. Lower transportation costs mean savings to the exporter in the form of lower-priced import components and lower costs of the export product. These savings can be

passed on to the buyer in the form of discounts, thus making the product more competitive.

Swift and regular movement of goods allows exporters to meet just-in-time delivery requirements. Efficient cargo movements can thus enable exporters to participate in previously unavailable markets.

More efficient cargo movements imply reduced inventory carrying cost for buyers. Thus, faster moving cargo, enabled by efficient intermediaries, makes the export product more attractive to the buyer.

Efficient transport intermediaries benefit exporters by offering:

- ◆ The ability to use a trustworthy third-party logistics provider to move goods through the supply chain at a competitive cost and in a timely manner.
- ◆ Growth in production through expansion of world-wide markets such as the creation of jobs and an increase of tax revenues.
- ◆ Attraction of new investment.
- ◆ Reduction of manufacturing input costs resulting in more competitive products.
- ◆ Enhancement of predictability and consistency throughout the international transaction.
- ◆ Increased control of the shipping process. The presence of intermediaries that offer door-to-door service means that the exporter can gain more control of the shipping process than in a typical Free On Board (FOB) export. By contracting the service from one end to the other, the exporter may gain cost efficiencies and profits unavailable to him in shipping on an FOB basis.

Efficient transportation intermediaries also enable a reduction in opportunities for corruption which results in the minimization of import prices and a concurrent reduction of inflation.

Recommendations

Opportunities exist for public policy-makers to contribute to trade facilitation by promoting an environment conducive to efficiency in freight movement. While capital investment in transportation infrastructure is one method of increasing transport efficiency, the levels of investment in physical infrastructure required in most developing nations are unattainable. Nevertheless, capacity building measures enabling more efficient transportation are available to developing countries at reasonable cost in the form of educational initiatives, increased use of information technology, legislative efforts, privatization schemes, limited industry regulation and bilateral and multilateral trade negotiation.

- ◆ Increase the capacity of intermediaries and the elements in the supply chain to conduct e-commerce. It is important for developing economies to increase traders' access to the Internet, mitigate the cost of connectivity, and improve technical training to enable the work force to take advantage of the technology.
- ◆ Improve the education of shippers with the benefit of using an efficient and trustworthy intermediary.
- ◆ Limit regulation of intermediaries to licensing and bonding. Highly regulated markets reduce the number of intermediaries and drive cost increases.
- ◆ Educate producers about export markets and offer informational resources, networking and other support to stimulate export trade volume.
- ◆ Use existing standards and/or develop new guidelines for open data interchange through a joint and well-coordinated collaboration between transport intermediaries, their vendors, and customers and border agencies.
- ◆ Develop partnerships with government agencies to improve security and information flow, e.g. US Customs-Trade Partnership Against Terrorism (C-TPAT).
- ◆ Improve coordination of transport intermediaries with international and

Endogenous Tools for Policy Makers

- ◆ When a government strictly controls or regulates transportation services provided in the market, shippers generally suffer due to decreased service levels and non-competitive practices among players. Pricing controls limit routings and frequency of service routes and the variety of services offered. Domestic policy concerns for employment and industry protection conflict with market forces and should therefore be separate considerations.
- ◆ Government supports efficient transportation intermediaries best when it limits its role in transportation regulation and works to stimulate trade. Operator exams and enforcement of equipment standards are all areas where government can contribute to development of efficient freight intermediaries.
- ◆ Trade agreements that drive exports are opportunities for governments to stimulate trade and economic growth, attracting investors and more sophisticated freight movement requirements. Tax concessions for exporters, along with financial tools that give exporters more leverage in the shipping process, encourage more effective trade.
- ◆ The establishment of free trade zones presents an opportunity for a locality to serve as a regional hub.
- ◆ The privatization of state-owned transportation enterprises encourages greater efficiency among intermediaries.
- ◆ Open investment in transportation infrastructure to foreign capital.
- ◆ Coherent policy for intermediaries operating on the market.

Exogenous Tools for Policy Makers

- ◆ Government-supported financial initiatives, such as load guarantees, can support more efficient freight intermediaries. Encourage commercial lending institutions to make forwarders and intermediaries eligible for short-term loans to cover transportation costs for goods for export.
- ◆ Mutually-developed process mapping and agreements with adjacent customs regimes can serve to expedite border crossing, a major source of bottlenecks in cargo movements.
- ◆ Follow trends in commodity financing. Educate policy-makers and exporters about what options exist for obtaining capital to reach export markets.

regional organizations. One way to do this is to increase participation in the development of standards and guidelines.

- ◆ Adopt and support policy that views transportation infrastructure as a source of competitive advantage.
- ◆ Encourage freight exchange services. A marketplace where loads can be matched with available trucks can be a self-automated efficiency driver.
- ◆ Encourage development of container leasing service.
- ◆ Explore opportunities in bilateral agreements for the Fifth Freedom of the Air for air carriers. This enables the right granted by one country to another country to land and unload, in the first country, approved passengers or cargo coming from or destined to a third country (i.e., an airline of Country B may unload passengers or cargo of another country in Country A, or may pick them up in the Country A to go to a country other than Country B.).

Market data concerning trade imbalances can be a powerful tool for exporters seeking to take advantage of less costly routings. For example, the number of containers returned empty into Japan from Latin American markets can be up to 50 percent of vessel loads. This means that price advantages on Japan-bound cargo are available to Latin American exporters if they know where to look.

For a detailed view of the benefits of efficient transportation intermediaries and tools for policy makers, see John Raven. "Trade and Transport Facilitation: A Toolkit for Audit, Analysis, and Remedial Action." December 2001:

<http://www.worldbank.org/html/fpd/transport/publicat/twu-46.pdf>

Also, see World Bank Economic Commission for Africa, SSATP Working paper No. 4, "Trade and Transport Facilitation Guidelines":

<http://www.worldbank.org/afr/ssatp/Working%20Papers/SSATPW04.pdf>

Additional Links and Resources

- ◆ Council of Logistics Management: <http://clm1.org/>
- ◆ Transportation Intermediaries Association: <http://www.tianet.org/>
- ◆ International Federation of Freight Forwarders Associations: <http://fiata.atalink.co.uk>
- ◆ National Customs Brokers & Forwarders Association of America, Inc: <http://www.ncbfaa.org/>
- ◆ Richard D. Cluck. "Will the Internet and E-commerce Make the Transport Intermediaries Obsolete?": <http://www.forwarderlaw.com/feature/ecomgl2.htm>
- ◆ "Impact of Transport and Logistics on Nicaragua's Trade Competitiveness." Tess Project, Carana Corporation. December 2003:
- ◆ Bureau of Transportation's TRANSTAT Intermodal Transportation Database: <http://www.transtats.bts.gov/About.asp>
- ◆ Barbara T. Harder. "Scoping Study for A National Strategic Plan for Transportation Information Management." Transportation Research Board. July 2003: [http://www4.trb.org/trb/crp.nsf/reference/boilerplate/Attachments/\\$file/20-07\(142\)FR.pdf](http://www4.trb.org/trb/crp.nsf/reference/boilerplate/Attachments/$file/20-07(142)FR.pdf)
- ◆ "Compendium of International Trade Facilitation Recommendations." UN/CEFACT, 17 January 2001: <http://www.unece.org/cefact/refer/comp/home.htm>
- ◆ John Raven. "Trade and Transport Facilitation: A Toolkit for Audit, Analysis, and Remedial Action." December 2001: <http://www.worldbank.org/html/fpd/transport/publicat/twu-46.pdf>
- ◆ WCO Unique Consignment Reference (UCR)": http://www.wcoomd.org/ie/en/press/ucr_new_e.pdf
- ◆ Driving Out the Middlemen: <http://www.businessworldindia.com/oct0404/indepth.asp>
- ◆ Trade Enhancement for the Services Sector (TESS): http://tessproject.com/products/special_studies/trans&log.htm
- ◆ Role of Transportation Logistics: http://tessproject.com/products/special_studies/trans&log_phase_1_report.pdf

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