CHARTING INTERNATIONAL LOGISTICS CHANNELS

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ABSTRACT

The "channels" concept is useful in explaining the continuing relationships in the supply chain necessary for sales transactions to take place and to continue. This paper looks at an exercise used in an undergraduate international logistics class that forces students to focus on a channel and study relationships within the channel and with other channels. Student teams take the documents associated with an export or import transaction and develop the transaction's documentation channel.

INTRODUCTION

The "channels" concept is useful to marketing instructors since channels illustrate transactions as a continuing series of relationships. As transactions become more complex, the approach is useful to those attempting to understand the entire process. This paper deals with a very specialized channel associated with international marketing, and shows how subjecting the channel to detailed scrutiny can be a teaching tool.

International transactions are more complicated than domestic ones. Nearly every aspect involves more steps, takes more time, and costs more. To examine this complexity, it is useful to study the relationships of primary and facilitating members who participate in the arrangement. This paper will first discuss the various channel flows and their relevance to international transactions. Second, it will describe a teaching method of having students analyze and diagram some of the channel components.

THE MARKETING CHANNELS APPROACH

Stern and El-Ansary's (1996) definition of a marketing channel is a useful starting point; we modify it slightly so that it fits better the complexities involved in international transactions.

Marketing channels can be viewed as sets of interdependent organizations involved in the process of making a product or service available for consumption or use. From the outset, it should be recognized that not only do marketing channels satisfy demand by supplying goods and services at the right place, quantity, quality and price, but they also stimulate demand through promotional activities of the units (e.g. retailers, manufacturers' representatives, sales offices, and wholesalers) constituting them. Therefore, the channel should be viewed as an orchestrated network that creates value for the consumer through the generation of form, possession, time, and place utilities. (pp. 1-2)

All channels carry information shared freely among channel members and between channel flows. One of the functions of the system is to give each member sufficient information for rational decision making.

The primary (traditional) members of the ownership channel are the manufacturer, the wholesaler, and the retailer. Each, in turn, assumes ownership risk of the inventory of goods. The same, or related parties also get together in other channel flows including the negotiations channel, the financing channel, the promotions channel, and the logistics channel. For purposes of discussing international transactions we add two other channels: the documentation channel, and the hazardous materials shipment channel.

Principal parties in international transactions are called exporters and importers. International shipments require that many documents be prepared and assembled. It is not unusual for five or ten to be required; on rare occasions, the number can exceed 100. Usually all of the documents must be presented when the goods move through the importing nation's Customs. Having them all available at that point is a logistics exercise in itself. Little will be said about hazardous materials shipments other than to acknowledge that they have specialized documentation requirements and often follow unique routes.

The ownership channel covers movement of title to the goods. The goods themselves need not be physically present or even exist. For a good in great demand, one might have to buy it before it is produced; as with the Mazda Miata shortly after its U.S. introduction.
The negotiations channel is where buy and sell agreements are reached. This includes any form of communication. One part of the negotiations covers how activities in the other channels are to be handled. For example, each party will specify the point and time of delivery, and the point and time of payment. In international transactions, letters of credit are also prepared and amended as part of negotiations. The transaction cost of negotiations is also of significance to the logistics channel because the transaction costs are a determinant in the size of order.

The financing channel handles the payment for the goods. It also handles the issue of credit. The participants in the channel have different financial strengths and often one must help another to keep the entire channel alive. The logistics channel is often designed so that a payment must be received in order to trigger the release of the order. The freight forwarder often acts as the financial gatekeeper.

The documentation channel is most closely related to both the financing and the logistics channels.

The promotions channel is concerned with marketing communications, and is most closely related to the financing channel because monetary allowances are part of the promotion effort. The promotions channel and the logistics channel are linked in two ways. There may be special advertising materials such as coupon books or point of purchase displays that must be distributed with the promoted product. Second, some of the cartons or consumer packs may have special labeling and their placement at retailers must coincide with other promotional efforts.

The logistics channel covers both the movement and the storage of the product, mainly in the direction toward the consumer.

In addition to the major members, or primary participants in a logistics channel, there are many less well-known members who play minor, but very necessary facilitating roles. They are called middlemen, facilitators, or channel intermediaries. Intermediaries make the entire system function better. They spring up -- and flourish -- in areas where communications and other interactions between major parties are not well-meshed. Intermediaries also function in areas needing orderly routines, such as order processing and searching. They fill niches by providing specialized services which a primary channel member cannot perform in as efficient a manner. They are very well-focused, and often serve as buffers in the channel. They generally do not take an ownership position in the goods being handled. Facilitating intermediaries exist in each of the seven channels mentioned above.

**CHARTING CHANNEL FLOWS: A STUDENT ASSIGNMENT**

Students in an upper-division undergraduate International Logistics course are given the following assignment:

Describe an export or import movement showing dates, locations, routes, etc. of (a) the order; (b) the payment; (c) the documents; and (d) the goods. In order to considered for a grade of B or higher on the paper, you must use PERT procedures to diagram and relate the flows. The same material will be presented to class with diagrams presented as overhead transparencies.

Students were told to work in teams of two. Two-person teams seem to work best on this assignment. An "ideal" team consisted of one individual who knew PERT techniques, and an individual with contacts in the export/import business. The subject University is located in San Francisco, making it relatively easy for students to find an international trade movement to track.

Students were encouraged to come up with a trade movement that was of personal interest to them, and most groups easily identified a topic. The instructor made suggestions to a few groups which stimulated their topic selection. Considerable class time was spent describing the types of information to be gathered and how it would be analyzed so that it could be fed into PERT software. Most students in the class had already been exposed to the PERT processes in an operations research course. Students were also encouraged to seek out appropriate supporting documents from the transaction to illustrate the channel movement. Research sources were protected by concealing proprietary information.

**THE STUDENTS' PRODUCTS**

Because of the school's West Coast location, most shipments the students selected were to and from Asia. Typical of recent papers were: aluminum sheet scrap from San Jose to China, cargo-handling equipment from Singapore to Bangkok, enzyme inhalation solution from California to Switzerland.
garments from Hong Kong to U.S. via Costa Rica, golf
shirts from Malaysia to Long Beach, intrafirm
movement of batteries from New York to Santos,
Brazil, and musical instruments from Los Angeles to
Johannesburg.

DISCUSSION OF METHODS

The seven channels mentioned earlier include:
ownership, negotiations, financing, promotions,
logistics, documentation, and hazardous goods. How
well did the classroom exercise perform in supplying
useful information about each channel? Note that the
assignment was not intended to shed light equally on
all of them. The course dealt with international
logistics and some of the other channels' issues
(financing, for example) should be covered in more
depth in other international business courses.

Little was developed regarding the ownership
channel, other than one usually could tell by
documents the point at which ownership changed.
The students had no idea how clear a title the various
parties to the transaction had. (Literal ownership
of goods moving internationally is a complex topic.)

As for the negotiations channel, the students saw
only the results of successful negotiations. While
price is important, from a logistics standpoint the
negotiating item of most interest was terms of sale
such as F.O.B. plant or F.A.S. ship. This heightened
interest in the logistics channel is because the
logistics manager's responsibilities start or end at that
point. Students did pick up some information as to
why certain terms of sale were employed and this was
reported in their papers. One group did include a pro-
forma invoice as document. The pro-forma invoice is
the result of negotiating, once it is agreed upon, all
other steps follow.

The financing channel tracking focused on tracing the
payment. When letters of credit are used, one can
assume that the buyer is borrowing from his or her
bank. Flow of payment (which is slightly different
from financing) received some attention and was easy
to graph, mainly because it follows only one of two
courses: buyer to seller, or buyer to buyer's bank to
seller's bank to seller (the letter of credit). Letters of
credit did include relevant comments that dealt with
discounts, banking charges, bank office to be used,
fees for documentary discrepancies, etc.

No mention was made by students of the promotions
channel. On reflection, this channel was given less
attention in the course than others. To balance the
emphases, the instructor could draw on a source
such as Robert Roth's excellent book (Roth 1984) for
a detailed discussion of international communications
planning. Using Roth's book as a source, students
could more easily envision the promotion channel
structure and facilitating intermediaries.

The logistics channel received substantial attention.
However, product flow was not always covered
completely. Often the only information available from
the source being interviewed was the documents
covering those segments of transportation for which
the source was responsible. The typical movement
reported was to airport, to overseas airport, to buyer.
One student indicated that the exported goods
moved first to a consolidator.

The assignment brings into focus most clearly the
documentation channel. Possibly that channel
represents the greatest learning challenge. Gray and
Davies once used the expression "international
logistics" to mean "a system in which documentation
flows are as much a part of the main logistical flow as
flows of product" (Wood et al 1995). Through this
project, students became more familiar with a wide
variety of documents than they would have from a
classroom lecture or textbook description.

Students were expected to produce a set of
documents, which they all did. Sources frequently
inked out certain data on the documents; most
commonly information on the price.

How many documents did the typical report either
diagram or mention? On the average, about seven.
Here's listing of the documents found by the student
research: application for letter of credit, 1; arrival
notice, 3; bank draft, 4; brokers/forwarders invoice, 3;
cargo clearance permit (Bangkok), 1; cargo manifest,
3; certificate of origin, 6; commercial invoice, 23;
container load plan, 1; Customs bond, 2; Customs
entry, 8; Customs invoice, 1; delivery receipt, 1; dock
receipts, 4; export declaration, 3; export permit, 1;
forwarder's cargo receipt, 1; inspection certificate (s),
7; insurance certificate, 5; letter of credit, 12; letter of
credit amendment(s), 6; multiple country certificate of
origin, 2; ocean air, air, or surface bill of lading, 23;
packing list, 23; proforma invoice, 1; purchase order,
3; sales confirmation, 2; shipper's letter of
instructions, 3; shipping specifications sheet, 1; and
vessel manifest, 1.
In a few instances, students indicated that certain documents were used but that the source would not supply a copy. The students were allowed to present a blank sheet of paper, and include whatever information the source would give.

The frequency of the documents found may be of interest because it suggests how much time the instructor should spend describing various documents and their functions. A few observations about the most frequently cited documents:

1. Bills of lading are documentary evidence of title, owned by whomever is named as consignee. They are of significance to an understanding of the "ownership" channel, as well as the logistics channel.

2. The lowly packing list, which has no legal or trade significance, was required in all but one of the examples. It serves as a form of "security blanket."

3. Commercial invoices in international trade are much more comprehensive than domestic trade invoices. The international commercial invoice provides a summary of the entire transaction, going beyond terms of sale and payment to include shipping marks, dates, and remittance instructions.

Two documents found with lesser frequency, letters of credit and export declarations, are worthy of note for other reasons. The letter of credit often contains all the information needed to determine the logistics channel. That's because the document specifies packaging, labelling, vessel line, ports, sailing dates, etc. It also explained the documentation channel since it lists all the needed documents and the point where they must be presented, (e.g. "All documents must be forwarded directly to the Bank of Seoul, Seoul, by one lot, express courier"). The export declaration is required for nearly all exports. However, today larger freight forwarders transmit this data to the Federal Government electronically, and no hard copy is produced. This is one sign of the general move toward electronic data interchange in international logistics.

FedEx, UPS, and DHL now have available software which customers can use to generate all documentation needed for small shipments to many major nations. As this assignment is used in future years, the instructor will have to indicate that these shipments are not acceptable ones for analysis. As freight forwarders begin to use similar software, it may become more challenging for students to find examples of more traditional hard copy documents.

The student researchers' presentation of the work flows was in the form of PERT charts. Some students constructed separate channels for payment, goods movement, and documentation, and then attempted to integrate the three channels into one.

The PERT techniques were used only for purposes of analysis, rather than of management. Ultimately, for management and control purposes, the processes in the various channels must be combined. For example, certain documents are needed to trigger the flow of product. Most students combined processes from several channels and some designated the critical path.

Once one has determined the critical path, there is an additional step: to explore cutting the time of tasks along the critical path. However, to do this, one would need to know the costs of combining functions, or of speeding them up. Students can also be encouraged to explore the strategic implications on inventory and transportation costs of such reductions in time. For example, as this is being written there are many articles in the trade press concerning the development of "fastships" that would cut ocean transit times in half. How much is this time savings worth?

**SUMMARY**

A channels perspective is useful when attempting to analyze the logistics aspect of international transactions. This paper describes a class assignment that required teams of students to take an export or import shipment, and use PERT diagrams to graph the payment, logistics, and documentation channels.

**REFERENCES**

