THE LOGISTICS DIMENSION IN IRISH BUSINESS

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Figure 1 is an extract from a memorandum circulated a short time ago in an Irish firm. The identity of the firm is concealed, but it can be stated that it was importing a consignment of equipment for launch at an important Trade Show at the RDS in Dublin. The order was placed several weeks previously, and there seemed to be no reason why the equipment should not arrive one week before the start of the exhibition, in sufficient time for testing and commissioning at the RDS. Yet as can been seen things did not quite work out like that, and in fact the company had to engage in a huge management effort to ensure the consignment arrived at all, and it incurred considerable overtime and ulcer expense in effecting a last-minute commissioning. The overall cost to the firm in executive time, unplanned transport costs, the financial cost of expensive goods in transit, not to mention its unpreparedness for the exhibition, was substantial.

The most astonishing aspect about this memorandum is that it appears to be anything but untypical of trade conditions currently experienced by Irish firms. When it was used as an illustration at a conference of Irish businessmen last year [Crowley, 1985]the original intention was to illustrate what can go wrong with a firm's logistics system. However, it transpired in discussion from the floor that the example was mild compared to many other examples quoted by the participants. Is this therefore the normal way of doing business, just part and parcel of modern international trading? Is it valid for Irish firms to expect to survive and thrive while relying on a haphazard physical procurement and distribution environment?

It is only in recent years that the logistics function in business has begun to receive serious attention internationally as a central, integrative, management activity. There are indications that relatively few Irish firms yet regard it as having primary importance [Connolly, 1984], which is perhaps unfortunate, because our competitors are not quite as disorganised on the subject as we seem to be. A survey carried out during 1984 in the United States of 418 North American firms showed that between 1978 and 1983 US logistics productivity improved by an average of 12.6%,

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FIGURE 1 TRADE SHOW EXHIBITION MEMORANDUM

MEMO

TO : P. BYRNE

FROM : F J POWER
DATE : 15TH OCTOBER 1984

POINTS RE RDS CONSIGNMENT

1. THE LICENCE FOR EXPORT WAS RECEIVED BY THE UK SUPPLIER ON MONDAY 8TH OCTOBER.

2. THE SUPPLIER PROCEEDED TO "PREPARE" THE NECESSARY CONSIGNMENT PAPERS AND AS A RESULT OF THE INORDINATE AMOUNT OF TIME IT TOOK FOR THEM TO DO THIS THE CONSIGNMENT WAS NOT READY FOR COLLECTION TIL WEDNESDAY 10TH OCTOBER. SEVERAL TELEPHONE CALLS WERE MADE A) ME TO MANCHESTER TO EXERT AS MUCH PRESSURE AS POSSIBLE AND B) BILLY TO FIND OUT WHEN THE SHIPMENT WOULD BE READY.

3. THE CONSIGNMENT WAS PICKED UP AT THE LONDON WAREHOUSE THURSDAY 11TH BY EMERY THE CARRIERS AND BROUGHT TO LONDON AIRPORT.

   BY THIS STAGE IT HAD BEEN DECIDED THAT WE HAD TO AIR FREIGHT RATHER THAN SEA FREIGHT BECAUSE OF THE TIME CONSTRAINTS. THIS WILL BE AT AN ADDITIONAL COST TO US.

   I RECEIVED A PHONE CALL FROM BILLY AT APPROXIMATELY 5.10PM ON THURSDAY TO SAY:

   1) WE HAD BOOKED A SPECIAL ON 11.00 FLIGHT FROM HEATHROW AGAIN AT ADDITIONAL COST TO US.

   2) THE GOODS WERE STILL IN HEATHROW.

   3) THE PAPERS IE INVOICES FROM THE SUPPLIER WERE INCOMPLETE IN THAT THEY HAD NO PRODUCT DESCRIPTION ON THEM AND BRITISH CUSTOMS REQUIRED THIS.

   4) BRITISH CUSTOMS WOULD ACCEPT A TELEX FROM THE SUPPLIER.

   5) WE HAD OBVIOUSLY LOST OUR SPECIAL.

   6) EMERY HAD BEEN ONTO THE SUPPLIER SEVERAL TIMES REQUESTING THE TELEX BUT SO FAR IT HAD NOT ARRIVED.

   I IMMEDIATELY RANG MANCHESTER, BUT THERE WAS NO ONE THERE WHO COULD HELP ME. I RANG FOR STEVE CULVINGTON (USUALLY THE SUPPLIER CLOSES AT 5.00PM) AND FORTUNATELY GOT HIM. I

FIGURE 1, continued

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OUTLINED THE SITUATION TO HIM AND TOLD HIM WHAT WAS REQUIRED. HE PROMISED TO SORT OUT THE SITUATION AND TO RING ME BACK. HE RANG AT 5.55 APPROXIMATELY TO SAY TELEX HAD BEEN SENT TO EMERY AND THAT HE WOULD CONTACT THEM IN THE MORNING TO ENSURE THAT EVERYTHING WAS OK.

4. FRIDAY 12TH OCTOBER. GOODS CLEARED BRITISH CUSTOMS AND BOOKED AS A SPECIAL ON 11.00 FLIGHT FROM HEATHROW. ARRIVE DUBLIN AT 12.15 APPROXIMATELY. ARRANGE BLANK CHEQUE FOR VAT ESTIMATED AT #7/8.5K. CUSTOMS WILL CLEAR ON SATURDAY BY NOON AGAIN ADDITIONAL COST TO US.

1) PHONE CALL RECEIVED FROM BILLY AT 3.10PM TO SAY THAT FORWARDER IS REQUESTING VAT OF #15,000 APPROXIMATELY - WE DISCOVER THAT INVOICE VALUES ARE TOTALLY INCORRECT WHEN CHECKED AGAINST OUR OWN FIGURES.

2) RANG FOR STEVE CULVINGTON, NOT AVAILABLE, SPOKE TO ANNETTE LOWELL, AND DISCOVERED INCORRECT PRICING AND NO DISCOUNT SHOWN ON INVOICES. SHE CANNOT ALTER FIGURES WITHOUT PERMISSION FROM JEAN MARTINEZ.

3) BILLY PHONED TO CONFIRM THAT DUBLIN CUSTOMS WOULD ACCEPT TELEX SHOWING AMENDED FIGURES TO CLEAR CONSIGNMENT.

4) RANG JEAN MARTINEZ TO CLEAR CONSIGNMENT - UNABLE TO TAKE MY CALL, AT A MEETING.

5) BERNARD RINGS DE ROTH (MD), WHO CONTACTS MARTINEZ.

6) MARTINEZ RINGS US AND SAYS HE HAS CLEARED CONSIGNMENT.

7) I RING ANNETTE LOWELL - DICTATE FULL INVOICING, PRICING, DESCRIPTION, TOTAL VALUES, ETC.

8) TELEX SENT FROM THE SUPPLIER TO DUBLIN FORWARDER.

9) FRIDAY DRAMA ENDS AT APPROXIMATELY 6.10PM.

10) THE MEETING AT 4.00PM HAD TO BE CANCELLED, WILL HAVE TO BE RE-ARRANGED SOMETIME NEXT WEEK.

5. GOODS CLEARED ON SATURDAY, BROUGHT TO FACTORY AND SET UP AND FINALLY TAKEN TO RDS BY BILLY. FURTHER ADDITIONAL COST TO US IN ENGINEERING/BILLY OVERTIME BILLS AT WEEKEND RATES.

with the same firms projecting further improvement opportunities of 12.5% [A.T. Kearney Inc, 1984]. Factors leading to the current acute management interest in the area were reported as mainly the impact of high interest rates on inventories of raw materials and work-in-progress, as well as well as finished goods; rises in fuel cost; increased reliance on speed and reliability of customer service in highly competitive markets; and labour cost increases, which had drawn management attention to various labour-intensive activities such as warehousing. The essence of modern logistics theory is that materials in the pipeline, whether they be raw materials coming into a manufacturing plant or products leaving a plant or warehouse on their way to the customer, represent — particularly when interest rates are high — an unnecesary working capital expense to the firm, and that it is essential that this movement of materials be managed from an overall corporate viewpoint.

One of the results of this senior management attention on logistics as has been a consolidation of management responsibility for logistics activities. According to the Kearney (1984) study, the average number of logistics activities falling under the direct responsibility of the senior logistics executive trebled between 1973 and 1980, and this additional scope of responsibility has allowed a broadening of the perspective of productivity improvement from a previously purely functional focus (which is probably where we in Ireland still stand to-day). This new senior management attention (so far culminating in the appearance in several organisations of a Vice President Logistics) has in fact allowed some companies for the first time to satisfactorily address the tough trade-off issues that exist between marketing, manufacturing management, finance, and other corporate divisions.

The deregulation of the United States transport industry has had the indirect effect of encouraging companies to re-evaluate long standing goals, guidelines and strategies for logistics. Customer service goals, for criteria such as order cycle time, reliability, order completeness, and order sizes, are being aggressively re-evaluated in a scientific way. The locations, sizes, and roles of warehouses are being restudied, as are alternative methods of production and assembly. The enormous growth in computing power in recent years has allowed new management approaches to be developed, capitalising on the vastly increased information, communication, and analytical capabilities that now exist. Telecommunications advances have allowed the instantaneous transmission of order, shipment, and receipt data, eliminating delays and cutting the cycle time for many activities.

The Kearney (1984) study focussed particular attention on what it termed the Stage III companies — those for whom the percentage improvement

in logistics was well above average. These companies were found to have devoted more attention to information system development than other companies, to have made major efforts in the direction of developing a systems view of logistics, to have formal MBO programmes, to have standards of performance for individual functions, and to have re-organised logistics within a single business unit or at least to have consolidated elements of logistics across business units. Their most dramatic characteristic, however, is the sophistication of their logistics planning, with explicit emphasis on the setting of comprehensive customer goals, and the establishment of formal raw materials sourcing strategies. While the average company in the survey reporting a piecemeal approach has achieved logistics productivity improvements of about 12%, those which have integrated programmes were found to have achieved much more. The most progressive companies, using this integrated approach to improvement, reported an average improvement of more than 25% in the five year period.

The basic logistics task, of course, is to provide a high level of customer service while simultaneously keeping inventory costs down. A separate survey completed in mid-1980 examined inventory turnover and facility utilisation in some 1,100 companies representing eighteen industries. It was found that inventory turnover among Japanese firms had increased 31% over a nine-year period, compared with an increase of 20% in the United States and a drop of 2% for European firms [Houlihan, 1984].

There is a growing recognition of the logistics revolution as "a substitution of information for transportation" [La Londe, 1982], and that until the last few years, manufacturers and middlemen have freely used transport to buffer against uncertainty, with small uneconomic shipments and express transport services used to cope with peaks in demand or unexpected demands from customers. In the 1980s, however, new ways have been devised to solve these problems in a more cost effective way, based largely on early transmission of the customer's demand requirements. There has also been the substitution of capital for labour, with more mechanised warehousing, order-processing systems, improved delivery stystems, and in general the substitution of computer assisted decision making for human decision making (it is estimated that 80% of the errors in the average traditional US warehouse are human errors). La Londe sees integrated logistics management as entailing a new management style for the firm, which is information-based rather than as hitherto activity-based (or often crisis-based with a typical planning horizon of days or weeks).

Logistics is ever present in business, yet like electricity and water one tends to take it for granted until something goes wrong, like a fuel supply

strike or a breakdown in telephone lines. A study of the United Kingdom economy in 1980 estimated that, taking a broad definition of logistics-related functions, some 29 per cent of the UK working population is employed in logistics-related jobs [Christopher, 1981]. The same study estimated that the total cost to the UK economy of logistics in 1976 amounted to 32.5% of GDP. Estimates for the United States are of a similar magnitude: physical distribution alone has been estimated to account for almost 20% of GDP [Business Week, 1975], and logistics costs have been estimated to be about 22% of sales in the United States [Ballou, 1978].

One wonders what the equivalent figures for Ireland are. We have shorter transport distances for internal transport than the US, but ironically that can often mean higher pro rata transport prices, due to lower vehicle productivities. Also, we have to cope with expensive ferry and air transport costs for imports and exports, and in general the small population and low density reduce the opportunities for scale economies in either transport or warehousing. The UK level is probably influenced by a greater proportion of low-value raw materials such as coal and steel, which are particularly vulnerable to logistics cost, but on the other hand there are greater opportunities for scale in that country than here. Christopher (1981) emphasises that the fact that logistics costs are high does not necessarily mean that they should be reduced: rather is it a question of assessing logistics cost in the context of the service level accruing from it. Making the point that the real logistics problem in the UK is the poor service notwithstanding all that cost, he speculates on how many more British Leyland vehicles might have been sold in the United States if the distribution network for vehicles and spares had matched that of Volkswagen or Datsun.

Clearly therefore, it is essential that management recognises the cost implications of whatever its service strategy is. In offering any logistics service at all, the firm is immediately choosing to absorb some element of cost which would otherwise be borne by the customer. For example, if a company decides to deliver twice a week instead of once, it is relieving its customers of a certain responsibility for holding stock — the more frequent the deliveries, the less stock the customer has to hold, and of course vice versa.

The thrust of logistics management internationally is firmly in the direction of greater automation and an increasing use of computers and telecommunications to provide a high level of control over physical procurement and distribution. The Japanese are now extending their just-in-time (JIT) and Kanban approaches to cover the entire logistics chain, involving a precise matching of inventory held to actual materials needs,

through enlightened data collection and precise planning using artificial intelligence. This is the world of international trade in which Ireland finds itself. Looked at gloomily one might say the big economies have it all sown up, and are now merely consolidating their positions. However, looked at in a different way one can see that the various technical developments offer opportunities to a small remote country, in that they provide ways of eliminating distance and communications delays and of reducing uncertainty.

This symposium issue of IBAR comes at a time of considerable development in Irish transport, not all of which has been necessarily happy or planned. There has been the spectacular collapse of Irish Shipping Ltd, and the equally traumatic survival of the B & I Line. There is the impending split-up of Coras Iompair Eireann, the long-planned liberalisation of the haulage industry, and the arrival of the Dublin Transport Authority, all of which are awaited with mixed feelings. In its fiftieth anniversary year, Aer Lingus faces the twin challenge of growing competitiveness in its European markets and continuing overcapacity on the Atlantic routes. As Aer Rianta celebrates the recovery of traffic levels at Shannon, Knock airport opens. DART has come, the Jetfoil has gone. The private bus sector wants more competition in public transport, the Irish Sea ferry operators want less.

Attempting to impose a stability and rationale on the organisation of the transport sector, there has been the recently published Green Paper on Transport Policy [Government Publications, 1985]. The need for an explicitly defined national transport policy has been argued for many years, on the basis that new developments have been hindered by continuous uncertainty and inconsistencies regarding the availability of capital for investment; that decisions have been distorted by political intervention and conservatism; that financial and operational targets have been ambiguous and imprecise; that the modal structure of the transport industry has drifted into a shape which has been neither rationalised nor planned. Progress is now urgent in what is an increasingly dynamic technological environment, and an increasingly difficult financial one. Undoubtedly, the absence of clear guidelines and the fragmentation of responsibility for transport in Ireland have been seriously debilitating.

The six papers selected for the symposium all relate to this central issue of transport competitiveness in the contemporary business and technological environment.

Terry Stewart examines the impact of new technology on transport and logistics in the overall European Community context. Innovatory tech-

niques combining computer and telecommunications technologies seem set to create a paperless European logistics network and to facilitate just-in-time inventory principles, but will European structures allow a capitalisation on the opportunities presented?

Allied to this theme, **Kenneth Button** discusses the ability of conventional economic theory to explain the sophisticated role of transport in the logistics function of modern high-technology industry. The location decisions for firms in this sector, he argues, are influenced not just by traditional factors such as labour and site costs, but also by a range of communications related issues.

Mary Gallagher describes her recently completed study of planning practice in the short-sea ferry sector, and its weaknesses in coping with rapid change. The paper, and the planning techniques it examines, have immediate relevance to the problems of Ireland's shipping sector, but also have direct implications for the other modes as they adjust to changed market and operating conditions.

Michael O Riain assesses the impact of increased competition on the airline industry, drawing from the experience of deregulation in the United States to anticipate the appropriate European format. The question of airline competition in Europe is of course of considerable topical interest, and it raises fundamental theoretical issues in the fields of both transport economics and public administration.

John Hibbs also examines some of these fundamental issues, as they arise in the context of competition in the road passenger sector. This topic is relevant not just in the United Kingdom, where bus services are being extensively deregulated, but also in Ireland where competition in the sector has been growing rapidly. Drawing from international experience the author reviews some of the basic principles of transport competition.

In the same field, **Mary Keating** reports on a study conducted for the European Foundation for Living and Working Conditions on the effects of user participation in the organisation of weekend commuter bus services in Ireland. These services are perceived as highly demand responsive, adaptive, and competitive, although ironically these same characteristics raise issues of service stability in the longer term.

REFERENCES

Ballou, R: *Basic Business Logistics,* Prentice Hall, New York, 1978

Business Week: Marketing When the Growth Slows", April 14 1975, pp. 44-50.

Christopher M: "Logistics and the National Economy", *International Journal of Physical Distribution and Materials Management,* Vol. 11, No. 4, 1981.

Connolly, M: *Analysis of Logistics Support Requirements for Irish Industry,* unpublished Master of Business Studies Dissertation, University College Dublin, 1983.

Crowley, James A: "Transport and Distribution — New Technologies", *Annual Conference of the Irish Transport and Distribution Association,* Dublin, April 1985.

Department of Communications: *Transport Policy — A Green Paper,* Stationery Office, Dublin, November 1985.

Kearney A.T. Inc: *Logistics productivity — The Successful Companies,* Study for the National Council of Physical Distribution Management, Illinois, 1984.

Houlihan, J: "International Supply Chain Management", *European Logistics Conference,* London, November 1984.

La Londe, B: "Re-Assessing the Role of Distribution Management", *Journal of the Institute of Physical Distribution Management,* Vol. 1, No. 2, July/August 1982.