

The Supply Chain Challenge "Supply Ireland"

A Discussion Paper on the North-South Dimension



InterTradeIreland

TRADE & BUSINESS DEVELOPMENT BODY

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I Introduction

InterTradeIreland Trade and Business Development Body

InterTradeIreland Trade and Business Development Body is one of six 'Implementation Bodies' established under the British-Irish Agreement Act, 1999. Its focus is on promoting business development opportunities in the Republic of Ireland (RoI) and in Northern Ireland (NI), by seeking areas of cross-border co-operation, which can add value to each other's industrial competitiveness.

There has been an increasing emphasis on purchase/supply as an area where strategic competitive advantage may be enhanced - identified within this area is increased collaboration through supply chain management¹. This clearly contributes to the objectives of InterTradeIreland as its role is to identify issues and areas for strategic collaboration where an activity could add value to the competitiveness of indigenous industry in particular in both jurisdictions.

InterTradeIreland intends to come forward with a number of specific proposals regarding good practice and recommendations for pilot actions in supply chain initiatives arising from its consultation process: this will include initiatives in the areas of network development, supplier development and relationship development.

Purpose

This discussion paper is based on a review of theory and practice associated with supply chain management on behalf of InterTradeIreland. The review consisted of extensive research on developments in supply chain management since the introduction of new wave manufacturing practices and their increased focus on supplier qualification criteria. It also covered an analysis of agency activities identifying possible gaps, opportunities and actions to improve supply chain delivery for InterTradeIreland to consider. This paper develops a number of proposals to improve supply chain management across the island of Ireland. Its objective is to encourage debate among government bodies, industry and business organisations to assist in the identification of specific areas which might improve mutual competitiveness through increased collaboration in supply chain management, sub-supply² and supplier development³.

1. Management of tiers of suppliers incorporating the flow of raw materials from sub-suppliers to suppliers to customers to end user.
2. A network of tiers of suppliers.
3. Increase the sophistication of indigenous suppliers to best in class.

2 Description of Supply Chain Issues

IMPORTANCE AND BENEFITS OF SUPPLY CHAIN

During the 1990s the Major Original Equipment Manufacturers (OEMs) have been implementing strategies that pass a large proportion of market pressures through to their suppliers. The objective of such strategies is a reduction in the number of suppliers, a closer examination of suppliers' manufacturing operations and the imposition of demanding supplier qualification criteria.

To develop long term strategic relationships with their customers, suppliers must be competitive internationally across a range of factors including price, delivery, quality, design, performance, service and problem solving capabilities. Effective Human Resources Management (HRM) policies with regard to training and staff development must be in place to enable purchasers' criteria to be met. Supply encompasses everything it takes to satisfy customers, from determining which products they will buy, to deciding how to produce them and planning for their delivery. Every supplier performs these tasks, but those who coordinate and execute them most effectively are, and will continue to be, the leaders in their industries. The critical importance and purpose of supply chain management is the provision of customer satisfaction through an effective supply chain service.

Creating conditions for the enhancement of supply chain management and linkages represents a major opportunity to improve industrial competitiveness and economic development. These are important areas of common strategic interest. North-South (N-S) in the field of supply chain management. Some of the key benefits and conditions for success are illustrated below:

Key Benefits of Emphasis on the Supply Chain

INDIGENOUS SUPPLIERS.

- Increased market share and profitability of the indigenous supply industry.
- Supply chain development - increased number and depth of the indigenous supplier base.
- Cluster development - improved linkages between suppliers, trainers, business support providers, research institutes, centres of excellence, etc.

INWARD INVESTORS.

- Attracting new inward investors.
- Retaining inward investors.
- Encouraging second generation inward investment.

Conditions for Success in Supply Chain

- Incorporation of the totality of features associated with a supply network.
- Focus on the level of communication and social interaction in shaping innovative behaviour through supply networks.
- Development of world class indigenous suppliers.
- Concentration in key sectors for economic growth and on companies who strive and who have the ability to meet purchaser, supply standards.
- Commercial sources of information that are precise and detailed enough for industry needs.

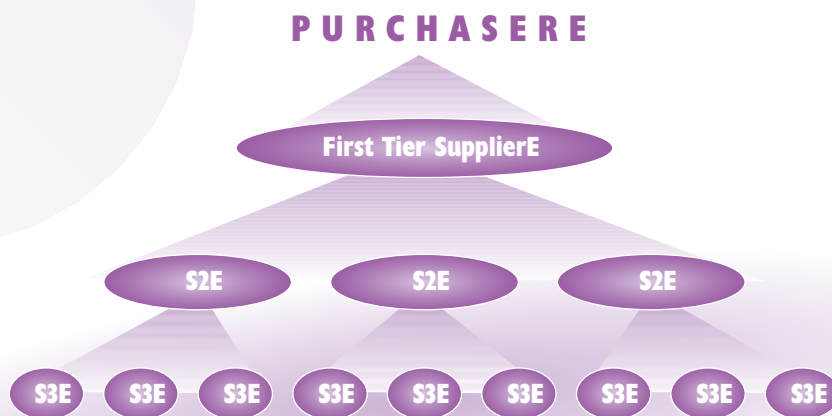
RATIONALE FOR SUPPLY NETWORKS

It is clear that the supply chain management concept has been externalised beyond the boundary of the firm to a more holistic concept of managing operations across inter-organisational boundaries. Supply networks can be seen as constituting a specific type of network, describing the flow of goods from raw materials' suppliers at one end to the final customer at the other end.

Purchasing companies are often buying assembled systems or complete sub-assemblies, rather than individual components, thus, introducing another level to the supply chain. This concept is illustrated in Figure 2.1. Since the introduction of these policies, sub-contractors are now commonly referred to as first-tier suppliers and are usually responsible for co-ordinating the required standard of supply from second, third and fourth tier suppliers. In summary, there is a complex network of suppliers feeding into each other in order to contribute to the development of the final product.

Figure 2.1.

Tiers in the Supply Chain

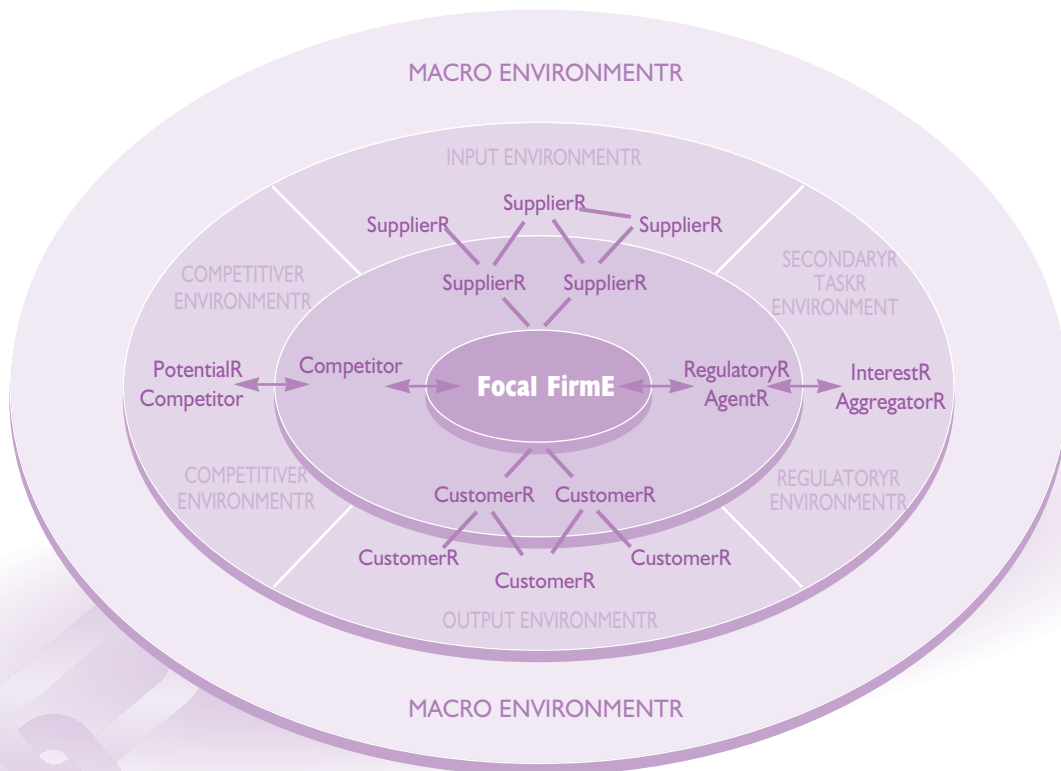


S2 = Second Tier Suppliers S3 = Third Tier Suppliers.

The channel is recognised as a single chain, including sub-supplier, supplier, dealer, customer and end-user. Horizontal links with competitors and regulatory agents are also included in the environment. This is represented in Figure 2.2 below, which provides a comprehensive view of the vertical structure of supply chain linkages combined with horizontal linkages.

Figure 2.2.

Environment of a Supply Network



Firms associate for mutual strategic competitive advantage through a number of mechanisms such as consortia and other strategic alliances, which can be undertaken in an informal or formal business arrangement. Proximity often has an impact on communications between firms but the principal factor mitigating the adverse impact of distance in supply network development is information technology. New management approaches combined with new information technologies are making it easier for companies to co-ordinate their activities. Electronic Data Interchange (EDI), Electronic Point of Sale (EPOS), Electronic Funds Transfer at Point of Sale (EFTPOS) Radios, Cellular Phones and Electronic Markets are concepts that involve rapid inter-organisational computer-to-computer exchanges of business documentation. These allow companies to react immediately to changes in customer requirements. 'EDI networks in the automotive industry substantially decreased the number of recorded errors in transactions between purchasers and suppliers'.

3 Critique of Current Supply Chain Activities North-South

The current focus of the agencies N-S are based on similar strategies largely operating independently of each other. These incorporate the following:

- supplier development programmes; and
- sourcing opportunities.

SUPPLIER DEVELOPMENT PROGRAMMES

Previous studies carried out on the island have highlighted that although improving, there is still a low level of long-term purchase / supplier relationships in many sectors. In summary, the findings concluded that poor linkage development amounted to lack of managerial, technological, and skill sophistication by suppliers - leading to poor quality and unreliable supply. There were also a number of purchasing-company constraints not related to the capacity of supply companies, i.e. policies on diversity of supply.

In response the agencies in both jurisdictions have implemented a number of supplier development programmes, and mentoring initiatives based on business planning, research, development and design, production operations, marketing, human resource development and finance for growth. These initiatives have been implemented by the agencies in order to increase the efficiency and effectiveness of suppliers whether Small to Medium Sized Enterprises (SMEs) or larger indigenous suppliers in the two jurisdictions.

Gaps Identified in Programme Development Two considerations have been highlighted with regard to operational aspects of the programmes conducted in behalf of the agencies:

- the content of the programmes tend to focus in general business improvement issues rather than the specific supply chain needs of businesses; and
- the agencies operating in each jurisdiction appear to have minimal communication or information exchange on the benefits of these initiatives, providing limited opportunities to exploit good practice and learn from each other.

SOURCING OPPORTUNITIES

Inward Investment An inward investor usually arrives at the new location with an imperfect knowledge of the supply base in the region, or possibly the whole country. There are likely to be significant barriers to the exchange of market information between the inward investor and the region's supply base. These may include:

- (i) the inward investor has to make supply chain decisions quickly - these will be key decisions and there will be a reluctance to take unnecessary risks - hence the tendency to use suppliers with which they already have established relationships; and.
- (ii) local/regional suppliers will lack knowledge of the inward investor's supply requirements in terms of product type, volumes, performance standards, delivery requirements, etc.

In these circumstances inward investors and indigenous suppliers are likely to make decisions based on imperfect market knowledge and this will most likely be to the disadvantage of the local economy. Not only will the region's suppliers be less likely to be selected, but also once the inward investor has established its supply chain it becomes much more difficult to break into. In effect, there is a short "window of opportunity" for indigenous suppliers to establish themselves with an inward investor locating on the island.

The government agencies N-S will already have an established relationship with the inward investor and will therefore be in a strong position to influence its purchasing function. The structures that have been put in place by the agencies both N-S are based on the development of sourcing opportunities and the enhancement of the supplier base separately within each jurisdiction. Throughout the establishment of the inward investor the agencies often provide a brokerage service between the inward investors and relevant indigenous suppliers.

The agencies source and identify key suppliers within their own jurisdiction; they hold databases of companies which are research driven; have a range of technological expertise; are flexible and have the capability to respond to fast turnaround times. Suppliers of items, whether strategic, leverage or commodity, are evaluated during a visit or phone call from an agency representative and determined "eligible to supply".

The agencies have companies registered on databases for a number of sectors. While operating comprehensive databases either in-house, with the assistance of purchased databases or through the use of private directories the agencies only register with suppliers which are located within their own jurisdiction. The databases maintained N-S are in almost identical sectors, which includes:

- Aerospace.
- Automotive.
- Electronics & Engineering.
- Food.
- Pharmaceuticals.
- Telecommunications.
- Agriculture.
- Textiles.
- Software.
- Timber.
- Print & Packaging.

When suitable suppliers are identified the agencies facilitate introductions and organise face-to-face meetings with major purchasers. In addition, they are available for advice throughout the negotiation process if required. The agencies also market and run initiatives for example "Meet the Buyer", where they bring together a number of "eligible suppliers" to meet with purchasers that may be considering opportunities for dealing with local or regional suppliers. Each agency facilitates meet-the-buyer initiatives for companies they have registered on their individual databases.

Gaps Identified in Sourcing Opportunity: the following considerations have been highlighted with regard to operational aspects of sourcing activities conducted by the agencies:

- current approaches may not be flexible enough to match the specific needs of purchasing organisations in terms of capacity provision and network development;
- activity is focused to a large extent on meeting the sourcing needs of inward investors at the expense of services aimed at enhancing the performance of the indigenous supply network;
- the lack of a comprehensive initiative with the authority to increase flexibility with regard to supply chain management through the facilitation and coordination of efforts of the agencies N-S. This would have the benefit of assisting the economic/industrial development agencies N-S to sell the island and its products as part of an established package of assistance;
- limited evidence of a shared vision and goals and a willingness to work across the two jurisdictions;
- there is little to no measurement of quantitative success rates or economic value to the local economies; and
- accreditation or "eligibility to supply", are determined by ad-hoc procedures.

Agencies N-S have improved the development of sourcing opportunities and enhanced supplier bases. However, they have focused their efforts on supplier development through internal organisational improvements, sometimes at the expense of cost and efficiency improvements which can be achieved through the integration and synchronisation of development support throughout the supply chain network. This is where the potential impact on company competitiveness is greatest, yet it is the most neglected part of their service.

Irish industrial development has been predominantly based on inward investment. Evidence suggests that the production units established have often failed to realise their full economic potential due to weaknesses in sub-supply linkages to the economies N-S. The consequence of this is that the embeddedness of overseas firms is lower than it otherwise should be.

A key factor for success in linkage development would be the willingness of purchasers and suppliers to work at a truly national level (reference to the island not just N-S) rather than the local/regional focus which predominates at present. A parochial approach towards supply chain development will result in sub-optimal matches and a failure to maximise supply chain opportunities.

Currently there is a modest amount of N-S collaboration in supply chain management. Any activity that does occur appears 'ad hoc' and poorly focused on the real issues involved with taking a strategic view of the supply chain.

STRATEGY APPROACHES

In addressing the prospects for enhanced collaboration throughout the supply chain the following strategic approaches must be considered:

- Establish a **Supply Ireland** facility delivered by a new unit, which may be either a virtual or a 'bricks & mortar' organisation, but must be independent of existing government agencies to ensure consistency and objectivity in the services which it provides. A key feature of this facility is effective communication between Supply Ireland and the government agencies N-S.
- **Rationalise and Enhance Existing Agency Programmes** of supplier development and sourcing in Northern Ireland (NI) and the Republic of Ireland (R.I) onto an N-S basis to avoid duplication of effort and provide a benchmark for best in class on the island. It will take some time for programmes to be aligned and guidelines to be drawn up.

Both mechanisms have very different implications for flexibility, administration and accountability etc. In our view it would be essential that they are both fully explored as part of the development of any programme initiatives outlined below.

PROGRAMME RECOMMENDATIONS

At this early stage gaps have been identified where opportunities exist for intervention. From these gaps themes of action can be identified for increased focus on supply chain collaboration. These are:

- Central Control.
- A Structured Accreditation Programme N-S.
- Sub-Supply Development Programme.
- Operational Enhancements to Existing Programmes.
- Information Technology (IT) Communication System.

Central Control

When matching purchasers and suppliers there needs to be tight central control to ensure that a consistent service is delivered across the island. This should include as a minimum: a strategic focus for the service - marketing, recruitment of companies, databases, matching process, customer follow up and aftercare; charging policy; IT systems; and meaningful performance measures. A key feature of this control is effective communication between Supply Ireland and government agencies in the R. I and NI.

In operational terms **central control** would oversee the monitoring and control of government agency work with regard to supply chain development, carry out ad-hoc impact surveys, co-ordinate the business planning process and assist with the on-going development of operational systems.

Supplier Accreditation

Before submitting a supplier's name to a purchaser the supply chain service team must confirm that the supplier is able to meet the purchaser's requirements. This confirmation should, at a minimum, involve a telephone discussion with the potential supplier (non-critical items) and in other instances necessitate a site visit and detailed capability and capacity review (leverage items). The level of detail probed for in terms of validating suppliers often varies depending on the scale of an enquiry.

When visiting a supplier an audit must be conducted with the objective of establishing whether or not the supplier can meet the purchaser's requirements. This will involve examining the production processes and controls, quality, capacity, logistics, inventory, management structures, cost structures, packaging, environment etc. of the firm in order to establish the company's ability to provide the 'total purchase package', i.e. required products within the required timescale. The audits will also help to establish the supplier's interest in the contract. The results of the audit will also identify and promote best practice, identify continuous improvement across the two jurisdictions and may act as a benchmarking tool for companies within specific sectors.

Our recommendation would be to offer two levels of accreditation N-S:

- a non-accredited service provided free to major purchasers for commodity, non-critical items which would be cost-effective to provide; and
- an accredited service for leverage items which would be at the required standard and should incur a charge to the purchaser.

This would sort out the serious enquiries from the superficial; it would minimise dead-weight assistance; and it would reduce the volume of validated enquiries to a manageable number, allowing staff more time for supplier development.

Supplier Development Programme

Government agencies need to increase substantially the amount of time they devote to supply chain development and the enhancement of the supplier base both upstream and downstream in terms of both customers and sub-supplier focus (networks). This is where the potential to impact on company competitiveness is greatest, yet it is the most neglected part of their service. To achieve this goal the following recommendations are put forward:

- (i). ring-fence a proportion of the government agencies' budgets;
- (ii). programmes tailored to sub-supplier regional needs should be developed and led by the government agencies (in contrast to the matching service, supplier development requires decentralised management and control);
- (iii). priority sectors within the regional economy should be identified for intervention;
- (iv). promote and increase awareness of the supply chain concept as the totality of features associated with a product or service that will lead to increased efficiency and overall customer satisfaction;
- (v). enhancing the interface between hosts/local partners is critical - problems of overlap have to be addressed such as with local inward investment groups; professional bodies who coordinate aspects of purchasing and supply; trade associations, chambers of commerce; and
- (vi). identify and promote best practice on the island in terms of suppliers and tiers of suppliers.

Operational Enhancements

Suggestions to enhance the effectiveness of the agencies' matching service include:

- **wider catchment** - there is some evidence that the government agencies are starting to work more and more with the suppliers that they now rather than widening the search out to new suppliers in their own jurisdiction. Increasingly the evidence has shown that agencies work almost exclusively with suppliers from either NI/Rol depending on their remit. In both cases the advisors are working with a relatively small cadre of companies with which they are familiar, possibly at the expense of better suppliers elsewhere. This is a logical trap to fall into - "better the devil you know" syndrome;
- **short-listed Suppliers** - where possible, the objective is to introduce to purchasers approximately five world class suppliers for any purchase enquiry. - these suppliers may be located N-S; and
- **networked enquiries** - the system for networking enquiries N-S needs to be reviewed to ensure consistency across the supply chain. This will involve the incorporation of aspects such as infrastructure, services and logistics in addition to the development of clusters facilitating innovation, increased capacity and best practice dissemination.

IT Systems

Trading partnerships based on inter-enterprise computing are flourishing. Improved telecommunications serve to narrow the gap, both real and perceived, between the periphery and the core, thus enhancing the opportunities for personal contact between buyers and suppliers.

The role of telecommunications is strengthening the competitive position of many businesses. However, suppliers have been slow to recognise the many advantages associated with e-business - they appear unclear as to how it will shape their relationships with customers and fear that the use of IT will add to the downward pressure on profit margins.

The issues of the e-business marketplace have yet to be worked out: hence, there is a role in influencing the development of this process. Business thinking must incorporate the value of e-business. Costs reductions are attainable as schedules are lined up over two or three tiers of the supply chain and inventory visibility is across all systems.

In addition, a national IT network must be developed to assist communication between existing government agencies N-S. In such a network it is essential that compatible software is used for individual databases and operational systems. Included in this must be the alignment of data sets collected for individual purchase and supplier organisations.

5 CONCLUSION

There is a clear opportunity for InterTradeIreland to improve the economic performance of Ireland N-S through the development of an integrated supply chain management initiative. Entitled "Supply Ireland", the objectives of this new body would be to:

- co-ordinate the supply chain work of the different agencies N-S;
- undertake a supplier audit and accreditation process for priority sectors in the economy;
- roll out an inclusive and enhanced Supplier Development Programme across Ireland N-S;
- improve the agencies' purchaser-supplier matching service;
- develop an IT platform across the agencies N-S to support their supply chain.