"Do Companies in the Food Sector Measure up?" - A Case Study of Ireland

Geraldine McHugh
National Institute for Transport & Logistics

Philip McCormack,
National Institute for Transport & Logistics

Prof. Austin Smyth,
National Institute for Transport & Logistics

Abstract
Ireland's geographical isolation in Western Europe is a challenge that most Irish business sectors must learn to deal with on a daily basis. By definition, our detachment from mainland Europe necessitates these businesses to be more efficient in the methods that they use to practice various business functions. Those companies that practice the principles of modern supply chain management have by far a better chance of overcoming the disadvantages of their location and in doing so, rise to the challenge of competing with their rivals in neighbouring markets.

The origins of this paper lie in a survey entitled *"An Assessment of the Logistics Capabilities of Enterprise Ireland's Client Companies"* published by the National Institute for Transport and Logistics (NITL) in December 2000. That survey unearthed serious issues of concern in the general area of supply chain management. However, given the ever changing nature of modern business and the challenges emanating from an enlarged EU, it is important for firms in peripheral areas such as Ireland to trace the extent of progress made by firms in particular sectors in the intervening period to 2003.

To this end, this paper reports, firstly on the methodology and findings of NITL's 2000 study with conclusions outlined informing the in-depth study into the food industry across the island of Ireland currently being undertaken by NITL. This is the most comprehensive piece of work in SCM ever undertaken on the island and reports on improvements made in the supply chain operations of the Irish food industry over the past two years. Final results are expected Nov.-end 2003.

This research into the improvements in the practices of the food sector through the adoption of supply chain management practices is grounded in the identification and definition of sector appropriate key performance indicators (KPI's). Extensive fieldwork was carried out in order to facilitate the selection of meaningful and relevant KPI's to the food sector. KPI's included customer service, order cycle time, inventory levels, inventory turnover, inbound/outbound transport costs, IT support and supplier relationships. Once these KPI's were

identified, the performance of each company was scored and evaluated accordingly.

In the final part of this study, all respondents from the survey were split into groups of small, medium and large sized companies. This offered an insight into how the three separate entities compared with one another in terms of their logistics development and capability. Results show that all three groups have unique strengths and weaknesses in relation to the management of their logistics activities not present in the other two groups.

The results of this study are of relevance to those interested in knowing whether the supply chain capabilities of certain industry sectors are improving over time. The paper also offers insight into whether real and active supply chain management can result in positive knock-on effects throughout an organisation in terms of reducing overall costs, improving service and enhancing revenues. Finally, the KPI's selected during the course of the study should give a sound idea of what activities within the supply chain need to be managed effectively in order to succeed within the sector.

This paper will be of relevance to not only current EU member states, but also those countries whose arrival into the Union is pending. Latvia, Lithuania, Estonia, Slovenia, Slovakia, Czech Republic, Poland, Hungry, Cyprus and Malta, could benefit from the findings and lessons of this paper given their own peripheral location in Eastern Europe and in the Mediterranean Sea.

Background to Study

Logistics is unique: it never stops. Few areas of business operations involve the complexity or span the geography typical of logistics. There has therefore been a heightened awareness and growing appreciation of what a carefully managed logistics function can achieve for any nature of business. We have hopefully turned our backs on the days when logistics was seen as a function that consisted merely of "transportation" duties. LaLonde (1990) for example points out that logistics has *"moved from an operational orientation to a tactical orientation to a strategic orientation".*

The importance of advanced logistics or Supply Chain Management (SCM) to the successful running of all industries in Ireland, including the food sector, cannot be denied. A report by the Irish Government agency, Forfas (1996) entitled "World Class to Serve the World", emphasised that if Ireland fails to cope with the more demanding market and logistics environment, which is rapidly emerging, exporters will lose competitiveness and market share and longer term industrial development objectives are unlikely to be achieved.

Obviously, to remain competitive in world markets companies can no longer afford to ignore the full supply chain management approach. Taking industry in Ireland as a particular case in point**,** due to increasing levels of competition and

Ireland's geographical peripheral location, companies located in Ireland have to demonstrate greater capability in logistics management than companies located in more favourable market locations.

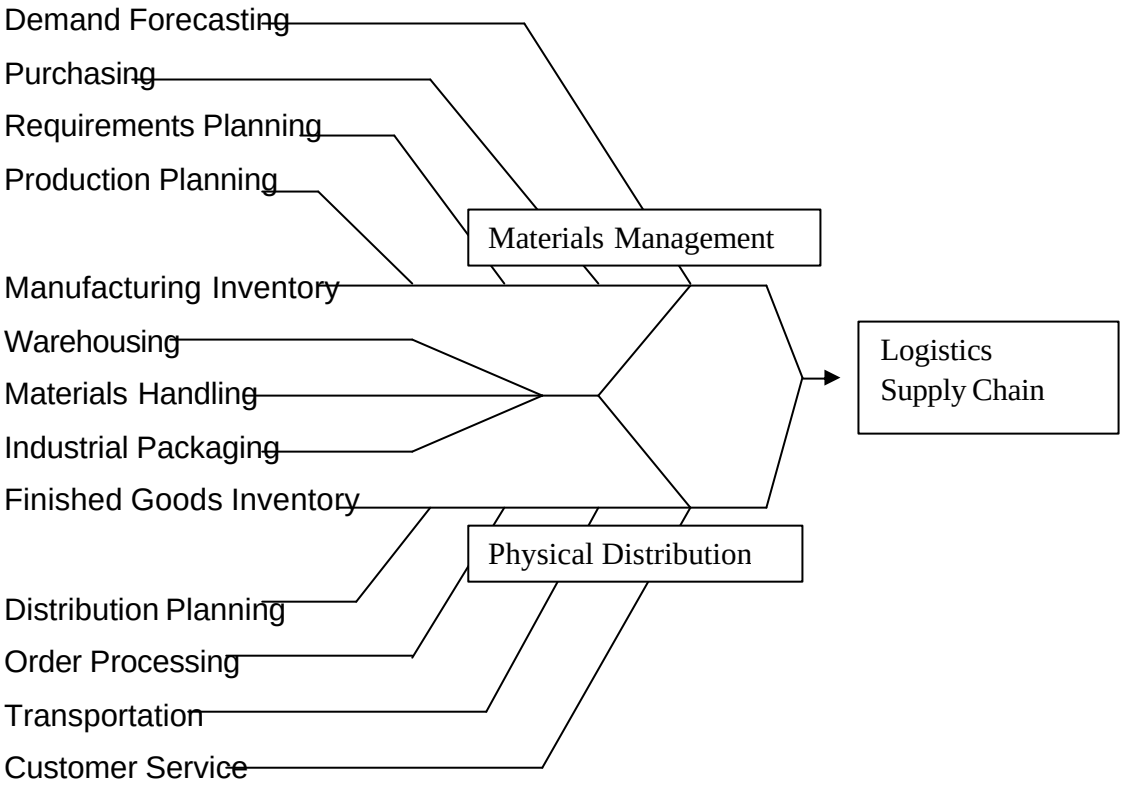
This being the case, under the current Irish National Development Plan (NDP) considerable resources have been allocated *'to enhance the competitiveness of indigenous industry by providing support to increase output, reduce costs and rationalise supply-logistics.*' The plan further stated that, *'the development of logistics as a key capability will be supported through the NITL.'* – Ireland's National Institute for Transport and Logistics. To this end, NITL was commissioned by Enterprise Ireland to embark on an on-going comprehensive research study enquiring into the logistics and supply chain management capabilities of their client companies. More particularly, stated project objectives included the identification of logistics challenges faced by food companies; an assessment of their capability to address these challenges; the identification of any gaps in their logistics capabilities; and the development of interventions to fill those gaps.

Understanding the New Directions in Logistics

In recent years there has been a growing recognition that the processes whereby we satisfy customer demands are of critical importance to any organisation. These processes are the means whereby products are developed, manufactured and delivered to customers and through which the continuing service needs of those customers are met. Christopher (1992) says that the SCM concept is the thread that connects these crucial processes and provides the basis for the design of systems that will cost-effectively service customers - hence the dramatic upsurge of interest in SCM as a core business activity. However, it has taken many decades for the logistics function to receive the recognition it deserves. Logistics and the emergent supply chain management concepts have experienced four distinct evolutionary stages: the 1940's to 1950's, the 1950's to 1970's, the 1970's to 1980's, and the 1980's to the present day.

Figure 1 below illustrates the evolution of logistics as presented by Coyle, Bardi and Langley in "The Management of Business Logistics" (1996).

Fragmentation 1960	Evolving Integration 1980	Total Integration 2000



Source: Coyle, Bardi and Langley (1996) "The Management of Business Logistics"

Fig. 1 "The Logistics Evolution"

The Evolutionary Stages of Logistics

- *Stage 1: The 1940's and the 1950's – The Inactive Decades*

The origins of business logistics can be traced to developments that occurred in military logistics during the World Wars. The contestants' – notably the United States and Germany – ability to move and store personnel and supplies efficiently have been well documented and made major contributions to their war efforts.

The prevailing technological skills and economic climate were not conducive to the development of business logistics. The focus was on production, as managers were concentrating on meeting the consumer demand for manufactured goods. As the climate was one of production and selling, profits were good and inefficiencies in the logistics chain were masked by high sales growth. This explains why the period saw no evolution of business logistical systems and thinking.

- *Stage 2: The 1950's to the 1970's – Physical Distribution Systems*

In his well-known article "The Economy's Dark Continent" Peter Drucker (1962) wrote of logistics distribution,

"We know little more about distribution today than Napoleon's contemporaries knew about the interior of Africa. We know it's there and we now it's big; and that's about all… To get control of distribution, therefore, requires seeing - and managing - it as a distinct dimension of business and as a property of product and process rather than as a collection of technical jobs… Above all, there is a need for a new orientation – one that gives distribution the importance in business design, business planning and business policy that its costs warrant".(Pg. 14)

During the 1960's, when Drucker highlighted the need to recognise the benefits of managing and integrating various components of an organisation system, such as transportation, warehousing, inventory and packaging, the development of an understanding of logistics was beginning to emerge. Previously, before the development and ready availability of computers led to quantitative techniques being widely used, there was no reason to believe that integration of logistical activities would improve performance. A major contributing factor to the increasing prominence of logistics was the economic climate of the late 1950's. The emergent managerial approach of cost reduction due to the squeeze of profits and increased global competition brought logistics to the forefront as an area for obtaining control over costs.

During this period the emphasis on production began to shift towards ensuring efficient delivery of finished goods to customers. Management began to place more emphasis on the inter-related activities of transportation, distribution, warehousing, inventory, packaging and materials handling.

A study carried out by Lewis, Culliton and Steel (1956) on airfreight economies introduced the concept of total cost analysis, which had not previously been applied in logistical economics. This demonstrated that a shift to high cost air freight could lead to dramatic savings in other costs such as inventory and warehousing by reducing the number of stocking locations, thereby justifying the cost of air freight.

When Coyle, Bardi and Langley (1996) refer to this period, they say:

"Companies began to realise there was a relationship between inventory cost and transportation cost from a total cost perspective".(Pg.21)

Changes in consumer demand patterns and attitudes, where demands for greater product variety led to increased inventory for retailers, meant retailers demanded that suppliers hold significant quantities of stock. All this put increased pressure on improved delivery service and suppliers had to manage inventory levels as effectively as possible while still maintaining adequate levels to meet buyers' demands.

Computer technology advancements during this period proved of great assistance in helping to relieve some of the pressures on logistics managers due to the increased levels of product variety and inventory, increased order cycle time and consumers' intensifying demands for efficient delivery and service reliability. The use of mathematical and statistical modelling could be used now to greater effect with the assistance of emerging technology.

- *Stage 3: The 1970's to the 1980's - Integrated Logistics Management*

The potential for additional opportunities for savings by a combination of inbound activities (materials management) with outbound activities (physical distribution) began to be recognised. Gradually, combining the whole process from raw materials to finished goods, including both procurement and physical distribution activities, introduced significant opportunities for reducing costs.

Some of the forces driving this change in organisational and management approaches towards integrated logistics were the increasingly competitive global markets and an economic recession, which increased the need to manage logistics systems more efficiently.

- Stage 4: The 1980's to the Present – Logistics Supply Chain Management

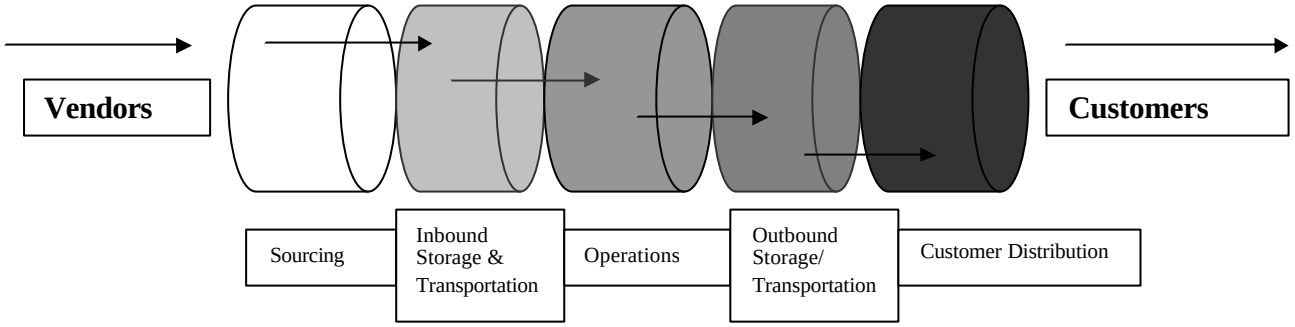
It was during this period that the principles and concepts, formulated during the developmental years, began to be used with great success. These included the integration of physical distribution and materials management, and the recognition of the need to co-ordinate the flow of both product and information. A more effective and responsive organisation culture resulted.

During this period, organisations began to expand their perspective of the logistics processes to include all vendors and all channels of distribution involved in the provision of their product or service to the customer - referred to as the Logistics Supply Chain.

Battaglia and Tyndall, quoted in Coyle, Bardi and Langley (1996) define the supply chain as;

"A strategic concept that involves understanding and managing the sequence of activities - from supplier to customer - that add value to the product supply pipeline" (Pg. 108)

This supply pipeline requires integration and co-ordination of organisations at each stage. This is depicted in Fig. 2 below.



Source: Coyle, Bardi and Langley (1996), "The Management of Business Logistics"

Fig. 2 "Logistics Supply Chain"

Logistics and Competitive Advantage

A central theme in Christopher's book, "Logistics and Supply Chain Management" (1998), is that effective logistics management can provide a major source of competitive advantage. In other words a position of enduring superiority over competitors in terms of customer preference may be achieved through logistics. If logistics costs represent a significant proportion of total costs, then it is possible to make major cost reductions through fundamentally re-engineering the logistics process.

Companies can gain a competitive advantage by shortening product cycle time and by rationalising and improving logistics activities, including the storage, handling and transportation of products. However, it is only in the recent past that business organisations have come to recognise the vital impact that logistics management can have in the achievement of competitive advantage.

Tyndall (1990), in his article *"We must manage change before it manages us",* highlights the importance of logistics as a competitive tool. He refers to an executive at Procter and Gamble saying that the average flow time required for a typical product from "farm to shelf" is four to five months, while it actually takes only about 17 minutes to produce it. The remainder of the time is spent in logistics activities, storage, handling, transportation, packaging etc. Tyndall believes this reveals one of the key factors in the rise of logistics and distribution

as a weapon of competitive advantage. “If we can find innovative ways to reduce product flow times, thereby reducing the 20%-30% of costs outside the production process, we can gain substantial benefits (Tyndall 1990:14).

When John Coyle, being interviewed by Tom Andel (1991), was asked how had the logistics field changed since he (Coyle) had started teaching, he replied that he was very impressed at how important logistics had become to American business in the previous 30 years. When he started teaching at Penn State, transportation and distribution were looked on by many corporations as almost necessary evils, whereas today in almost every successful corporation, logistics not only enables them to do a better job internally, but also allows them to add value for customers.

Coyle says that what has brought about this realisation was that globalisation had made companies on both the inbound and outbound side realise that they had to compete internationally. “Logistics is now recognised as an area that can add value for customers. In some companies, logistics represents from 50% to 80% of the cost of doing business” (Andel, 1991 Pg. 19).

The shift of logistics from being regarded as a “necessary evil” expressed by Coyle, to reaching a strategic level was emphasised by Johnson (1995). He says “Effective logistics management is a prime factor in realising corporate profits”. Commenting on the results of a survey among CEO’s and distribution managers from 31 large manufacturing firms, Johnson says that the results showed that logistics is increasingly changing from being an operational to a strategic function, and it must now be considered in strategic planning.

It is apparent that appreciation for the concept of SCM has undergone quite a revolution since the dark days of Peter Drucker's article “The Economy’s Dark Continent (1962), when he had to pled with his piers to credit logistics with the attention that it warranted. The fundamental nature of the discipline has changed and so has the role that the logistics activity plays in the strategies of successful corporations. The sense of urgency brought on by today’s “survival of the fittest” environment is prompting more and more companies to examine, restructure and reposition their operations to gain competitive advantage. SCM, which is sometimes overlooked in this process, can be vital in implementing the integration and differentiation strategies designed to produce this advantage.

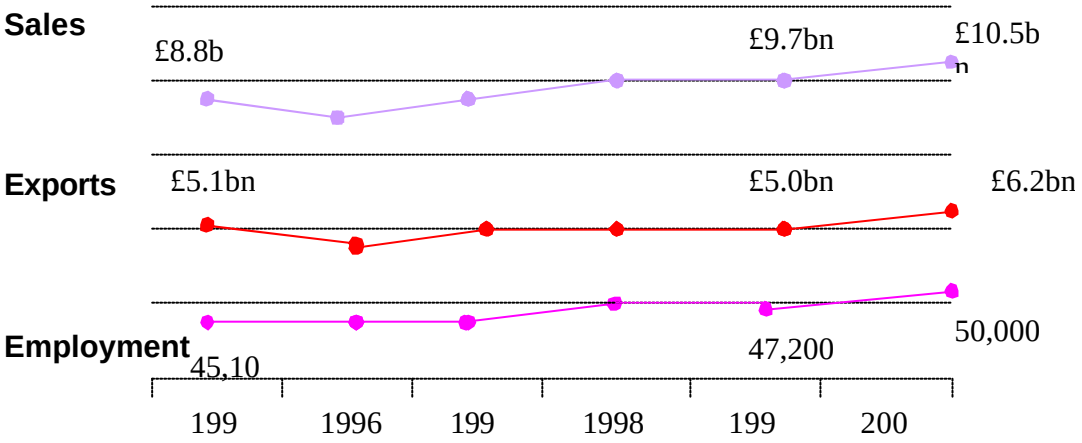
In today’s highly competitive, global marketplace the pressure on organisations to find new ways to create and deliver value to customers has grown even stronger. It has therefore been against this backdrop that the discipline and philosophy of SCM has moved to the centre stage over the past two decades. Managers should be encouraged to seek out and develop SCM strategies which exploit numerous latent opportunities to increase their efficiency and productivity and which can ultimately deliver significant advances in the customer service they deliver.

As Gattorna (1999) suggests, supply chain managers must remove their narrow operational blinkers and adopt a strategic perspective of logistics and its role in achieving corporate profitability.

The Importance of the Food Industry in Ireland

The food industry in Ireland makes a substantial contribution to national wealth and employment. Enterprise Ireland's Annual Business Survey, 1999, tells us that the food industry is the largest sector of the Irish economy accounting for 49% of total sales, 54% of total exports and 35% of employment. Figure 3 depicts the Irish Food Industry's outputs between 1995 and 1999 as well as projections to 2006.

Fig. 3 Irish Food Industry Outputs 1995-1996 and Projections to 2006



Source: Enterprise Ireland's Annual Business Survey 1999

The Irish Food Industry's output in 1999, accounted for £9.7 billion. This output included drinks, meat, prepared customer food and dairy products. Their individual contribution to total output is illustrated in the Fig. 4.

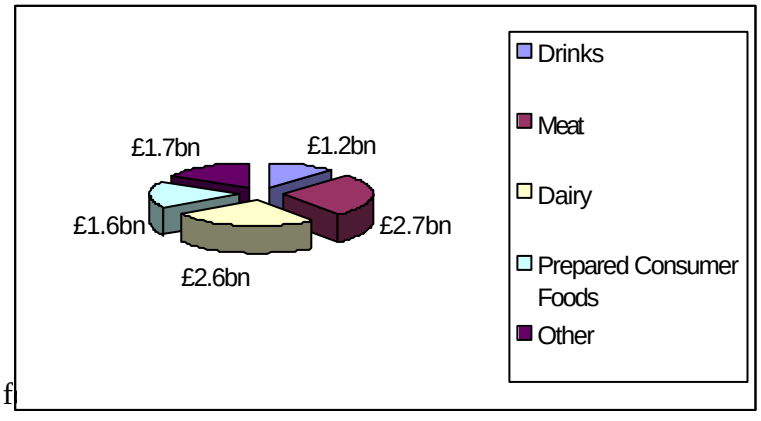


Fig. 4 Irish Food Industry Output 1999

Source: Enterprise Ireland's Annual Business Survey 1999

Total food and drinks exports accounted for £5 billion in 1999. The market distribution of these products is illustrated in the Figure 5.

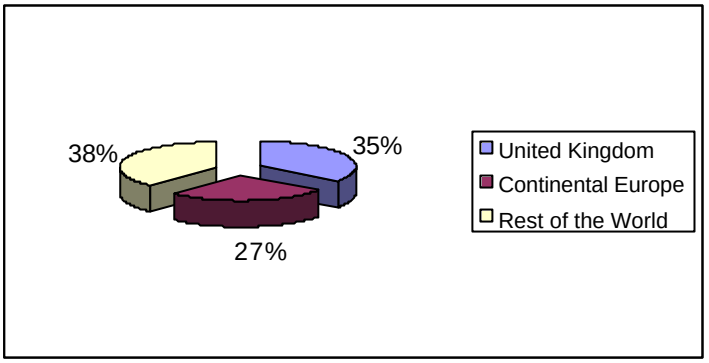


Fig. 5 Food Exports: 1999 Market Distribution

Source: Enterprise Ireland's Annual Business Survey 1999

Key Success Factor in the Food Industry

According to Ireland's Forbairt Food Development Strategy 1995-1999, "the key success factors in the food industry, which will characterize the winners, starts with the customer". These success factors are not confined to one element of the business, but demand a pursuit of excellence across the entire business system or value chain. These factors include:

- The quality of raw material inputs;
- The efficiency and quality of the manufacturing processes;
- The consistent quality and appropriateness of the product offering;
- The speed, efficiency and quality of the distribution system;
- The level of commitment to customer service.

Quality

The attainment of the highest quality standards of consistency, reliability and hygiene in products, manufacturing processes, market delivery and customer service is not an optional extra for Irish food companies. In a competitive market arena such as food, companies wishing to compete and prosper must deliver quality rigorously and systematically.

Innovation

Irish food companies are operating in a highly competitive environment. Industry rivalry is intense; customers are increasingly discriminating and demanding; and the overall market is characterized by slow growth. In such an environment, a company's ability to innovate, across all aspects of its business, directly affects its ability to survive and prosper.

Innovation is not exclusively related to the technical elements of new product or system development. It also relates to the level of strategic vision of senior management in a company which is focused on identifying new and evolving opportunities for growth and exploiting them so as to position the company in the market ahead of the competition.

Through innovation, Irish food companies can greatly enhance their competitiveness, differentiate their product offering and achieve greater profitability.

Cost Competitiveness
Food companies, seeking to maintain their profitability in a mature market, characterized by powerful buyers exerting a strong downward pressure on costs, must focus on the achievement of cost competitiveness as a priority.

Competition is intensifying as new companies enter the market through the advent of the Single Market, enlargement of the EU and from further afield through the GATT Agreement. The further opening of the market brings both threats and opportunities. Our domestic market is open to foreign competitors but an equally huge European market is open to Irish companies.

Customer Responsiveness
A company seeking to differentiate itself on the basis of its customer responsiveness must be able to supply the right product, at the right price, in the volume, quantity and condition required, on a consistent basis, delivered on time where it is required. This dedication to serving the customer will be reflected back through the company's business system in product development, quality assurance, efficient operations and effective distribution systems.

Strategic Management
Strategic management is the key success factor upon which the previous four factors rest. In essence, strategic management is the ability to develop appropriate strategies which build and sustain competitive advantage by out-performing the competition in the ability to anticipate and meet the changing needs of the marketplace. Managers who manage strategically are constantly on the alert for significant changes in the environment and can react to these in a positive and timely manner.

The current situation is that although there are strong innovative companies among the Irish food industry which are led by managers with a focused strategic

vision and the ability to implement their ambitious plans, they are unfortunately in the minority.

Research Methodology

In order to assess the implications of logistics for Irish food companies, an understanding of existing practices and uptake of these practices had to be explored. This resulted in an exploratory, developmental approach, which guided the progress of this inquiry. Because logistics is now being regarded as a necessity to competitive advantage, the author had to assess the current capabilities of companies within the Irish food sector to adopt, develop and incorporate logistics as part of their daily business function. It makes little rational sense to attempt to assess the future benefits of logistics within the food sector without considering existing practices, uptake, interest, or perceptions of these companies towards logistics. The necessity to gain a foothold into the current practice and persuasiveness of logistics within the food sector was therefore pertinent in creating the following methodology.

The method used to undertake the assessment in 2000 was the carrying out of a survey of a selected sample of food companies on Enterprise Ireland's client database. Because of the qualitative and quantitative complexity of the subject matter, the need to explain more fully a number of the questions and the requirement for a good response rate, it was decided that the survey would take the form of a 'personal' interview, some of which would be completed 'face to face' with the remainder conducted over the telephone. A sample of over 600 companies was selected for interview, 200 'face to face' and 400 by telephone. A list of target companies selected from the food sector for review by Enterprise Ireland was then developed to be well representative of sector, region, and size. Any differences between regions were of no significance in relation to the objectives of this survey.

The survey was structured as follows:

- **Profile of Companies**
  This section profiled the companies in terms of:
  Sector
  Location/Region
  Ownership
  Size measured by numbers of employees and turnover
- **Importance of Logistics**
  This section of the survey examined how important logistics was to the companies' strategic development.
- **Logistics Organisation**
  This section of the survey assessed how well organised the companies were to manage the logistics challenges they face.
- **Customer Service**

Customer service *'sets the spec'* for the design of any logistics system. Any logistics assessment has to be studied in the context of customer service requirements.

- **Logistics Information**
  Logistics and supply chain management optimises the flow of material and related flows of information through an organisation. This section assessed the logistics information capability of the companies.
- **Logistics Key Performance Indices (KPIs)**
  Effective logistics management involves the setting of KPIs for the logistics functions. This section evaluated the companies' logistics KPIs.
- **Logistics Costs**
  The ultimate objective of the logistics process is the delivery of a competitive level of customer service at optimum cost. Understanding logistics costs is critical to logistics performance.
- **Logistics Functions**
  This section examined each of the logistics functions in turn and assessed the performance of each company in relation to each function.
- **Logistics Challenges**
  Companies were asked about the logistics challenges they face. This section summarises their responses.

Based on the responses to the survey under the various headings presented above, NITL then assessed the companies under the following headings

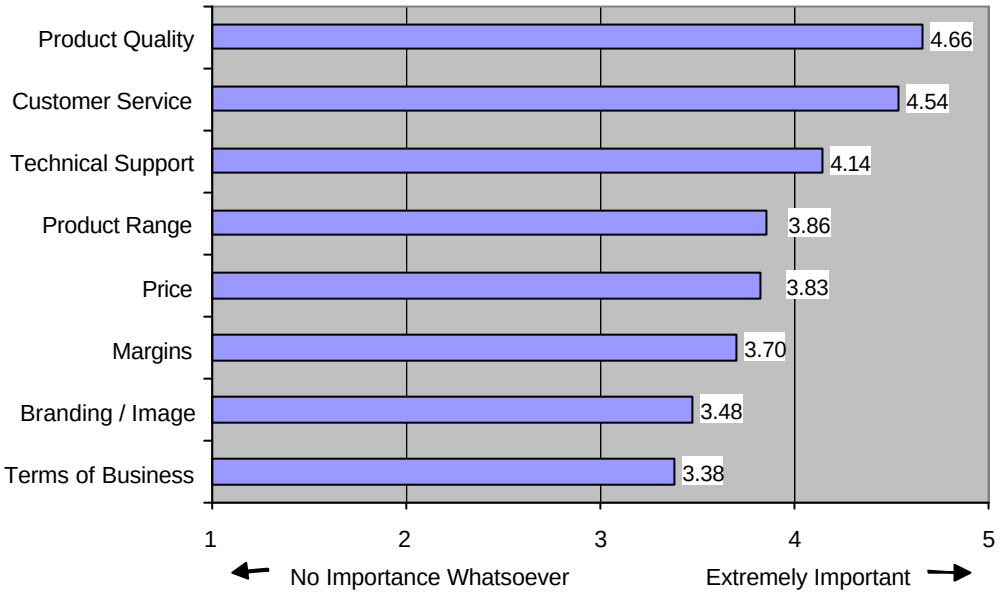
- **Logistics Staircase**
  This section assessed where the companies were positioned on the staircase of logistics excellence.
- **Logistics Gaps**
  Having positioned companies on the logistics staircase, this section identified the gaps in logistics capabilities of the companies.
- **Logistics Interventions**
  Finally, this section of the report developed a set of interventions that would help bring the companies up the 'logistics staircase'.

Results and Implications:

Put simply, while improving, food companies in Ireland do not yet see logistics or supply chain management (SCM) as a broad based senior management responsibility. Less than 20% of companies surveyed claimed to have anything they would call an isolated "logistics function". The majority have divided their logistics activities between three or more different management functions. The net result of this is that without isolating SCM as a single activity binding together each and all of the primary functions mentioned above, these companies cannot possibly realise the full potential of logistics in helping them create competitive advantage, Ironically perhaps, on the other hand, all companies saw SCM functions such as customer service, procurement and inventory management as

"very important" to their strategic development. 'Customer service' came second only to 'product quality', as the main reason customers did business with them. That said, more than half of those surveyed do not measure their customer service performance. Of those that claimed they did, most only measured on time deliveries and the level of customer complaints. This is not good enough. If customer service is truly regarded as part of the marketing mix, then here is a way of taking on the competition and accurately measuring the success of any initiatives. As customer service 'sets the spec' for the design of the logistics system, this means SCM is a very important element in creating competitive advantage for companies (See Fig. 6)

*Fig 6 "***Why do People Do Business With You?"**



In relation to performance comparison with their competitors, interestingly, while the majority of respondents scored themselves highly, particularly in relation to the more important factors, most companies knew surprisingly little about their competitors, even in relation to totally transparent factors such as price, service, quality etc. This begs the issue, without the close monitoring of your competitor's performance as a fundamental aspect of business management how is one to hope or strategically map out gaining competitive advantage.

A major weakness experienced by the majority of respondents was their lack of SCM information. This was a disappointing response indicating that the lack of sophistication of IT systems does limit the companies' ability to provide the necessary levels of service to create competitive advantage. Logistics management is as much to do with optimising the flow of information through an organisation as it is to do with optimising the flow of product. Irish food

companies have a long way to go in relation to the implementation of logistics IT solutions. In order to assess the level of logistics IT application throughout the sample degrees of agreement we sought on the following statements. (See Fig 7.)

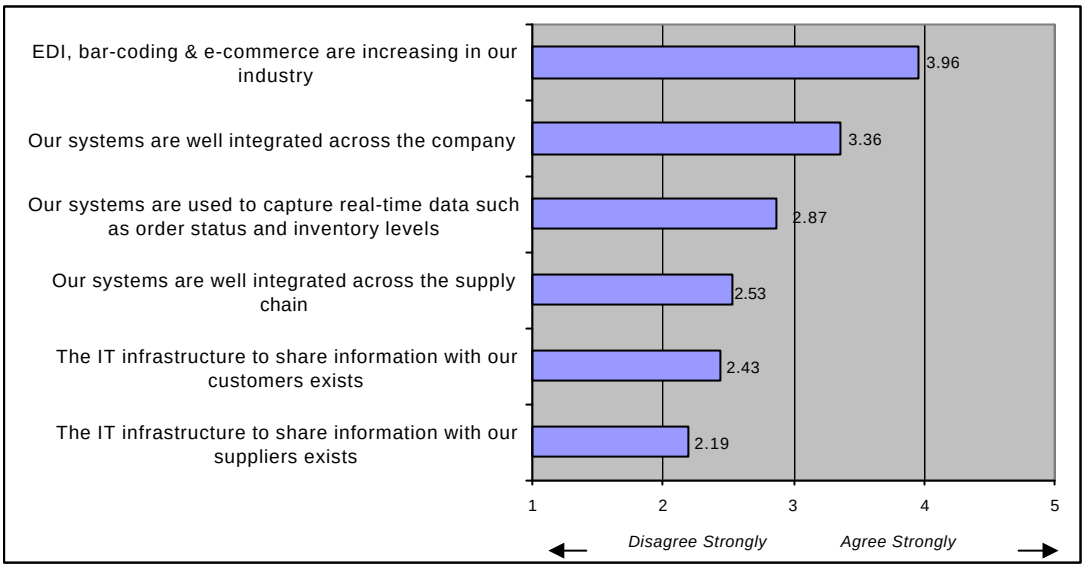


Fig. 7

If food companies in Ireland are to enjoy the opportunities that logistics management can offer, significant improvements in the application of IT to logistics functions will be essential.

Effective logistics management also depends on putting in place realistic key performance measures (KPI's) for SCM functions. While most companies recognised the importance of doing this kind of measurement, few had clearly defined logistics KPIs in place. The question is, without any application on KPIs, how then can a company's logistics strategy be effectively managed? An obvious example is that of logistics costs. 35% of companies sampled did not know their logistics costs.

A key feature of the SCM management concept is the ability to make sensible trade-offs between the different elements of the supply chain. e.g. lower inventory and better service versus higher transport cost. Many equate logistics costs to transport costs. This is a common mistake. Transport costs do receive significant management attention but 'logistics costs' and 'transport costs' are NOT synonymous. As a result of this misunderstanding, companies will continue to optimise particular costs, e.g. transport, while sub-optimising total logistics costs.

A particular area for concern was that of inventory management. When asked to rate the importance of inventory management in their overall business strategy While most companies are comfortable with their inventory figures, 44% of them admitted to holding obsolete inventory. This together with lack of IT sophistication and relatively low scoring for the strategic importance of inventory management, highlights an area of concern for Irish companies. Warehousing can be a hidden cost in the logistics process, yet only 32% of our respondents had reviewed their warehousing costs and only 35% had considered the outsourcing option.

The one logistics activity that has developed a more 'holistic' approach akin to the supply chain management concept is procurement.

Forecasting was not seen as a specific management function for most of these companies. The majority see it as a task often undertaken by sales and amended by accountants. Often taken for granted but rarely recognised is the simple fact that forecasting is the bedrock for effective planning. Yes, forecasts are often wrong, but they are usually the only basis on which to plan. It is they that drive the planning process. Perhaps more importantly, they encourage proper management through the analysis of variances. Of our sample 35% of companies do not produce forecasts at all, and of the 65% who do, 70% have a forecast period of less than 1 year. Many would question whether this is a forecast at all. It is difficult to see how a forecast of less than one year can have any value for supply chain planning purposes when the planning horizon for most aspects of the function is in excess of this.

The key business challenge currently being faced by companies is that of skills shortage with no particular SCM challenge dominating. This further confirms the overall finding that SCM management is a general weakness in Irish companies.

Conclusions and Recommendations

It was very disappointing to learn from the results of the survey, that only 12% of Irish foods reach markets outside the British Isles. This would lead us to conclude that a huge market exists which is not being fully exploited by the manufacturers of Irish foods. These manufacturers cannot afford to ignore such lucrative markets and therefore need to assess which foreign markets they need to penetrate and what capabilities they need in order to successful enter and survive in the global market arena. The ability to process excellent logistics capabilities would no doubt be a significant criteria in successfully conquering these foreign markets.

- ***Comparison with Competitors***

One of the most worrying results to emerge from the survey was the extent to which some companies were blissfully unaware of how their performance measured up against their relative rivals. In one incidence, as many as 48% of respondents did not know how their product quality compared with that of their

competitors. This level of ignorance is unacceptable. What these companies need to do is not only compare their performance to that of immediate competitors but also compare themselves to the "best in the class." All firms in the food sector should closely monitor their logistics performance in terms of cost and service and put in place logistics continuous improvement programmes.

- ***Understanding of Supply Chain Management***

Another very worrying aspect of the survey was the revelation that only 58% of respondents had a firm understanding of what this vital business function involved. Those that have not yet embraced the concept of supply chain management are losing out on the potential benefits (such as faster, better and more responsive service to the final customer) which this intrinsic management function can achieve.

Companies in the food sector must also realise that the time has past where ownership or domination of the supply chain is the order of the day. As Christopher (1998) says, "It is no longer possible to manage the business as if it were in a vacuum with no interconnections with other organisations." (Pg. 36)

The supply chain is the network of organisations (from primary producer to final consumer) that are involved in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumer. Through introducing this management concept into their overall business strategy, companies in the Irish food sector could discover a multitude of ways to increase their efficiency and productivity and hence contribute significantly to reducing overall costs.

However, as the survey reveals, for some companies such ideas are still unthinkable and yet the signs are clearly pointing to a future where it will be the extent and quality of supply chain performance that will determine marketplace achievements and ultimately marketplace winners.

- ***Responsibility for the Logistics Function***

It is very disappointing to learn that only 18% of the companies interviewed had a specific person responsible for the logistics function. Considering that the scope of logistics spans the organisation, from the management of raw materials through to the delivery of the final product, it is of great concern to learn that so few companies have a particular person in charge of this multi - faceted discipline.

Christopher (1998) points out that an increasingly powerful route to achieving a cost advantage comes not through economies of scale alone, but instead through logistics management. He also says that effective logistics management can lead to a major source of competitive advantage. However, how can companies in the food sector expect to exploit the benefits of cost advantage and

competitive advantage, if they lack the presence of a logistics manager to oversee the successful execution of the logistics function?

The fact that only 18% of companies had a clearly identified person in charge of the logistics function is our first clear indication that logistics is being neglected by companies in the Irish food sector. This neglect is clearly a matter that needs urgent attention.

- ***Logistics Costs***

It was a matter of some concern to realise that 35% of companies in the Irish food sector were unaware of what their annual logistics costs totalled. This is perhaps another warning signal that logistics is once again being neglected as a business function. However, because logistics can account for such a large proportion of total costs in a business, it is critical that these costs be carefully managed. Accurately accounting for their logistics costs is a problematic procedure for most companies because by its very nature, logistics cuts across traditional company organisation functions with cost impacts on most of these functions. This however is still no excuse for 32% of companies to be unaware of their logistics costs. Perhaps what companies in the food sector might be suffering from is a lack of visibility of costs as they are incurred through the logistics pipeline.

Cooper and Kaplan (1991) recommend that in order to overcome this problem, it is necessary to change radically the basis of accounting for costs. What needs to be done is to move away from the notion that all expenses must be allocated to individual units and instead, to separate these expenses and match them to the activities that consumes the resources.

Companies in the Irish food sector must start accounting for their logistics costs and one plausible way of doing this is to implement an accounting system based on Activity Based Accounting. This method of accounting would allow logistics managers to seek out the "cost drivers" along their logistics pipeline.

- ***Customer Service***

If the role of logistics is to be seen as "the development of systems and the supporting co-ordination processes which ensure that customer service goals are met" (Christopher 1998), then companies in the Irish food sector must ensure that the function of customer service is being fully attended to.
However, it would appear that not all of the companies in the food sector are fully geared up logistically to provide the required and necessary service levels to stay afloat and succeed. This statement can be justified through various discoveries that were made during the course of the study.

- Only 50% of companies in the food sector bother to measure their customer service levels.
- 28% of companies are ignorant enough to believe that their customers do not regularly appraise their performance.
- Many companies do not have any measures in place to gauge the efficiency of their logistics performance.
- As already stated, a substantial proportion of companies do not know what their annual logistics costs are.
- Many of the companies interviewed do not have a specific person in charge of the overall logistics function.
- During the course of interviewing the companies, it was discovered that they did not rate key logistics functions highly enough.
- Many companies have still failed to implement the necessary IT systems which could amply support the logistics function.

These various points are a fair indication that customer service is being neglected as a function which can lead to superior logistics performance.

If Christopher (1998) says that "the ultimate purpose of any logistics system is to satisfy customers", then we can fairly conclude that not only are a large majority of companies in the Irish food sector failing to deliver superior logistics performance, but they are ultimately failing to fulfil and satisfy their customers' needs.

- ***Logistics and Information Technology***

Peter Drucker wrote in the Harvard Business Review (September 1997) that: "The development of rigorous methods for gathering and analysing outside information will increasingly become a major challenge for businesses and for information experts"(cited in O'Reilly, 1997 L97/04)

It would appear that information technology is the tool that will enable companies to rise to this new challenge.

There is unlimited scope to exploit the advantages of IT in the food retailing sector. The concept is that in order to get the right products, to the right place at the right time and at the right price, an effective supply chain operation means having the right information in a timely manner about all of these steps. IT has the capability to communicate this vital information in a timely, accurate and efficient manner between a myriad of players along the chain. IT therefore has the capability to be a significant logistics enabler.
When carefully managed, IT has the ability to greatly enhance a companies ability to exploit linkages between activities, both within and outside the company.

Companies in the Irish food sector must therefore come to realise that the incorporation of information technology into their systems can bring about improved transparency to their operation, eliminate unnecessary cost and increase competitiveness in a highly volatile and global market.

Paul O'Reilly in his paper, "Value Chain Analysis and Logistics: A survey of Issues, Techniques and Contemporary Developments" (1997), says that the scope for exploitation of IT in the value chain is fourfold:

1. Technology can physically automate and improve the physical tasks in any activity, e.g. computer controlled machine tools in assembly operations.
2. Technology can physically connect or control activities across linkages, e.g. communication linkages between production and distribution centres.
3. Information systems can help perform, support or manage value activities, e.g. inventory control systems.
4. Information systems can optimise or co-ordinate activities across linkages, e.g. CAD-CAM systems for computer integrated manufacturing.

Source : O'Reilly, 1997 "Value Chain Analysis and Logistics: A survey of Issues, Techniques and Contemporary Developments": L97/04

Companies in the Irish food sector cannot afford to ignore the strides that information technology is making in their industry. Serious efforts need to be made by logistics managers to adopt the latest systems technologies, so that in turn these very technologies can support functions such as inventory, warehouse and transport management in a far more efficient manner.

- ***Outsourcing of Activities***

Any activity that a company performs exceptionally well should be fostered and nourished and kept in-house. However those activities that do not contribute to overall competitiveness should be considered as likely activities to be outsourced. The theory underlying this management approach is simple: *"Do what you do best and outsource the rest".* Adopting this principle has fuelled the growth of the outsourcing business culture which is now with us.

Outsourcing activities to a third party logistics provider can contribute significantly to service improvement. Christopher (1999) is adamant that there is now a recognition that individual companies no longer compete as standalone entities, but rather as supply chains. Therefore, optimising performance in the supply chain is itself becomes paramount. Mangan and Hannigan (2000) say that all players in the supply chain must focus on their own core competencies and outsource other activities to whoever can perform them more effectively. For this reason, many companies have outsourced their logistics activities to third party operators who can offer an improved service. When all the players concentrate

on their core competencies, the end result is a vibrant supply chain that is in a position to serve the consumer.

These observations made by both Christopher (1999) and Mangan and Hannigan (2000) indicate that there are abundant advantages to be gained by companies in the Irish food sector through outsourcing some of their activities. What companies in the food sector need to do is distinguish between value adding (VA) activities and necessary but non-value adding (NNVA) activities as discussed by Hines and Rich (1997).

The relevant companies should identify which activities are presently necessary but not adding any value to their operating procedures. Once these NNVA procedures have been identified, their wastefulness should be eliminated through outsourcing the activity to a more capable performer of the activity in question.

During the course of the interviews, two distinct activities emerged as being factors which were eroding at the companies competitive advantage and were therefore likely candidates for outsourcing. These included warehousing and inventory management.

1. Inventory management is another important logistics function that appears to be also suffering from neglect. Answers given by the interviewees revealed that they did not regard inventory management as important to their strategic development. Companies also nominated this function as a potential activity that might be performed more efficiently by an outsourcing partner.

2. Various answers given by respondents revealed that warehousing was neither important to their strategic development nor ranked highly as having established clear performance measures for this function. However the importance of the warehousing function cannot be denied or ignored. If companies in the food sector do not regard warehousing with the importance that it deserves, then perhaps they should consider outsourcing this activity.

In conclusion, it would appear that those in the food sector are currently neglecting the logistics function. It must be realised that logistics is a vital link in the running of this industry. However, for many of these companies to achieve leadership through logistics will require them to go through a number of fundamental transformations in their corporate mind-sets as well as in the running of their core business activities. The reality is that if considerable attention were paid to improving this aspect of their business, there is no doubt that a significant improvement would be seen in the overall performance of the standard of service they strive to deliver.

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Do Companies in the Food Sector Measure Up?

A Case Study of Ireland

Geraldine McHugh
National Institute for Transport & Logistics, Ireland.

Philip McCormack,
National Institute for Transport & Logistics, Ireland.

Prof. Austin Smyth,
National Institute for Transport & Logistics, Ireland.

AET - European Transport Conference,
Strasbourg 8 – 10th October 2003

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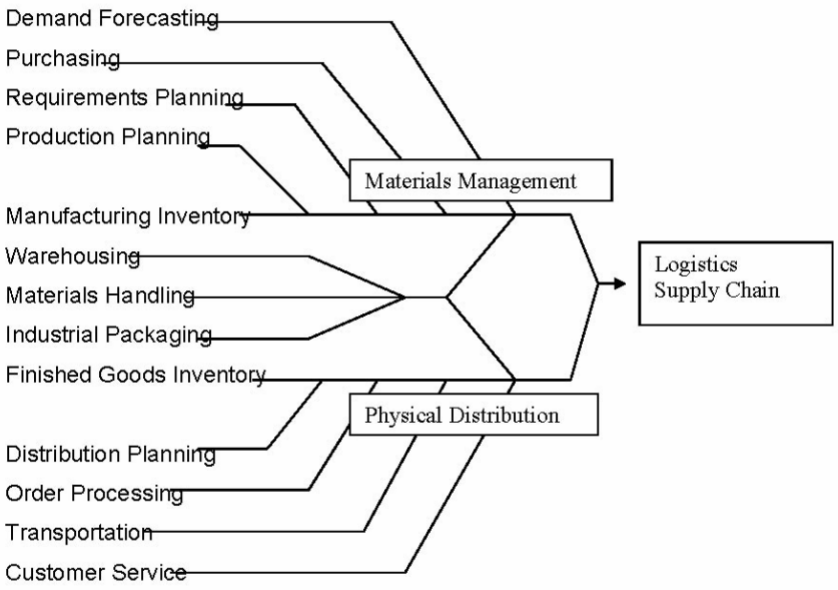
Background to the Study

To remain competitive in world markets companies can no longer afford to ignore the full supply chain management approach.

Ireland's geographical peripheral location: companies located in Ireland have to demonstrate greater capability in logistics management than companies located in more favourable market locations.

The Logistics Evolution

Fragmentation	Evolving	Total
1960	Integration	Integration
	1980	2000



Source: Coyle, Bardi and Langley (1996) "The Management of Business Logistics"

Fig. 1 "The Logistics Evolution"

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The Evolutionary Stages of Logistics

Stage 1: The 1940's and the 1950's – The Inactive Decades

- Military logistics
- Economic climate not conducive
- Focus on production

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The Evolutionary Stages of Logistics

Stage 2: The 1950's to the 1970's – Physical Distribution Systems.

"We know little more about distribution today than Napoleon's contemporaries knew about the interior of Africa. We know it's there and we now it's big; and that's about all... To get control of distribution, therefore, requires seeing - and managing - it as a distinct dimension of business and as a property of product and process rather than as a collection of technical jobs... Above all, there is a need for a new orientation – one that gives distribution the importance in business design, business planning and business policy that its costs warrant".

Source: Drucker, P. (1962) The Economy's Dark Continent pg. 14

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The Evolutionary Stages of Logistics

Stage 2: The 1950's to the 1970's – Physical Distribution Systems.

- Highlighted the need to recognise the benefits of managing and integrating various components of an organisation system

- Understanding of logistics was beginning to emerge

- Economic climate of the late 1950's

- Emphasis on production began to shift towards ensuring efficient delivery of finished goods to customers

- More emphasis on the inter-related activities of transportation, distribution, warehousing, inventory, packaging and materials handling

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The Evolutionary Stages of Logistics

Stage 2: The 1950's to the 1970's – Physical Distribution Systems.

- Changes in consumer demand patterns and attitudes

- Retailers demanding suppliers hold significant quantities of stock

- Increased pressure on improved delivery service

- Computer technology advancements

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The Evolutionary Stages of Logistics

Stage 3: The 1970's to the 1980's - Integrated Logistics Management

- Savings by a combination of inbound activities (materials management) with outbound activities (physical distribution) began to be recognised

- Increasingly competitive global markets

- Economic recession

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The Evolutionary Stages of Logistics

Stage 4: The 1980's to the Present – Logistics Supply Chain Management

- recognition of the need to co-ordinate the flow of both product and information

- more effective and responsive organisation culture

- Expansion of perspective of logistics processes

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The Evolutionary Stages of Logistics

Stage 4: The 1980's to the Present – Logistics Supply Chain Management

Battaglia and Tyndall, quoted in Coyle, Bardi and Langley (1996) define the supply chain as:

"A strategic concept that involves understanding and managing the sequence of activities - from supplier to customer - that add value to the product supply pipeline"

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The Evolutionary Stages of Logistics

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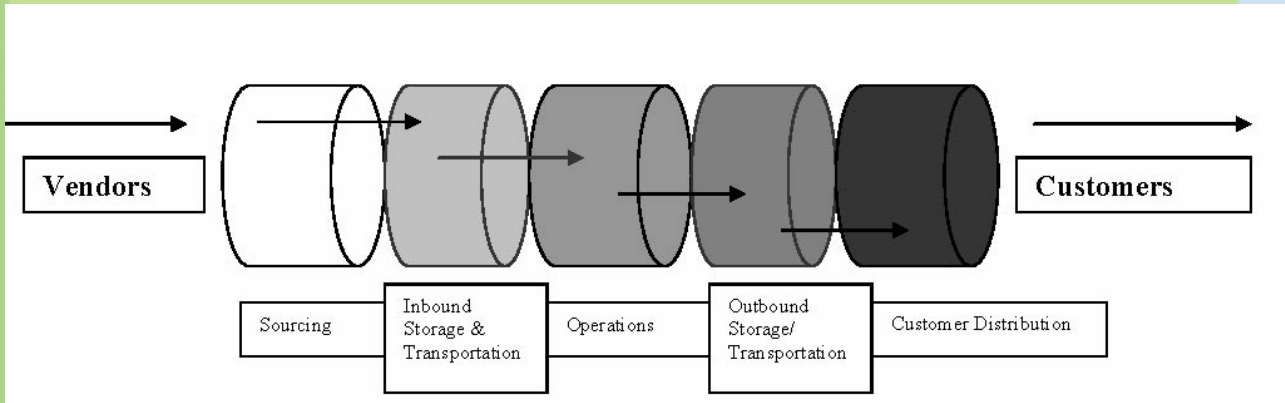
The Evolutionary Stages of Logistics

Stage 4: The 1980's to the Present – Logistics Supply Chain Management

Product Supply Pipeline:



Source: Coyle, Bardi and Langley (1996), "The Management of Business Logistics"

Fig. 2 "Logistics Supply Chain"

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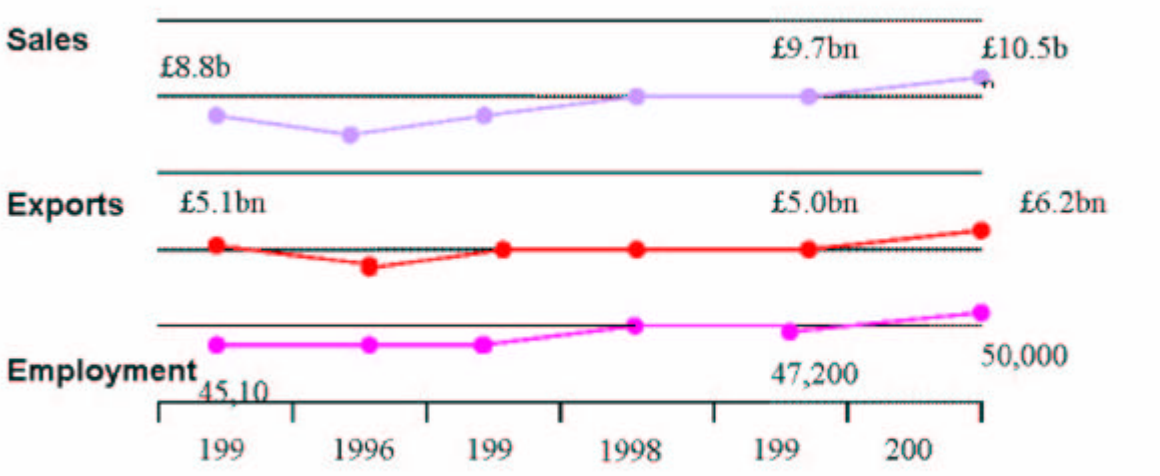
The Importance of the Food Industry in Ireland

- The largest sector of the Irish economy accounting for 49% of total sales, 54% of total exports and 35% of employment

Fig. 3 Irish Food Industry Outputs 1995-1996 and Projections to 2006



Source: Enterprise Ireland's Annual Business Survey 1999

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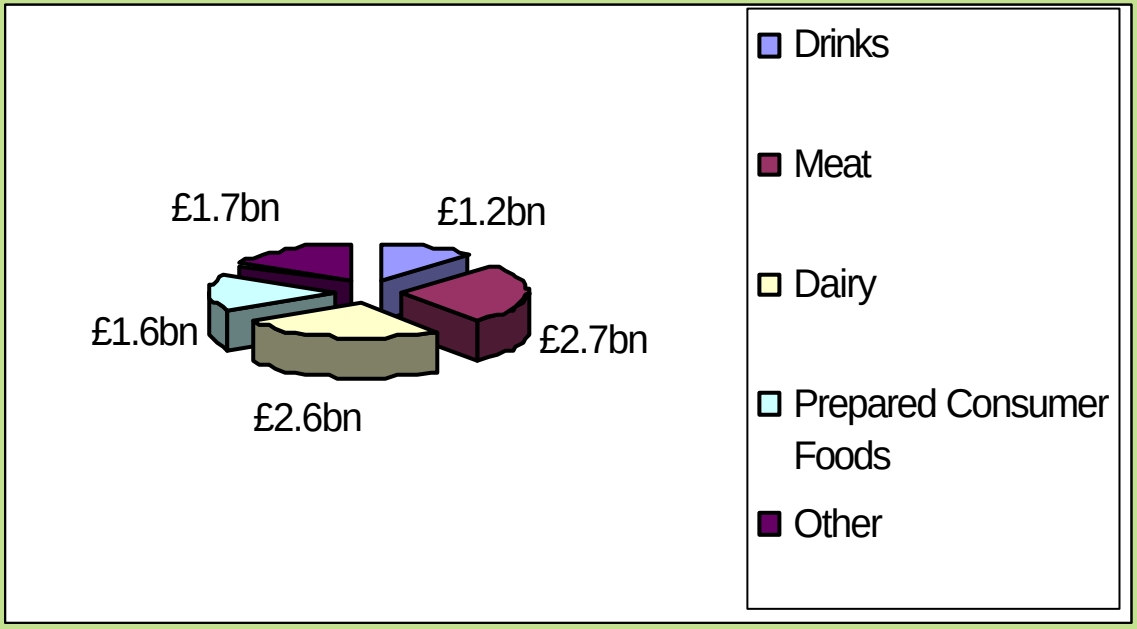
The Importance of the Food Industry in Ireland

- Individual Contributions



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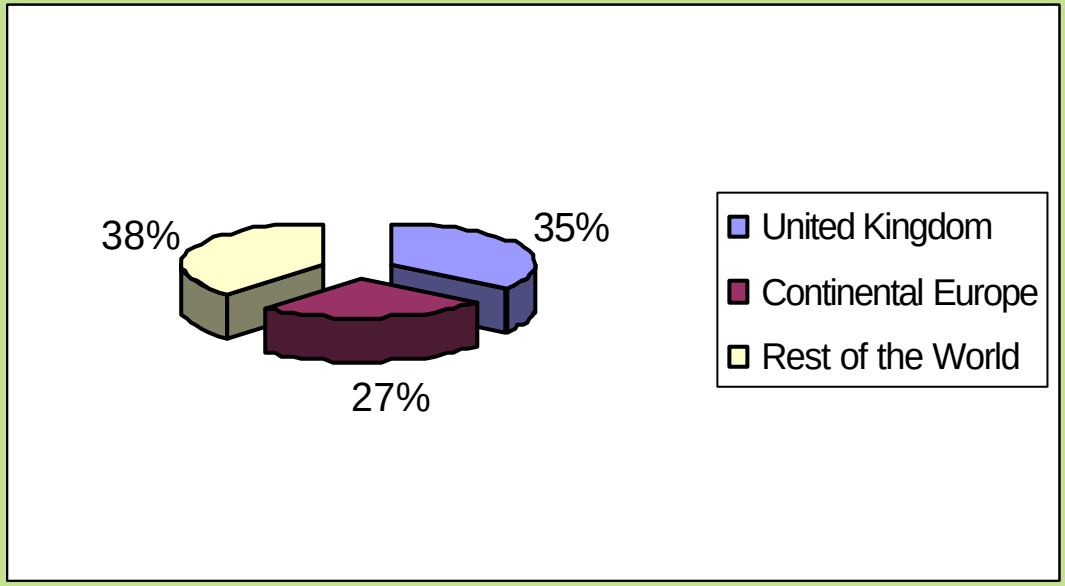
The Importance of the Food Industry in Ireland

- Market Distribution



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Key Success Factor of Irish Food Industry

- The quality of raw material inputs;
- The efficiency and quality of the manufacturing processes;
- The consistent quality and appropriateness of the product offering;
- The speed, efficiency and quality of the distribution system;
- The level of commitment to customer service.

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Research Methodology

To assess the current capabilities of companies within the Irish food sector to adopt, develop and incorporate logistics as part of their daily business function.

To consider existing practices, uptake, interest, or perceptions of these companies towards logistics.

Survey of a selected sample of food companies on Enterprise Ireland's client database.

Qualitative and quantitative complexity → Interviews

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Survey Structure

- Profile of Companies
- Importance of Logistics
- Logistics Organisation
- Customer Service
- Logistics Information
- Logistics Key Performance Indices (KPIs)
- Logistics Costs
- Understanding logistics costs is critical to logistics performance.
- Logistics Functions
- Logistics Challenges

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Company Assessment

- Logistics Staircase
- Logistics Gaps
- Logistics Interventions

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Results & Implications

-While improving, food companies in Ireland do not yet see logistics or supply chain management (SCM) as a broad based senior management responsibility.

-Less than 20% of companies surveyed claimed to have anything they would call an isolated “logistics function”.

-All companies saw SCM functions such as customer service, procurement and inventory management as “very important” to their strategic development.

-‘Customer service’ came second only to ‘product quality’, as the main reason customers did business with them.

-more than half of those surveyed do not measure their customer service performance.

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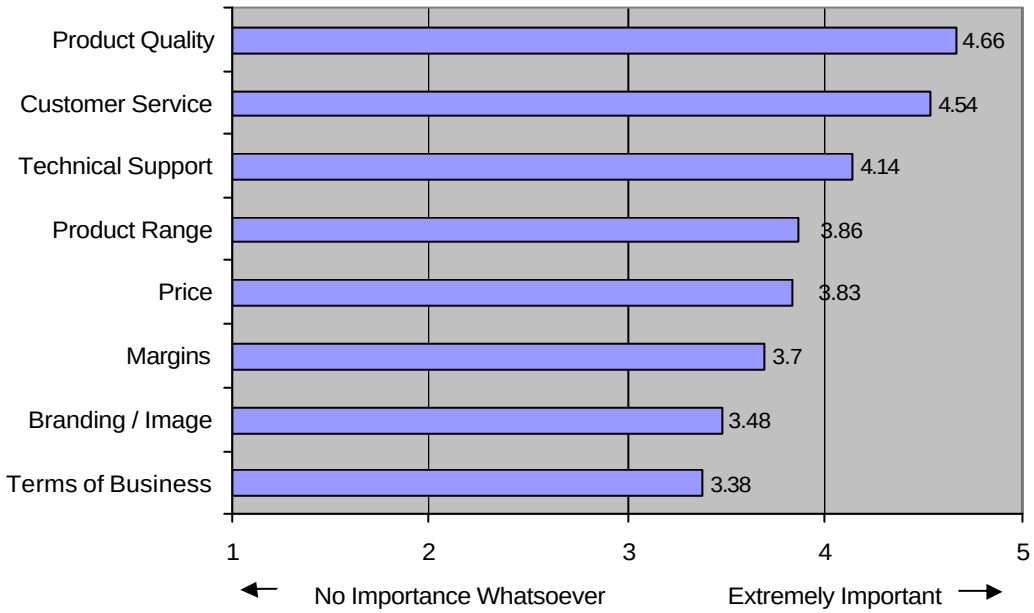
Results & Implications

Fig 6 "**Why do People Do Business With You?"**



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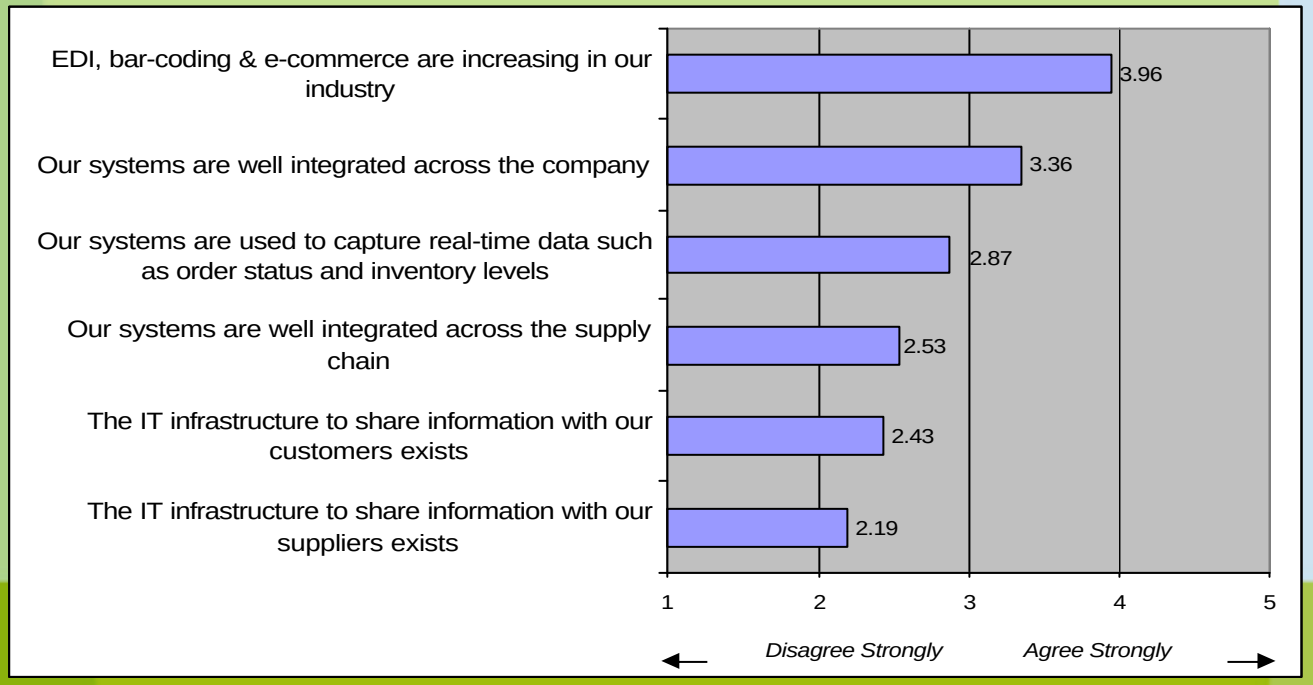
Results & Implications

-Lack of SCM information

-Lack of sophistication of IT system integration with significant improvements essential.



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Results & Implications

-few had clearly defined logistics KPIs in place.

-35% of companies sampled did not know their logistics costs.

-

-44% admitted to holding obsolete inventory

-32% had reviewed their warehousing costs

-35% had considered the outsourcing option.

-Forecasting was not seen as a specific management function with 35 % of companies not producing forecasts at all.

-Skills shortage.

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Conclusions and Recommendations

- Comparison with Competitors
- Understanding of Supply Chain Management
- Responsibility for the Logistics Function
- Logistics Costs
- Customer Service
- Logistics and Information Technology
- Outsourcing of Activities


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