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## Supply Chain Management and the Business Model of the 21st Century

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# scm and the business model of the 21st century

**If Ireland is to truly become the logistics hub of Europe, we need to think about supply chain management in radically different ways, say EDWARD SWEENEY and RANDAL FAULKNER**

## BACKGROUND - THE CHANGING INTERNATIONAL ENVIRONMENT

Recent years have witnessed significant changes in the global business and economic environment. The growth of trade blocs, particularly in Europe, North America and Asia has resulted in an increasingly integrated world economy. Increased levels of inward investment, particularly significant in the recent development of the Irish economy, have accentuated this trend. Reductions in the barriers to the movement of goods and services, capital and people have all contributed to this fundamental shift. The evolving role of the World Trade Organisation, currently with over 140 member countries and judicial powers to resolve trade disputes, is central to these structural changes in the world economic order.

All of these changes have resulted in substantial shifts in competitiveness, particularly in manufacturing industry. In developed countries service industries, rather than manufacturing, have become ever more important in terms of economic growth and employment. Developing countries have increased their industrial capability and have, in many sectors and geographical regions, gained a significant foothold in major market segments. This, combined with the outsourcing of many heavily labour intensive activities to lower cost locations, has had a major impact on global economic structures and trade patterns.

These changes require governments to adopt new perspectives in relation to economic and industrial development. From the point of view of individual companies there is a need to adopt new strategic outlooks. These new approaches need to be informed by the context in which firms operate - the changing, and increasingly internationalised, business and economic environment. From a supply chain management (SCM) perspective these changes have brought with them many new challenges. This "International Challenge" brings with it both opportunities and threats. The opportunities relate mainly to access to markets in rapidly developing new economies. The threats derive mainly from competition from new geographical sources. The former requires organisations to build international logistical and supply chain capability. The latter requires organisations to adopt a strategic view of the role of SCM in order to minimise the impact of the potential threat.

## CUSTOMER SERVICE AS A KEY ORDER WINNING CRITERION

The traditional view of business competitiveness has been based on winning market share based on product quality, price and customer service. In the 1970s and 80s product quality was regarded in many markets as the critical success factor. This recognition resulted in the adoption of quality management initiatives by companies in a range of sectors. This

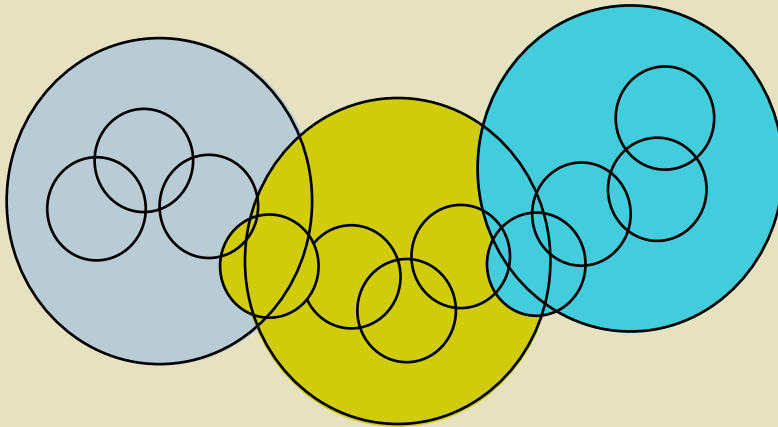
was driven by the need to supply products which consistently conformed to customer requirements in terms of functionality and reliability. Whilst this is still of vital importance it has become more of an order qualifier

## ‘SCM IS FUNDAMENTALLY CONCERNED WITH THE ENHANCEMENT OF CUSTOMER SERVICE’

than an order winner in most markets. In other words, product quality has become a "given" and, as a result, the other success factors have become more important. In relation to price, markets have generally become more competitive with market dynamics, based on supply and demand, determining pricing levels. The room for manoeuvre in this area is therefore limited for many companies. The quest for price leadership and profitability improvement is based on the identification and minimisation of non-value adding activities in operations. In this new environment customer service excellence has become the key order winning criterion for more and more companies.

SCM is fundamentally concerned with the enhancement of customer service. Indeed, an understanding of customer service level requirements in targeted market segments sets the specification for the supply chain. With customer

## Internal network arrangements



## External network arrangements

Figure 1: The Organisational Shape of the Future

service excellence playing such an important role in the achievement of competitive advantage, it is no surprise that SCM has become increasingly central to corporate strategy. The overall objectives of SCM are to enhance customer service and to optimise total supply chain costs and investments. The importance of the latter has already been discussed; the latter has the potential to eliminate waste, thereby enhancing cost competitiveness and profitability. For these and other reasons, SCM has become a key strategic issue in most world class companies - those companies which compete effectively in genuinely competitive international markets over a sustained period of time. The ability of companies to think about SCM strategically, and to put appropriate supply chain capability into place in advance of the need in a pro-active manner, has become recognised as an increasingly important determinant of business success. Companies who fail to do this tend to deal with logistical and supply chain issues in a very reactive way, often spending inordinate amounts of time "fire-fighting" in their factories, warehouses and transport operations. SCM is not the only factor which determines the competitiveness of businesses but it has become more important. The effective management of the supply chain has arguably also become more difficult as supply chains

have become more complex as a direct result of their internationalisation.

## VALUE AND BUSINESS PROCESSES

The concept of value has long been an important one in SCM. In essence, a product or service is of value to a customer if that customer is prepared to pay for it. A key element of SCM is concerned with the identification of non-value adding activities or NVAs. An NVA is an activity which adds cost (or time) to a supply chain without necessarily adding value from a customer perspective. The identification of these activities is an important dimension of SCM. In addition, organisational structures are increasingly being designed based on the concept of value. A business process is a collection of activities which add value. One approach to the achievement of significant improvements in organisations and supply chains is based on the radical re-appraisal and re-design of these processes - this is known as business process re-engineering (BPR).

BPR is "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of business performance". There are a number of important words and phrases in this definition. Firstly, BPR requires

companies to think about their businesses in a fundamental way. Fundamental strategic questions about a company's markets, products and organisations need to be asked and answered in an objective manner. Radical redesign requires companies to address the root causes of their problems and to design organisational structures which reflect customer value rather than structures which are primarily focussed on internal operating or administrative efficiency. The result is organisations which organise around business processes rather than around traditional functions. These processes often contain skills and resources which traditionally resided in functional departments. In addition, key skills and resources are often shared between business processes in internal network arrangements. External customers and suppliers often form part of these processes in external network arrangements. The latter is particularly true of companies who have moved towards increasingly virtual supply chains as a result of key supply chain activities being outsourced. Figure 1 shows a representation of the organisational shape of the future based on internal and external network arrangements with shared services.

The definition of BPR refers to dramatic improvements in performance. This is a reflection of the fact that sustaining competitiveness for many companies in the new globalised environment means step change for many companies if they are to become genuinely world class, as they increasingly need to, in their chosen markets.

## WHAT ARE THE KEY PROCESSES?

There is no simple answer to this key question. However, in manufacturing-

## ‘THE PHILOSOPHY WHICH UNDERPINS SCM IS BASED ON THE LOGIC THAT A SUPPLY CHAIN IS ONLY AS STRONG AS ITS WEAKEST LINK’

based companies (i.e. companies who primarily supply products rather than services) there are at least three processes which are fundamental.

Firstly, there is the process of New Product Introduction (NPI), a fundamental element of which is concerned with product research and development (R&D). Successful companies have to get new products into the market in a timely manner. The ability to do so is clearly a major source of competitive advantage. Effective NPI involves designers, manufacturing specialists, logistics professionals, purchasing staff and key suppliers, as well as sales and marketing staff and key customers. This approach is based on the well established concepts and principles of simultaneous or concurrent engineering. It is based on the use of multi-disciplined teams and contrasts with the traditional sequential approach based on functional departments. The major benefit is reduced time-to-market for new products but there are numerous

other benefits in terms of cost, quality and customer service.

Secondly, there is the process of marketing. Marketing is concerned with the identification and anticipation of customer requirements. This knowledge is a key input to the NPI process. Marketing is also concerned with market and brand development and management. The latter is of particular importance in the context of this article. Brand equity is the additional amount a customer is willing to pay for a product as a direct result of the brand. Developing and sustaining brand equity is, therefore, a key activity in companies. It contributes directly to the value a customer associated with the product, i.e. of itself it adds value.

Good products with a strong brand have the potential to improve competitiveness. However, this is only true if the product can be supplied in a timely and cost-effective manner. In other words, it depends on the third key process, namely effective SCM.

### THE ROLE OF SCM

In the words of the time-honoured slogan, SCM is concerned with ensuring that the right goods or services, are delivered in the right quality and quantity, at the right time and at the right cost. The overall objectives of SCM are to enhance customer service and to optimise total supply chain costs and investment. The philosophy which underpins SCM is based on the logic that a supply chain is only as strong as its weakest link. It requires companies to manage the major supply chain functions of buy, make, move, store and sell in an integrated and holistic manner. To do so requires that material, information and money flows in the chain are managed in an integrated and holistic manner. To achieve the overall objectives and to put the philosophy into practice requires a radical reappraisal of both internal and external customer/supplier relationships. This view of SCM demonstrates its centrality as a key business process for most companies.

Figure 2 shows a conceptual representation of the new business model and the role of SCM as part of it. SCM is based on enhancing customer service levels. Understanding service level requirements in different market segments is based on market intelligence, which is generated through market research (a fundamental tool in identifying and anticipating customer requirements). Thus the marketing process is a key input into the SCM process (i). Equally, the key supply chain customer service performance indicators act as an input back into the marketing process (ii). The marketing process generates information about customer requirements which is an input into the NPI process (iii). No total product

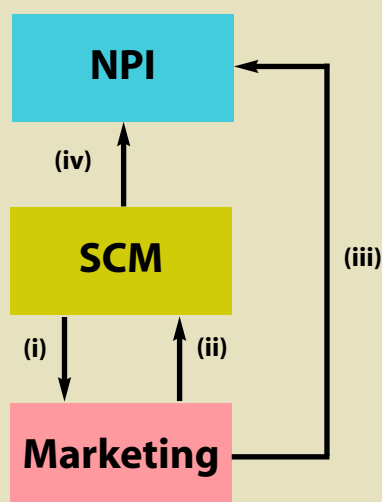


Figure 2: The Role of SCM in the New Business Model



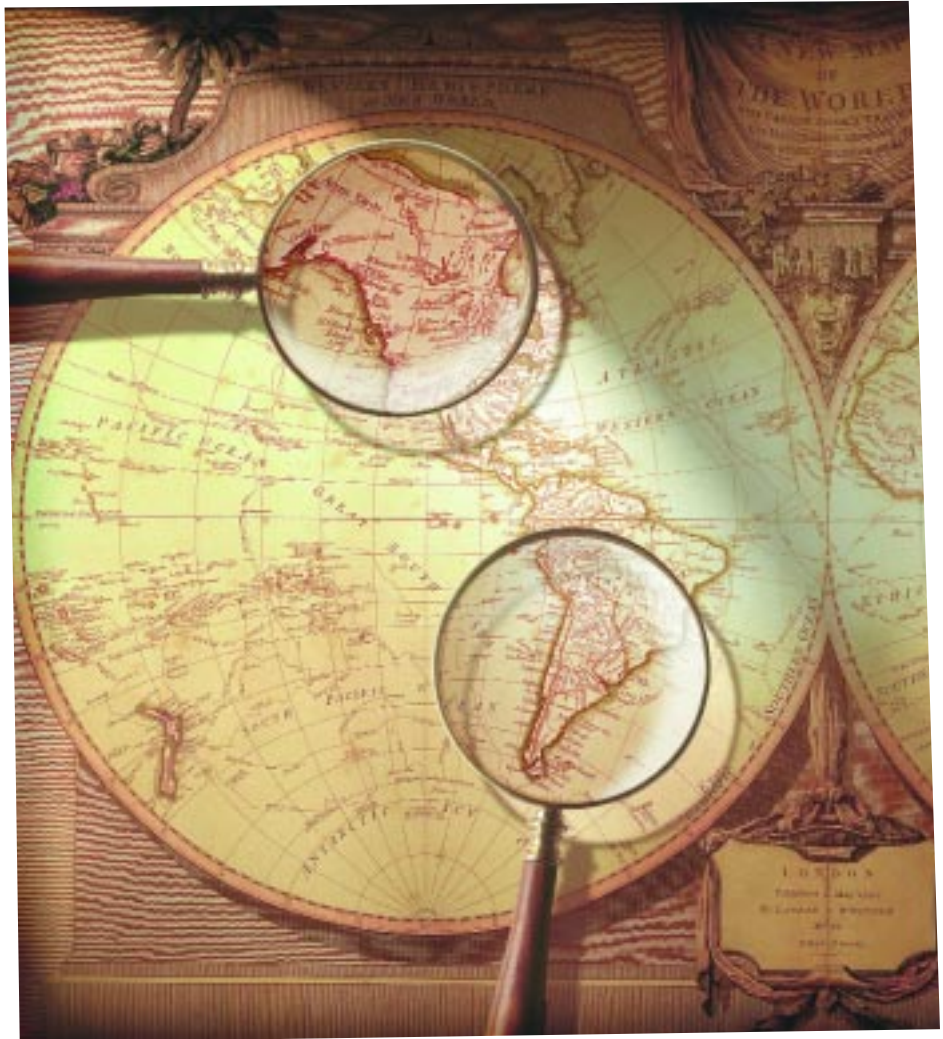
**IF IRELAND IS TO BECOME A LOGISTICS HUB THERE IS A NEED TO THINK OF SCM IS A RADICALLY DIFFERENT WAY**

package is complete without information concerning the service requirements of customer. The SCM process feeds information into the NPI process concerning evolving customer service requirements (iv).

This model has implications in terms of the organisational structures adopted by companies. Companies who adopt SCM philosophy have often based their organisation structures around the three key business processes (often augmented by "support" functions such as finance, IT and HR). These "support" functions are essentially concerned with the management of the enabling resources of money, information and people. In this way, the most senior levels of management in companies are based on genuinely value adding business processes and have a strong focus on customers as a result.

## NEW CHALLENGES FOR SCM IN THE 21ST CENTURY

Supply chains have become more global as a direct result of structural changes in the world economy. In addition, they have become more



virtual as companies outsource key supply chain functions. These two factors have resulted in SCM becoming a more important determinant of competitive advantage than ever before. They have also made SCM more complex than ever before. In developed economies the continuing shift in emphasis away from manufacturing and towards the provision of high-value services will have a major impact on the essence of SCM in the coming years and decades.

Ireland will be particularly affected by this trend due to the open nature of the economy and the high proportion of imports and exports as a percentage of GDP. Logistics and SCM will become less about the physical movement of material on to and off of the island. If Ireland is to become a logistics hub (at least within the European context) there is a need to think of SCM in a radically different way. In short, SCM will need to move up the value-adding hierarchy. SCM will become less concerned with the physical movement of material and

more with the management of information and knowledge. This shift has profound implications for the knowledge and skill base of Irish logisticians. It also has implications in terms of IT and communications infrastructure.

On a positive note, in many ways Ireland has unique and unrivalled experience of SCM. This has resulted from several factors including the open nature of the economy, the high levels of imports and exports, the strong IT base and the importance accorded to the field at a national level. If the opportunities presented by the new business model, and the central role of SCM as part of it, are to be turned to national advantage there is an urgent need for the key players to begin to put the necessary capability into place. <sup>LS</sup>

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