2007-01-01

Supply Chain Management: the Business Model of the 21st Century

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Recommended Citation

Sweeney, E.:Supply Chain Management: the Business Model of the 21st Century. In *Perspectives on Supply Chain Management and Logistics - Creating Competitive Organisations in the 21st Century* (Sweeney, E. ed), Dublin: Blackhall Publishers, 2007, Chapter 17, pp. 307-316.

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Supply Chain Management: The Business Model of the 21st Century

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INTRODUCTION

This final chapter looks to the future and outlines some of the likely challenges set to emerge over the coming years and examines some possible innovative supply chain architectures aimed at meeting these challenges. The future by its very nature can never be forecasted with accuracy. However, emerging trends in relation to the economic and business environment, the strategic role of SCM, technology (in particular ICT) and operational good practice are combining to enable possible future scenarios to be envisioned. This chapter does not in any sense purport to provide an exhaustive guide to these scenarios; rather it is based on the work of the authors both in research ('laboratory') and consultancy ('real-world') environments.

BACKGROUND: THE CHANGING BUSINESS ENVIRONMENT

As noted in Chapter 2, 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 have accentuated this trend.[1] 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 (WTO), currently with over 150 member countries and judicial powers to resolve trade disputes, is central to these structural changes in the world economic order.

[1] As noted in Chapter 2, this has been particularly significant in the recent development of the Irish economy.

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.

From an 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 and also access to apparently unlimited low cost production capacity. 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 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 1980s product quality was regarded in many markets as the critical success factor (CSF). 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 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 (NVAs) in operations. In this new environment, customer service excellence has become the key order-winning criterion for more and more companies.

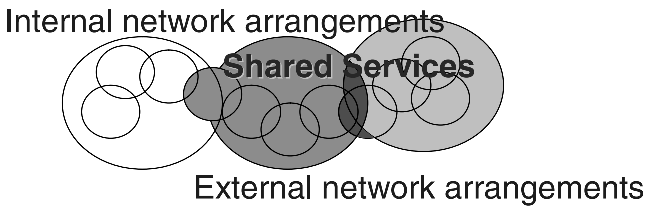
SCM is fundamentally concerned with the enhancement of customer service. Indeed, as noted earlier, an understanding of customer service level requirements in targeted market segments sets the specification for the design of the supply chain. With customer service excellence playing such an important 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 former 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.

Value and Business Processes

As noted in Chapter 3, 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' (Hamer 1995). 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 re-design* requires companies

Figure 17.1: The Organisational Shape of the Future[2]



to address the root causes of their problems and to design organisational structures which reflect customer value rather than structures which are primarily focused on internal operating or administrative efficiency. As noted in Chapter 16, the result is supply chains 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 17.1 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 be in their chosen markets.

What Are the Key Processes?

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

[2]As noted in Chapter 16 (see Figure 16.2) in the context of supply chain re-engineering.

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 (Finn and Sweeney 2004).

Secondly, there is the process of marketing. As noted in Chapter 6, 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. 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 associates 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. As set out in *Fundamental One* (see Chapter 3), the overall objectives of SCM are to enhance customer service and to optimise total supply chain cost and investment. The philosophy which underpins SCM is based on the logic that a supply chain is only as strong as its weakest link (*Fundamental Two*, see Chapter 3). 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 (*Fundamental Three,* see Chapter 3). To achieve the overall objectives and to put the philosophy into practice often requires a radical reappraisal of both internal and external customer/supplier relationships, as incorporated into *Fundamental Four* (see Chapter 3). This view of SCM demonstrates its centrality as a key business process for most companies.

Figure 17.2: The Role of SCM in the New Business Model

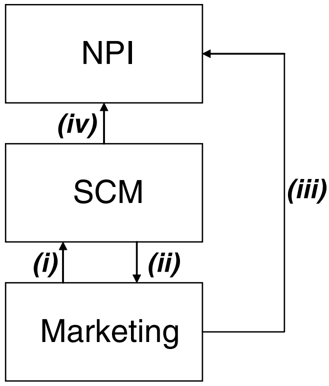


Figure 17.2 shows a conceptual representation of the new business model and the role of SCM as part of it (as proposed by Sweeney and Faulkner 2001). SCM is based on enhancing customer service levels. Understanding service level requirements in different market segments is based on market intelligence, 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 package is complete without information concerning the service requirements of customers. The SCM process feeds information into the NPI process concerning evolving customer service requirements (*iv*).

It should also be noted that the representation in Figure 17.2 shows the key business processes as quite discrete and independent entities for ease of illustration. However, as noted throughout this book, the lines between these processes are becoming more blurred as companies focus on the development of organisational structures based on integrated value-adding activities. The internal and external network arrangements depicted in Figure 17.1 more accurately represent this approach. In other words, in reality the key processes are becoming more *integrated* and *interdependent* (rather than *discrete* and *independent*).

This model has implications in terms of the organisational structures adopted by companies. Companies who adopt SCM philosophy have often based their organisational structures around the three key business processes,