



2007-01-01

The Financial Dimension of SCM

Edward Sweeney

Dublin Institute of Technology, edward.sweeney@dit.ie

Des Lee

Follow this and additional works at: <http://arrow.dit.ie/nitlbc>

 Part of the [Business Administration, Management, and Operations Commons](#)

Recommended Citation

Lee, D., Sweeney, E.:The Financial Dimension of SCM. In *Perspectives on Supply Chain Management and Logistics - Creating Competitive Organisations in the 21st Century* (Sweeney, E. ed), Dublin: Blackhall Publishers, 2007, Chapter 5, pp. 93-108.

This Book Chapter is brought to you for free and open access by the National Institute for Transport and Logistics at ARROW@DIT. It has been accepted for inclusion in Books/Book chapters by an authorized administrator of ARROW@DIT. For more information, please contact yvonne.desmond@dit.ie, arrow.admin@dit.ie, brian.widdis@dit.ie.



This work is licensed under a [Creative Commons Attribution-NonCommercial-Share Alike 3.0 License](#)



5

The Financial Dimension of Supply Chain Management

DES LEE AND EDWARD SWEENEY

INTRODUCTION

The financial and economic aspect of supply chain management (SCM) can be considered from two perspectives. Firstly, supply chain costs represent a varying but significant proportion of total cost, and one of the overall objectives of SCM is to optimise total supply chain cost and investment.¹ Note that there are significant variations in this proportion between companies and in different industry sectors. The optimisation of total supply chain cost, therefore, contributes directly (and often very significantly) to overall profitability. Similarly, optimisation of supply chain investment contributes to the optimisation of return on the capital employed (ROCE) in a company. Secondly, SCM is concerned with the management of financial flows across a supply chain. As shown in Figure 5.1, financial funds flow from the final consumer, who is usually the only source of 'real' money in a supply chain, back through the other links in the chain (typically retailers, distributors, processors and suppliers). The integrated management of this flow is a key SCM activity,² and one which has a direct impact on the cash flow position of companies in the chain.

FINANCIAL MANAGEMENT

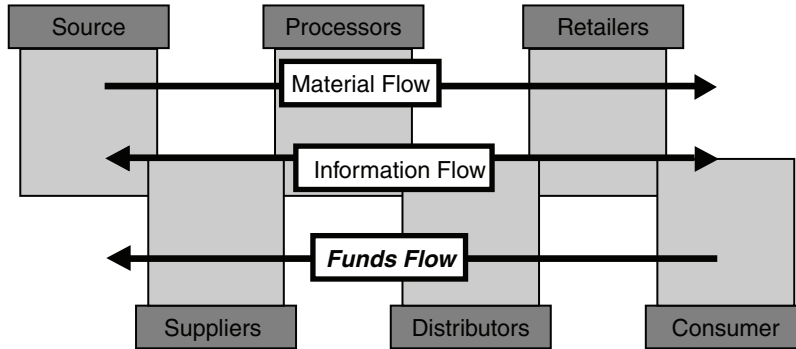
Financial management is fundamentally concerned with two things: securing financial resources from one or more of a number of sources (*the raising of funds*) and the effective deployment of these resources (*the use of funds*).

There are three main sources of funds for a company: share capital, loan capital (or debt capital) and reserves. Each comes with expectations and

¹Optimisation of total supply chain investment and costs is part of *Fundamental One* of SCM (see Chapter 3).

²Integrated management of financial flows (along with material and information flows) is part of *Fundamental Three* of SCM (see Chapter 3).

Figure 5.1: Funds Flow (along with Material and Information Flows) in the Supply Chain



power on the part of the providers. Providers of *share capital* (i.e. shareholders) expect dividends and/or capital growth in share value. The ability of a company to pay dividends depends on profitability, while growth in share value is dependent on the re-investment of profits in the business. Striking the balance between dividend and re-investment levels is a critical strategic issue in most companies. The power of shareholders derives from their ownership of the company. Providers of *loan capital* (e.g. banks) expect repayment with interest.³ Their power often derives from collateral (i.e. assets put up by the company as security against the loan). They may also have the right to demand immediate repayment under certain circumstances. *Reserves* are profits from previous trading retained within the business. While, in theory, these reserves belong to the business, in practice they represent past decisions on dividend payment versus retention within the business. There is no expectation that they will be disbursed to shareholders, at least not in the short term. There is, however, an opportunity cost associated with this form of capital (i.e. the opportunity of investing this capital to generate a 'safe' rate of return has effectively been foregone). Nonetheless, capital cost advantage can often be derived through the use of reserves as a source of finance.

Finance raised from the above sources is used in either of two ways. It may be invested in fixed assets, such as land, buildings, plant and equipment.

³As noted in Chapter 4, 'The managerial dimension of corporate finance is about identifying and harnessing a specific resource – capital – in the development of a business on the best available terms in the market.' This is central to the concept of the *Financial Supply Chain*.

Financial Dimension of SCM

From a supply chain perspective this is investment in *processes*. Alternatively, it may be invested in working capital (e.g. raw materials) – this is expenditure on *products*. The balance between fixed assets and working capital depends largely on the supply chain model adopted by a company. Traditionally, in manufacturing-based companies, the classical make-versus-buy decision was the major determinant of this balance. A company which carried out much of its manufacturing in-house had relatively high levels of fixed assets as a result of the need for significant investment in factories, plant and equipment. On the other hand, companies which had subcontracted much of their manufacturing to external suppliers tended to have lower levels of fixed assets, but proportionately higher working capital requirements. As companies concentrate on core supply chain activities and processes, ‘non-core’ activities and processes are outsourced. As noted in Chapter 2, this has resulted in a move away from vertically integrated architectures to more virtual configurations, with an associated shift in the fixed asset/working capital balance. At the extreme, a virtual organisation may have little or no fixed assets or working capital. Finally, the key strategic issue relating to the raising of finance is the need to ensure that the necessary funds are available for investment, whilst simultaneously ensuring that day-to-day financial commitments are met.

THE INTEGRATED FINANCIAL MODEL

Combining the two aspects of financial management – the raising and the use of funds – gives rise to the integrated financial model, as shown in Figure 5.2. The three main sources of funds are spent on either fixed assets or working capital. Fixed assets are used up over time, which is accounted for through depreciation. Working capital leads to sales and revenue. Calculation of profitability (before and after interest and tax) is carried out based on these revenues and the costs incurred in achieving them. These earnings are either paid out in dividends to shareholders or retained within the business (thus adding to reserves), thereby integrating the model. This model forms the basis of the standard systems of accounting practice, in particular the profit and loss account.

The overall SCM objective of optimising total supply chain cost and investment contributes directly to the overall profitability of a business. Figure 5.3 indicates how good SCM practice can impact on shareholder value, as measured by profit generated for every euro invested. Good SCM practice, first and foremost, aims to improve customer service. Improved customer service, for example in the form of greater product availability, results in greater sales revenue streams. Costs are reduced through improvements

Figure 5.2: The Integrated Financial Model

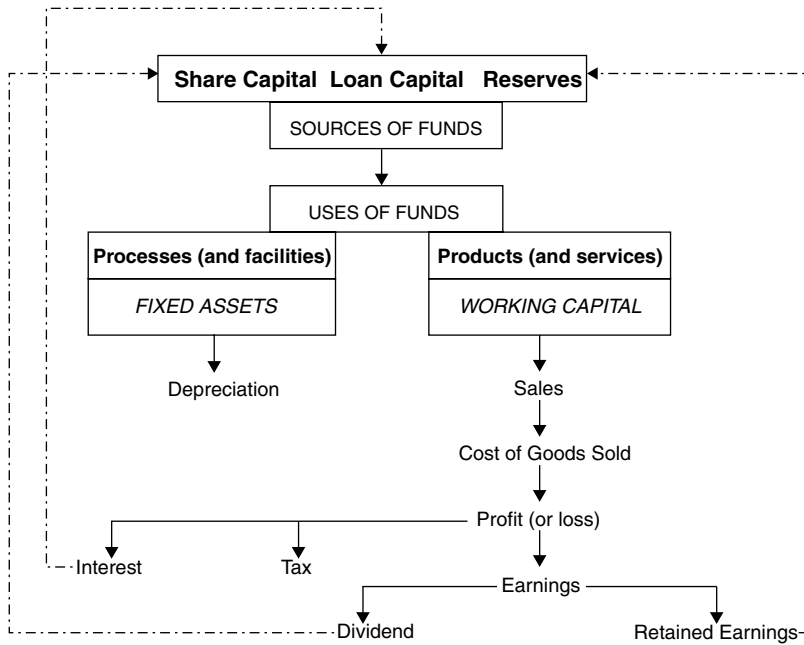
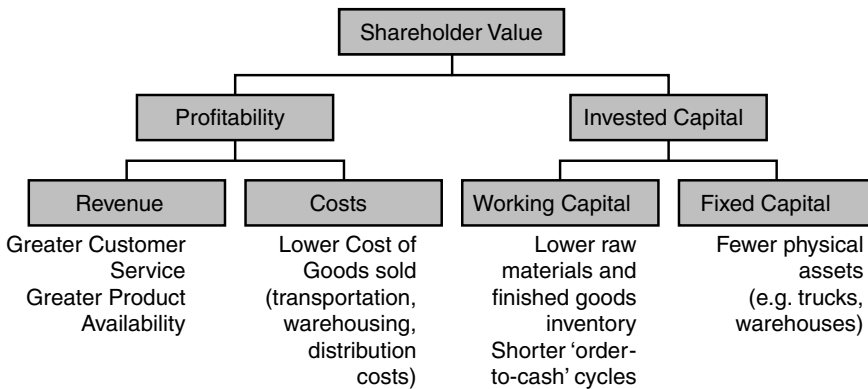


Figure 5.3: Impact of SCM on Shareholder Value



across the supply chain (e.g. improved transport, warehousing and distribution costs) due to the minimisation of non-value-adding activities (NVAs), which add cost to supply chain processes without necessarily adding value from a customer perspective. Good SCM practice has the potential to improve performance of both working capital and fixed assets. The major

Financial Dimension of SCM

potential saving in working capital requirements results from lower inventory levels (raw materials, work in progress and finished goods stock). Furthermore, good SCM practice can improve order-to-cash cycle times. This releases working capital tied up in inventory and allows it to be used productively elsewhere in the business. Finally, SCM aims to make more efficient use of fixed assets such as trucks and warehouses. This reduces the amount of investment required in fixed assets.

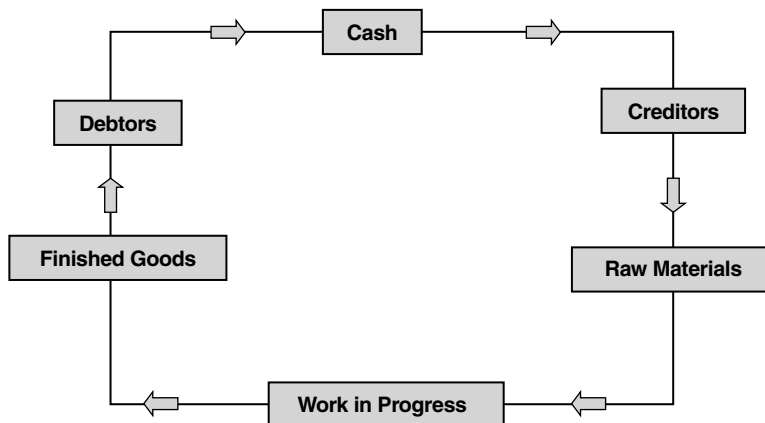
THE WORKING CAPITAL CYCLE

As noted in Chapter 3, of particular interest in SCM is the way working capital is used within a business.

The working capital cycle (see Figure 5.4) indicates that suppliers (i.e. creditors) supply raw materials (usually on credit) which are subsequently converted into work in progress and finished goods. These products are sold (also on credit) to customers (debtors) whose cash is used to pay suppliers. There are a number of SCM issues which relate directly to this cycle:

- **Value:** Value is added as raw materials are converted into finished products. Value-based accounting methods attempt to measure this in financial terms.
- **Speed:** A key objective is to increase the speed of the cycle or to maximise the 'working capital cycle circulation velocity'.
- **Creditor/debtor days:** Ensuring that customers pay in a timely manner, so that cash is available to pay suppliers on time, is an important element of liquidity.

Figure 5.4: The Working Capital Cycle



Perspectives on Supply Chain Management and Logistics

- **Liquidity:** The very existence of any business is dependent on its ability to meet short-term debts. The cycle provides some insights into this.

WORKING CAPITAL OPTIMISATION: INDIVIDUAL COMPANY

Every individual company in every supply chain is attempting to optimise its working capital position. This involves seeking to achieve the optimal value of each element of the working capital cycle. SCM, through its focus on transparency of information and velocity of movement, has contributed significantly to achieving the financial working capital optima.

Creditors

Companies buy goods and services (usually on credit) and at any one time there is an amount owing to suppliers or creditors in financial terms. These creditors are effectively lending money to the company which helps to fund its activities – they have provided goods and services which may be worked on or even sold but they have not yet been paid. Each company has a strong financial incentive to delay payment to suppliers for as long as possible without jeopardising supply or service. The common measurement of creditors is ‘creditor days’ which indicates how many days worth of purchases have currently not been paid for and, therefore, roughly how long it is taking the company to pay its suppliers.

Debtors

Most business-to-business (B2B) transactions are also on credit. The supplying company has a strong incentive to get paid as quickly as possible. Those customers who still owe (known as debtors) represent a cost that must be funded by the supplier. The common measurement of debtors is ‘debtor days’ which indicates how many days worth of sales have currently not been paid for and, therefore, roughly how long it is taking the company to extract payment from its customers.

Inventory

An ideal world would have no money tied up in inventory. While clearly unrealistic, minimal inventory for each category is desirable.

WIP: The minimum achievable work in process (WIP) inventory, consistent with efficient utilisation of capital and other resources, is defined by