PAPER P1 (ALSO OF INTEREST TO P6 CANDIDATES)

Management Accounting – Performance Evaluation

Bob Scarlett reviews the theories and practices of supply chain management and explains the effects of virtual integration on relationships among linked companies.

Supply chain management (SCM) is a concept that involves the co-ordination of operations from the supplier of raw materials at one end of the supply chain all the way down to the consumer at the other end. The object is to achieve synergies that benefit every player along that chain. SCM is a logical progression from internal management practices such as material requirements planning, enterprise resource planning and customer relationship management.

The idea behind SCM is that co-ordinating the activities of the different businesses on the supply chain can save costs while also adding value. The simplest form of chain is where a series of firms supply each other along a continuous pipeline running from the point where raw materials are extracted to the point at which customers are supplied, but the situation is usually more complex than this. Most businesses have several suppliers and several customers. Some businesses may compete for customers and have common suppliers. There may be several supply chains serving one market and they may form complex webs (*see panel 1*).

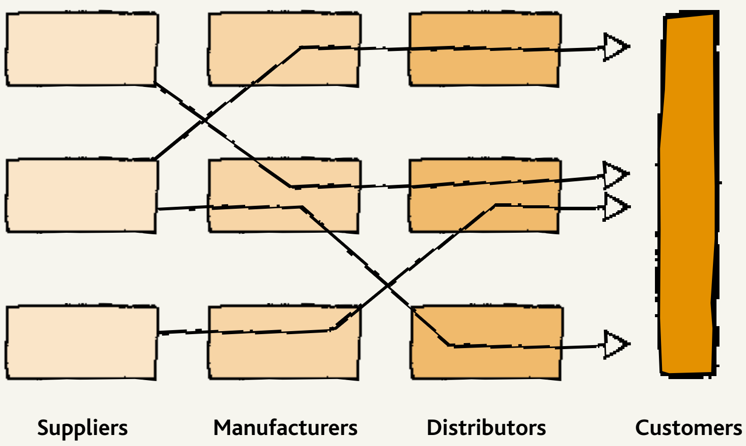
Supply chain simplification may be a requirement of effective SCM. In a case where there is a single raw material supplier and many "downstream" customers with similar purchasing power, SCM may be hard to achieve. Where there is a single customer and a limited number of suppliers of differentiated products, it may be possible to apply SCM.

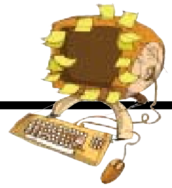
Common SCM practices include:

- Consolidating the supplier base. SCM requires that suppliers are few in number and engaged in long-term relationships. SCM is inconsistent with the efficient market concept, wherein large numbers of continually competing suppliers are encouraged by the market to minimise costs.
- Co-ordinating production and inventory policies. By adopting linked production schedules, different businesses can minimise their stock holdings and promote just-in-time manufacturing while shortening response times.
- Linking IT systems. Data generated at retail level by electronic point of sale (Epos) systems can be transferred immediately to manufacturers' ordering systems. Goods can be delivered by a manufacturer directly to the retail store where they are needed, without the need for intermediate warehousing and the aggregating of orders. Electronic data interchange (EDI) is a common feature of SCM.
- Participation in product development – where all members of the supply chain are given some input into design decisions.
- Embedded representation. A component supplier may be invited to place a representative at a customer's plant. This individual may have full access to the customer's facility and be able to use its IT systems. He or she will organise the delivery of components and advise on technical issues.

SCM, therefore, provides a form of virtual integration – ie, many of the advantages of traditional vertical integration but without the problems associated with formal business mergers and acquisitions. The benefits claimed for SCM include reduced transaction costs resulting from more stable relationships; reduced demand variability resulting from the improved communication of information; economies of scale through supplier consolidation; reduced administrative costs; reduced logistics costs; a shorter time to market; and improved responsiveness to customers' requirements. It has been claimed that SCM facilitates "mass customisation" by allowing an

1 A SUPPLY CHAIN WEB





individual end-customer's requirements to be accommodated more readily by action taken along the whole supply chain.

The SCM concept might seem to diminish the role of competition in achieving efficiency. The idea that two competing suppliers will bid against each other for sales to a particular customer along a supply chain may not be relevant to an SCM environment. But the incentive to be efficient is maintained by competition among supply chains. This reinforces the need for businesses along a given supply chain to co-operate with each other.

The relationships among businesses on a supply chain can be pitched at varying levels of engagement. One model indicates that the appropriate level of engagement depends on the "competencies" that the businesses on the chain share. These may be classified as follows:

- Distinctive competencies. These are the features that give a business its unique competitive characteristics that provide it with an advantage over the opposition. They may be technical, organisational or marketing related.
- Essential competencies. These are features that a firm needs in order to perform in a particular market but which are routine requirements lacking distinctiveness. Examples might include a safety certification or the capacity to produce components to a particular engineering tolerance.
- Ordinary competencies. These are typically routine features that allow a supplier to deliver usable components or materials along the chain.

Where two businesses on a supply chain are linked by distinctive competencies, they are more likely to engage in SCM practices and enter partnerships. A chain containing a number of linked partners can become a virtual business unit, which may start to work as a single operation. *Industrial Networks: A New View of Reality*, by Björn Axelsson and Geoffrey Easton (Routledge, 1992), cites several high-profile examples of business partnerships. In the eighties and nineties Mercedes-Benz cars were distinguished by their superior electrical systems, which were supplied by Bosch. In effect, Bosch had become a partner in Mercedes-Benz's design and manufacturing processes. And Procter & Gamble was long associated with the Wal-Mart group through their integrated stock and distribution systems – the distinctive competency in this case being an effective warehousing and distribution capability.

Where two businesses are linked only by ordinary competencies, SCM is likely to be less of an issue. If a business customer can buy undifferentiated materials or components on the open market from a large number of potential suppliers, there may be little scope for SCM.

SCM and business partnerships can give rise to risks in certain situations. If it starts to lose competitiveness, a partner can become a liability to your organisation. Where technology or markets change suddenly, a partnership may find it harder to respond than a stand-alone business.

More crucially, virtual integration involves power relationships. The whole supply chain may gain from integration, but it's unlikely that all members will gain equally. Individual firms benefit according to their relative position and the nature of the competencies they contribute. A downstream position in the chain will normally be stronger than an upstream position, since the former allows final decisions to be made about sourcing, product design and delivery to market. The more a firm relies on the chain for its business, the weaker its bargaining position, while the partner that contributes the most distinctive competencies will generally be in the strongest position. Ultimately, such a partner is best placed to enforce changes in membership of the chain or to take its competencies to another chain.

Virtual integration is distinguished from traditional vertical integration by the profile of power relationships. Ideally, the partners on a supply chain should agree an equitable distribution of profit among themselves using an accepted model. But things do not always work that way. For more than 90 per cent of the UK population, supermarkets are the main place to shop, which gives them tremendous bargaining power. There is a massive chain between the producer and the consumer. The farmer is the weakest link and supermarkets are not always sensitive in the way that they wield this power. Partnerships imply a degree of equality between the parties involved, but they can easily become oppressive when one partner is stronger. **FM**

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P1 Internet resources

How Tesco achieves SCM using radio barcodes
www.tesco.com/radiobarcodes

Creating a customer-driven supply chain
http://tinyurl.com/36k5lj

The plight of farmers in supermarket supply chains
http://tinyurl.com/32njvs