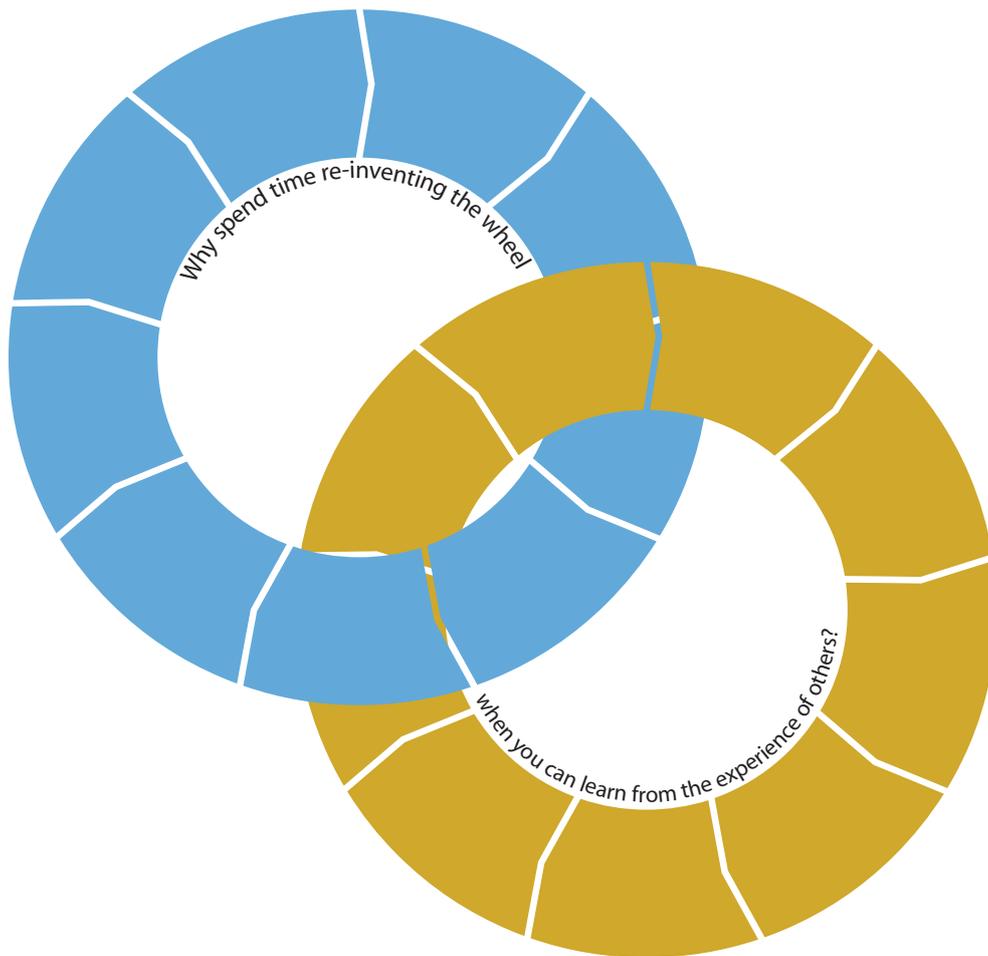
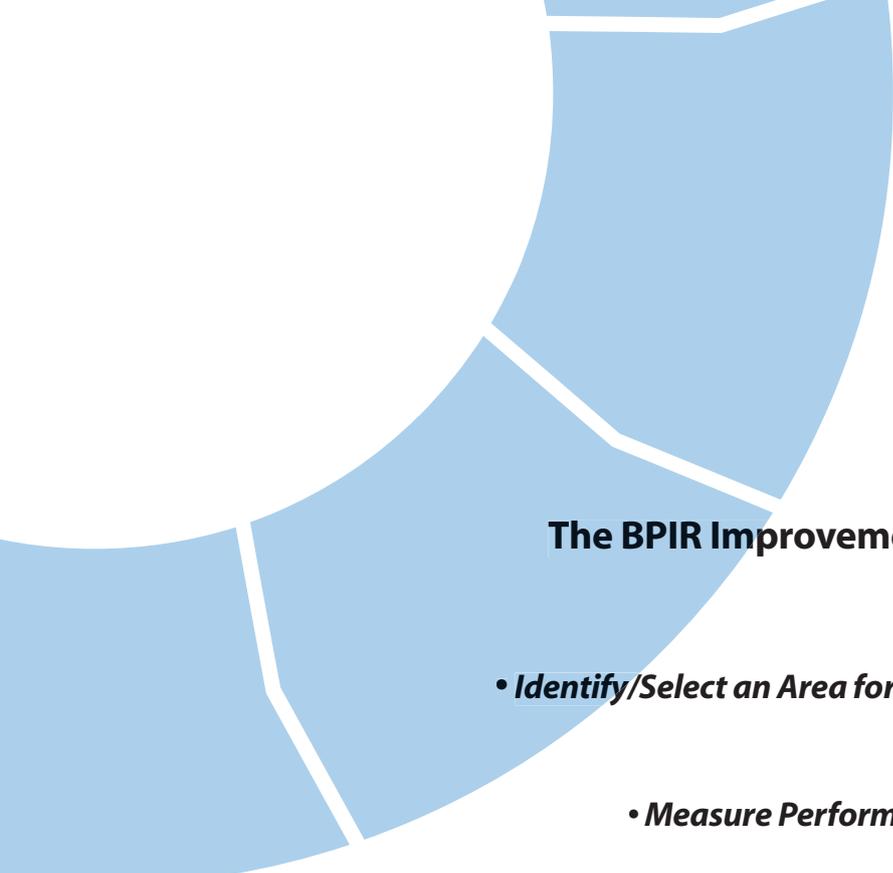


Supply Chain Management





The BPIR Improvement Cycle

- ***Identify/Select an Area for Improvement***

- ***Measure Performance***

- ***Benchmark Performance***

- ***Identify a Relevant Improvement Approach or Strategy***

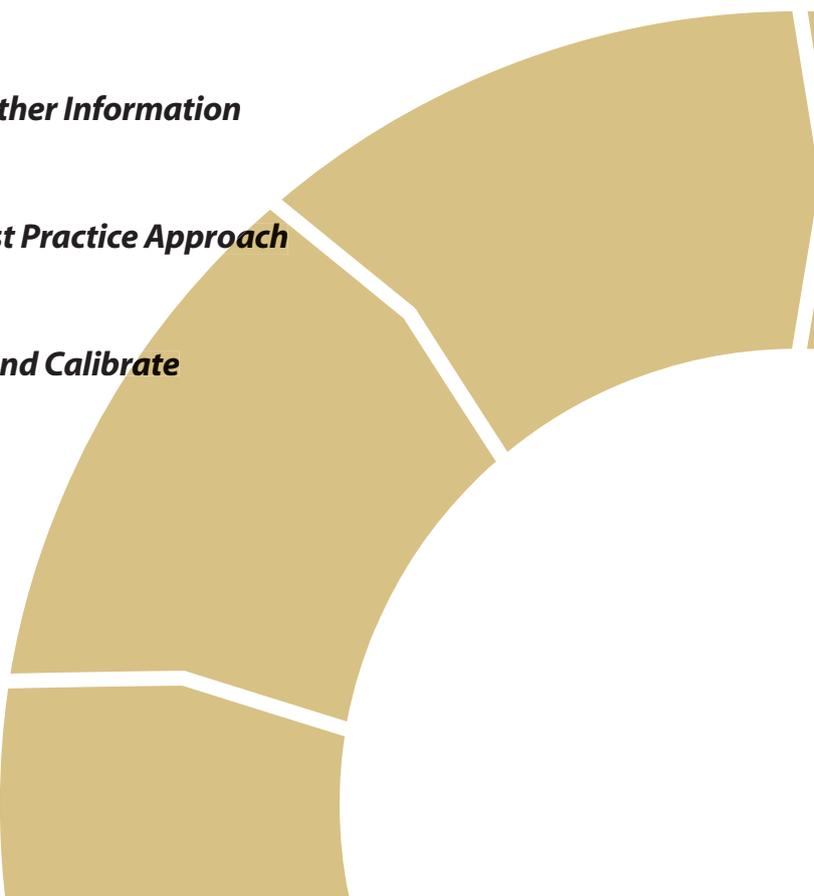
- ***Learn How to Implement***

- ***Identify Best Practice Organisations***

- ***Research Further Information***

- ***Implement a Best Practice Approach***

- ***Review and Calibrate***



Welcome to Volume 5, Issue 7 of the BPIR.com Management Brief series

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List of Contents:

The Definition.....p1	Measure and Evaluate.....p10
The Stagep1	Self-Assessmentsp11
Expert Opinion.....p2	Summary of Best Practices.....p12
Survey and Research Datap6	Conclusionp12
Examples Casesp7	References.....p13

Supply Chain Management (SCM): The Definition

SCM synchronises and establishes strong bonds of communication between the parties connected in a value chain. This enables the parties to function as a virtual organisation, which is able to deliver products and services faster, with higher quality, and at less expense.

The Stage

Global outsourcing, leaner supply chains, and the ever-increasing frequency of new-product introductions require considerable collaboration and coordination between the associated networks of trading partners. To cope with this, many organisations are re-engineering their business processes, building new infrastructures, and investing in technology platforms that enable them to better manage complexity, the vagaries of supply and demand, and the risks associated with modern SCM.

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Expert Opinion

Ming-Ling Chuang, assistant professor at Western Connecticut State University, and Wade Shaw, professor at the Florida Institute of Technology (both in the United States), describe SCM as involving a joint collaboration between outsourcing partners and customers. ^[1] In essence, it consists of the specification, flow, and transformation of goods from the raw materials stage to the delivery of the finished product; it also includes the necessary information flows, which travel both up and down the supply chain. SCM comprises the integration of all associated activities, and has the goal of achieving improved relationships between parties, while yielding sustainable competitive advantages through higher product quality and lower costs.

Key success criteria for SCM implementation include:

- successful implementation of business process engineering
- reduced inventory levels
- reduced logistics costs
- reduced procurement costs
- improved order fulfilment performance levels
- improved response to supply chain partners
- faster time to market
- creation of new market opportunities
- greater reliability in demand forecasts.

Chuang describes how SCM can be integrated with Enterprise Resource Planning (ERP) and e-commerce processes to form an e-business. Figure 1, see below, adapted from Chuang and Shaw, depicts the relationship between each of these components.

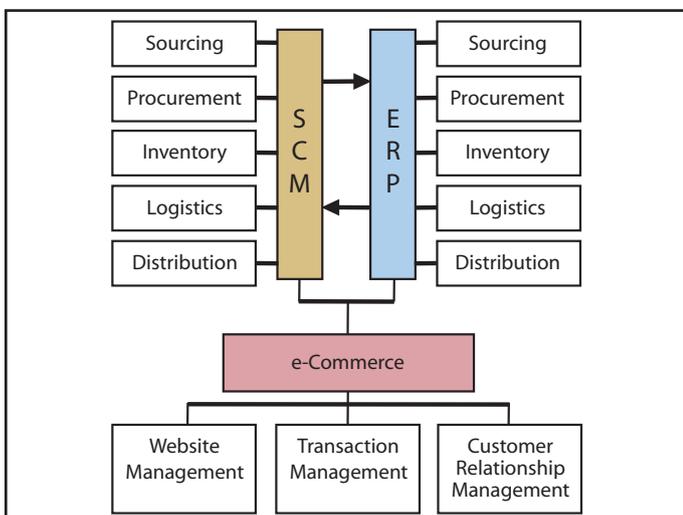


Figure 1: The Core Components of an E-business (adapted from Chuang and Shaw) ^[1]

1. ERP systems help to reduce duplication of effort by integrating human resources, sales order management, finance and accounting, manufacturing processes, and sales. New generation ERP systems have a strong focus on SCM.
2. E-commerce has capitalised on web-based services to link internal and external organisations with suppliers and customers.

Gabriel Bitran and colleagues, at the MIT Sloan School of Management in the United States, believe that future supply chains will not consist of simple serial interactions between buyers, suppliers, and logistics operators, but will be much more dynamic in nature. ^[2] The authors envisage value networks in which all players operate collaboratively to maximise productivity and efficiencies. The visibility and manoeuvrability of the stock, held in inventories throughout the value network, would be of critical importance and enable information to be used swiftly. This would allow the coordination of production and pricing strategies to be based on real-time information relating to actual supply and demand.

Supply Chain Financing

Stephan Wagner, professor at the Swiss Federal Institute of Technology in Zurich, and his colleagues write that cost reduction and sourcing optimisation are major issues currently being addressed by manufacturers. ^[3] It is not uncommon for manufacturers to seek purchasing cost reductions of up to 25 per cent. However, in the pursuit of cost cuts, manufacturers must take care to not destroy buyer-supplier relationships. To achieve this, organisations are seeking to minimise the impact of cost considerations in their supply chains by:

- simplifying purchasing processes
- using greater numbers of common parts to bring about economies of scale
- initiating supplier improvement circles
- engaging with suppliers in research and development (R&D) activities, and
- transferring lean production systems knowledge to suppliers.

To protect suppliers' profits and avoid precipitating bankruptcies, purchasing firms need to ensure that burdens are equitably shared across supply chains. In today's market place, supply chain cost reductions are not limited to the production and delivery of materials

and components. Organisations are also seeking to reduce costs by outsourcing certain innovation and R&D projects to their suppliers. In this way, the purchasing organisation transfers some of the costs and risks associated with new product development to its suppliers. Of course, this brings with it the need for enhanced collaboration and greater supplier management capabilities. The authors believe that sustainable cost reductions can only be achieved when production outsourcing is carried out in tandem with R&D.

Tom Crowe, director of sales and delivery, financial supply chain solutions, at Abbey Corporate Banking in the United Kingdom, believes that “reverse factoring” has the potential to significantly reduce the cost of financing invoices and also to accelerate supplier payments, both of which are of particular interest in times of economic downturn. [4] In reverse factoring arrangements, banks partner with buying organisations to evaluate the risks associated with non-payment. The bank then minimises its risk by financing only those invoices that have been approved for payment by the buying organisation. By reducing risk in this manner, lower rates of finance can be provided, which benefit both the buyer and the supplier. “In the normal course of business, the supplier submits an invoice once the goods or services have been provided to its customer,” explains Crowe. “The buying organisation will then go through its internal approval processes – in most cases the invoice will be matched against the original purchase order and the goods received note. If the invoice passes these checks, the buying organisation knows that it is a legitimate invoice for the goods or services requested, and it also knows that it has received the goods or services detailed. At this point, the invoice is good to pay and the bank is able to assist.” Figure 2 below, adapted from Crowe, depicts supply chain reverse factoring:

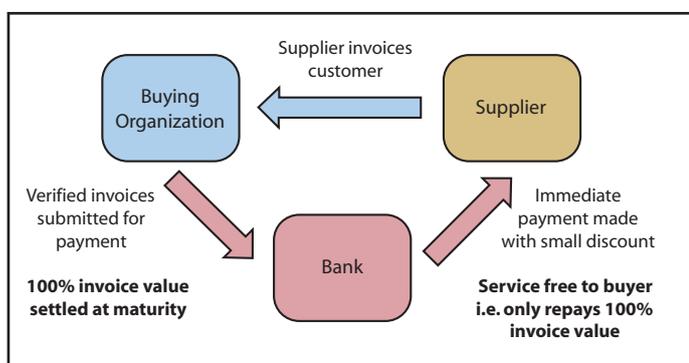


Figure 2: Supply Chain Reverse Factoring (adapted from Crowe) [4]

Forward and Reverse Supply Chains

Forward supply chains offer strategic potential, since SCM encompasses the entire business process from planning, sourcing, and constructing through to the delivery of products. It is believed that future competition will be strongly centred on supply chains rather than between organisations. While forward supply chains integrate processes associated with raw material production through to manufacturing, distribution, and retailing, reverse supply chains integrate the flow of customer returns back to the point at which they are able to re-enter the forward supply chain. As governments focus greater attention on environmental issues, environmentally friendly reverse logistics are gaining greater importance.

Richard Crandall, a professor at the Appalachian State University in the United States, outlines some of the benefits that could be derived from returned merchandise:

- increased sales of re-priced, re-packaged or re-processed goods
- increased sales of re-manufactured products
- increased sales of components
- increased sales as scrap
- reduced amount of returns through better diagnosis
- reduced burden on landfills.

The combination of forward and reverse supply chains offers the potential to be both profitable and environmentally friendly. Organisations that are driven by global competition and assisted by improved technology are able to gain the following benefits from implementing effective SCM practices:

- better response times for customers through information sharing, improved forecasts, and improved distribution systems
- reduced supply chain inventories by reducing variations in demand
- reduced defects
- reduced cost of materials as a result of improved product designs
- reduced cost of manufacture through outsourcing
- reduced order processing costs by using simplified ordering procedures and more efficient data transmission systems
- improved customer service

- increased sales
- reduced cash-to-cash cycle time.

Obstacles hindering the achievement of these benefits include:

- providing poor guidelines for the creation of alliances with supply chain partners
- failure to develop measures for monitoring alliances
- inability to broaden the supply chain vision beyond procurement/distribution and to encompass larger business processes
- inability to integrate the organisation's internal procedures
- lack of trust inside and outside the organisation
- organisational resistance
- lack of buy-in by top management
- lack of integrated information systems and electronic commerce connections between partners.^[5]

Supply Chain Risks and Security

Industry Week's David Blanchard cites supply chain consultant Rosalyn Wilson, who advised manufacturers to participate in the Customs-Trade Partnership against Terrorism (C-TPAT) programme to combat the increase in international terrorist incidents.^[6] C-TPAT establishes collaboration between government and industry, and encourages organisations to implement security practices throughout their global supply chains. Cargo security technology and monitoring equipment can provide a significant return on investment when compared to the value of the capital that might be lost by a disruption in the global container shipping industry. C-TPAT programmes certify shipping companies through a process of security procedure self-appraisals allied with customs audits and verifications. An approved C-TPAT company will derive rapid benefits, since merchandise flows through customs more quickly as a result of fewer inspections. This leads to a more predictable and efficient supply chain.

Blanchard also cites a 2006 Stanford University study, which outlined the following benefits from supply chain security investments:

- improved product safety (38% reduction in theft and loss, and 37% reduction in tampering)

- improved inventory management (14% reduction in excess inventory, 12% increase in reported on-time delivery)
- improved supply chain visibility (50% increase in access to supply chain data, 30% increase in timeliness of shipping information)
- improved product handling (43% increase in automated handling of goods)
- process improvements (30% reduction in process deviations)
- more efficient customs clearance process (49% reduction in cargo delays, 48% reduction in cargo inspections and examinations)
- speed improvements (29% reduction in transit time, 28% reduction in delivery time window)
- higher customer satisfaction (26% reduction in customer attrition, 20% increase of new customers).^[6]

Organisations have recognised the dangerous consequences of not addressing supply chain risk. Mark Spearman, president of Factory Physics Inc. in the United States, cites an Accenture survey, which reported that more than two-thirds of the companies surveyed had experienced a supply chain disruption from which it took more than one week to recover.^[7] Since modern supply chains have not been designed with risk in mind, they are susceptible to disruption. Sophisticated advanced planning and optimisation (APO) systems have failed to deliver promised results because of the inherent randomness found in practical supply chains. Spearman believes that a fundamental change in the management of manufacturing supply chains is necessary, and that effective risk management involves effective buffer deployment. This can be accomplished with extra inventory, extra time to satisfy the customer or extra capacity on hand to cover disruptions. The optimal configuration of risk and buffers will be different for various business situations. Dynamic risk-based planning and scheduling (DRPS) is recommended. Under this, it is only necessary to monitor projected inventory and service levels, and then control a few key parameters (i.e. reorder points or lead-times, production quantities (lot sizes), installed capacity, makeup capacity, work-in-progress (WIP) levels, and the virtual queue).

The effect of potential supply chain failures has been magnified by the progressive "leaning out" of inventories, the use of less buffer stock, and a growing reliance on overseas suppliers. David Bartholomew of Industry

Week magazine writes that risk management is a strategic imperative for manufacturers operating global supply chains. ^[8] Risk categories include:

- natural disasters
- market risks, including downstream effects of supplier strikes and bankruptcies
- commodity risk such as geopolitical factors affecting the price and supply of oil, and
- transportation risk, including port congestion.

To guard against these risks, managers need to consider increasing security (thus decreasing the likelihood of disruption) and improving resilience, which would enable operations to come back on stream rapidly. Frequent simulation of disruptions to test the organisation's infrastructure may provide a better understanding of issues and performance. Providing a redundant source of critical components can form a solid fallback strategy, and back-up plans should also be prepared for transportation networks. Investing in technology can provide visibility for the location of parts and materials in transit, as well as the critical paperwork that is required to accompany these.

Culture Changes and Supply Chain Integration

Charles Matthews, supplier quality manager at Boeing in Seattle, United States, claims that organisations may need to reshape their cultures and structures to gain the full benefits from supply chain integration. ^[9] Large system integrators like Boeing no longer build many of the components and major assemblies that make up their products, and this creates a significant degree of risk. To support effective risk management, the performance goals of suppliers and customers should be carefully aligned. To ensure reliability and the high quality required in the aerospace industry, integrators must understand their suppliers' organisational and cultural environments, as well as their processes. The integrator must also understand how knowledge and information are to be used throughout the supply chain network. In this respect, Total Quality Management (TQM) is an important component for ensuring success across integrated supply chain environments. Organisations that are dependent upon SCM need to develop appropriate criteria to appraise supply chain performance, and employ rigorous and continuous measurements of that performance. An effective performance measurement strategy is vital for risk management associated with large-scale integrated supply chain operations. The Supply-Chain Operations

Reference-model (SCOR) is a management tool that enables users to address, improve, and communicate supply-chain management practices within and between all interested parties. The SCOR model supports the TQM concept, and provides feedback to support decisions by satisfying the following key information:

- understanding and meeting organisational requirements
- data relating to the added value of processes
- providing process performance and effectiveness measures
- enabling the continual improvement of processes based on effective measurement.

Survey and Research Data

SCM Challenges Identified

A 2008 survey involving 259 manufacturing firms from various industries in the United States and Europe identified the following supply chain initiatives that organisations intended to implement over the next two years:

- demand planning and forecasting improvements (48%)
- cost reductions (46%)
- sourcing optimisation (42%)
- inventory reductions (40%)
- customer service improvement (33%)
- network optimisation (31%)
- inbound transportation optimisation (27%)
- outbound transportation optimisation (26%)
- consolidation of facilities (24%)
- know-how enhancement of employees (22%)
- reverse logistics optimisation (7%). ^[10]

Knowledge Sharing between Buyers and Sellers

A two-year research project, involving five organisations and 100 supply chain partnerships in 19 countries, collected data from 264 respondents. In terms of knowledge sharing between these organisations and their buyers and suppliers, it was found that:

1. The greater the investments specific to the partnership made by companies in the form of material, machinery, human resources, etc., the greater their propensity to share knowledge with buyers or suppliers.
2. The greater the disparity between the market environments of buyers and suppliers, the greater the likelihood that partners would share knowledge.
3. When company resources were complementary, or when they shared the same goals and values, then organisations were more prone to share their knowledge.
4. When buyers and suppliers shared information both buyers and suppliers benefited.
5. Both buyers and suppliers benefited from sharing in knowledge integration.

6. When partners shared databases and routines both buyers and suppliers benefited with suppliers benefiting the most. ^[11]

Supply Management – Is China Losing Competitive Edge?

China has been a hub of overseas manufacturing for thousands of American organisations. However, many are now considering other options. Survey respondents reported:

- 88% of companies manufacturing products in China did so because of lower labour costs
- 54% believed that China was losing its competitive edge to other nations such as Vietnam and India
- 20% had concrete plans to either relocate or expand their China manufacturing operations
- 63% cited Vietnam as their preferred low-cost sourcing alternative to China
- 37% cited India as their preferred low-cost sourcing alternative to China
- 83% reported that despite rising manufacturing costs they intended to maintain their current operations in China. ^[12]

SCM – Logistics Spending at 20% of China's Gross Domestic Product (GDP)

A 2007 Mainland China Value Chain Study reported that:

- 66% of Chinese operations experienced cash-to-cash cycle times of longer than 30 days, compared to 60% in Europe and 59% in North America
- 97% of Chinese manufacturers had finished-goods inventory turnover of four turns or higher. (China averages 27 turns per year, while the global average is 23 turns.)

In 2007, JLJ Group estimated that total company spending on logistics accounted for 20% of China's GDP. In contrast, logistics spending makes up only 9% of the United States GDP. Hewitt Associates reported that in 2006, average salary rates increased from 7.5 to 10.6% in Chinese cities. According to the People's Republic of China National Bureau of Statistics, the prices for raw materials, fuel, and power rose by 11.1% in the first half of 2008. ^[13]

SCM – More Customers Required

A joint IW Custom Research and BearingPoint survey of 344 United States organisations about SCM reported the following:

- When asked to rate the importance of specific business issues over the next 6 to 18 months, respondents focused on growing the top line, and strongly stressed the importance of acquiring and maintaining customers.
- When asked to gauge enterprise capabilities in specific areas, less than 25% rated their enterprise capabilities as excellent/very good.
- When asked about the major challenges faced when achieving supply chain improvements:
 - 65% reported financial challenges as the main issue
 - 40% cited corporate cultural resistance, and
 - 37% cited personnel concerns.^[14]

Example Cases

Valuable lessons can be learned from the following organisations:



Pfizer Inc., International *SCM benefits from outsourcing*

In response to the globalisation of its competition, Pfizer revamped its worldwide manufacturing and supply network. The organisation changed from using geographical segmentation to segmenting by customer type. Lean methodologies were integrated throughout its manufacturing and business processes. Pfizer reduced its internal network of manufacturing sites in favour of outsourcing and partnering arrangements. Pfizer saw itself primarily as a supply organisation whose mission was to gain innovative and powerful competitive advantages. In this pursuit, Pfizer took into account the complete value proposition it offered its customers by considering a balance of cost, quality, and supplier reliability. Product development was also an important consideration in connection with its outsourcing arrangements, which included the ability to bring certain products quickly to the market. One of the most important advantages brought to Pfizer through outsourcing was supply chain flexibility.^[15]



Li & Fung Group, Hong Kong *SCM achieves significant savings*

Li & Fung facilitated SCM across multiple global producers, including product design and development, raw material and factory sourcing, production planning/management, quality assurance, export documentation, and shipping consolidation. Upon receipt of an order, Li & Fung divided the processes into:

- front end (sales and design)
- back end (logistics and banking), and
- manufacturing (labour-intensive activities), carried out by selected organisations across the world.

Li & Fung coordinated the entire process and, thanks to the buying power and the trust it had developed, achieved significant savings. The organisation was also able to significantly reduce delivery cycles, which enabled customers to make purchases closer to target completion dates. This provided substantial savings in the form of fewer inventory markdowns, and quicker reaction to shifts in demand.^[16]



PSE Associates, USA
*Supply management – foreign suppliers
 extremely loyal*

Changes to traditional markets led PSE Associates, an American company, to look abroad. An initial arrangement with a Chinese supplier led to new relationships being formed with other foreign companies. Experience made PSE insist on the following minimum criteria:

1. Quality: poor quality would destroy relationships and was therefore not acceptable.
2. American presence: all suppliers had to act like an American manufacturer and have personnel and warehouses sited locally.
3. Logistics and documentation: all suppliers were required to own the goods supplied, manage shipping, and conduct transactions in US dollars.

Due diligence investigations established the capabilities and the trustworthiness of suppliers. PSE found that its foreign suppliers were extremely loyal, and would work very hard to please the company and its customers. PSE also discovered that foreign suppliers (from various countries) were interested in long-term relationships. ^[17]



Swire Beverages, Hong Kong
*SCM – synchronisation brings
 significant improvements*

Swire Beverages manual production facilities had reached breaking point as a result of accelerating market opportunities in China. The complexity of the supply chain was progressively increasing, and better ways of managing growth were needed. In addition, higher levels of customer service were being demanded of the organisation. To overcome these issues, Swire chose a proprietary software solution that would help to synchronise its supply chain operations with real-time consumer demand. The software selected included modules for the following:

- predicting customer demand
- collaboration between the Swire plants using web-based services
- planning capacity and sourcing in relation to costs and constraints
- sequencing in order to optimise materials and resource capacities to improve plant throughput
- inventory management, and
- monitoring to provide early warnings of potential problems.



Boeing Company, USA
SCM deficiencies lead to serious problems.

Boeing prided itself on being a proponent of lean methodologies and had established a global supply chain. In the process, it wished to extend its lean philosophy to its suppliers. However, this proved to be a much slower process than expected. The company established contracts with its suppliers to formalise its intention for both partners to employ lean together. In one example, Boeing outsourced major design work on a new aircraft to suppliers that had previously been very reliable, but found that they were not in a position to meet expectations. Based on this experience, Boeing sought to re-evaluate some of the functions it had outsourced. By outsourcing much of its major component design, Boeing had become more of a project management operation than a lean manufacturing organisation. Boeing discovered that deficiencies in the management of its complex supply chains led to problems that seriously affected its new aircraft construction programmes. ^[19]



Arasco, Saudi Arabia
*Collaborative Planning, Forecasting and
 Replenishment improves efficiency*

Arasco implemented a vendor-managed inventory programme to improve visibility and forecasting in its supply chain. A collaborative process was established between Arasco and its customers. A push strategy was implemented among selected distributors to maximise throughput, improve operations, and bring cost savings via improved customer service and quantity discounts. Joint business plans and front-end agreements were essential for building trust between Arasco and its distributors. Arasco and its customers prepared rolling monthly and annual forecasts, which were reconciled into one master set. Re-order levels were based on sales rates with replenishment orders being automatically generated. The results included:

- forecasting time reduced from 300 hours to 60 hours
- inventory turnover doubled
- customer service improved from 85% to 93%
- production changeovers reduced from 25 to 6 per day improving efficiency. ^[20]



Whitbread PLC, UK
Customer-supplier partnerships lead to sustained growth

Whitbread worked closely with its suppliers to create an environment of mutual trust and respect. Strong partnering relationships were built with suppliers to harness the scale of Whitbread's operations and optimise benefits across the supply chain. Whitbread aimed to assist its suppliers to develop products and processes that helped both partners meet their various objectives, and also build long-term relationships where possible. Whitbread comprehensively managed its supply chain processes across the total value chain from supplier selection to delivery of products, with the organisation sourcing over £1b of goods and services from external suppliers and contractors. Whitbread highly valued the good relationships it enjoyed with its stakeholders, recognising that sustained growth and development comes from successfully building on strong supplier partnerships. ^[21]



Tetley Group Ltd, UK
SCM strategy keeps prices down

Tetley simplified its supply chain to gain cost and speed advantages by divesting itself of most its tea cultivation assets, and focusing on the optimisation of the worldwide management of its brands. Tetley's blending plants were reduced from seven to two, leaving one in the UK and the other in India. Supply chain support was consolidated (including finance, IT, and human resources) into one worldwide operation. A sophisticated optimisation process was undertaken with regard to the consistency of blends, supply-chain issues, stocking, and the cost of supply from weather dependant markets. Tetley's strategy has been successful: ten years ago, the average UK price for Tetley's standard package of 80 tea bags was £1.69, while the current price ranges from £1.39 to £1.59 (despite the impact of inflation). In addition, Tetley is more profitable than it was a decade ago. ^[23]



Kraft Foods, USA
Supplier relationship management – engaging innovation partners

Kraft Foods recognised that expertise, which could be used to help the organisation grow, often existed outside its own core competencies. For this reason, Kraft worked with external innovation partners, speeding up the development of new products and the time required for these to come to market. The partnerships provided access to additional talent, reduced R&D costs, and complemented Kraft's internal innovation networks. Multiple avenues for engaging external partners were used along with customised selection tools. Kraft engaged suppliers using the following formal procedures:

- a consumer brief – including scope, acceptable cost range, and competitive positioning
- a compressed time frame (two to three months) to work on the innovation
- a “fair and reasonable” legal framework
- a presentation to a cross-functional Kraft team, including marketing, procurement, and other functions
- a 30-day “go or no go” decision regarding further development. ^[22]

Measure and Evaluate

The following provide some ideas on how SCM effectiveness may be measured and evaluated. Performance metrics in SCM are essential for controlling costs and identifying areas for improvement. Some commonly used metrics are:

Cycle time – cash to cash: Cash-to-cash cycle time is the number of days between paying for raw materials and getting paid for product, or the number of days of accounts receivable, plus the days of inventory, minus the days of accounts payable. Cash-to-cash cycle time is an SCM performance measure: i.e. if there are fewer partial shipments and fewer shipments with defects or other errors, customers tend to pay faster, and accounts receivable are reduced.

Upside production flexibility: This refers to the number of days required to achieve an unplanned, sustainable increase in production.

Cost of Goods Sold (COGS): This refers to the total direct costs involved in producing a product or service.

Speed of order fulfilment: This refers to the number of days from receipt of order to delivery, or days from receipt of order to leaving plant.

Inventory turns: This refers to the number of inventory turns per year. This measure provides an indication of how many times the total volume or value of stock normally carried at any one time is used over a 12-month period. For example, if an organisation holds \$10,000 worth of stock at any one time, and over a year uses \$40,000 of stock, this would indicate a turn rate of 4.0.

SCM – product finalisation point: This refers to the period of time elapsed between product finalisation and customer delivery. The object of this measure is to push product completion dates as close as possible to the delivery to the final customer, and thereby to reduce inventories and minimise the risk of unsold products.

SCM – product commitment ratio: This refers to the percentage of the supplier’s total product category sales to a given customer, divided by the percentage of customers’ product category that is purchased from the supplier. A ratio of 1.0 indicates a balanced partnership. However, a ratio of 100/1 or 0.01 indicates the degree of risk involved.

SCM – shared data sets: This refers to the number of shared data sets/total data sets. This is a measure of how closely organisations share information and use common terminology relating to demand targets, point of sale data, advance shipping notices, production schedules, promotion plans, strategic directions, and customer targets.

SCM – performance trajectories of competing technologies: This refers to the rate at which the performance of a product has improved, or is expected to improve over a specified time. The performance trajectory seeks to measure the performance of potential substitute products and technologies.

The following measures could be used within an SCM balanced scorecard:

1. Financial Measures	
▪	profit margin by supply chain partner
▪	cash-to-cash cycle time
▪	customer growth and profitability
▪	return on supply chain assets
2. Customer Measures	
▪	number of customer contact points
▪	relative customer order response times
▪	customer perception of flexible response
▪	customer value ratio
3. Internal Process Measures	
▪	supply chain cost of ownership
▪	supply chain cycle efficiency
▪	number of choices/average response time
▪	% of supply chain target costs achieved
3. Innovation and Learning Measures	
▪	product finalisation point
▪	product category commitment ratio
▪	number of shared data sets/total data sets
▪	performance trajectories of competing technologies

Figure 3: SCM Balanced Scorecard (adapted from Brewer and Speh) [24]

Self-Assessments

How Good Are Your Organisation’s SCM Processes?

Find out by completing this self-assessment checklist (the full self-assessment can be found in the member’s area of

BPIR.com.) For each of the questions below, circle the response that most closely describes your organization. (Use the following scoring system: 1 = Not True; 2 = Somewhat True; 3= Very True.)

Stage		Characteristics	Ranking
I	Dysfunctional	• Basic supply chain awareness by management team	1 2 3
		• Eliminated fire-fighting and ad hoc decision-making	1 2 3
		• Basic supply chain information available	1 2 3
		• Focus is on bringing organisation’s costs in line with direct competitors	1 2 3
		Subtotals	
		Total	
II	Infrastructure	• Managers become aware of supply chain’s potential	1 2 3
		• A new vision for the future supply chain is created	1 2 3
		• Functional focus changed to process/supply chain focus	1 2 3
		• Internal cross-functional communication is happening	1 2 3
		Subtotals	
		Total	
III	Cost Reduction	• Ways to work with supply chain partners are identified	1 2 3
		• A key goal becomes cost reduction and profitable customers along the supply chain	1 2 3
		• IT investments targeted to improve supply chain efficiency	1 2 3
		• A culture of continuous improvement develops	1 2 3
		Subtotals	
		Total	
IV	Collaboration	• Attractive partners are identified for collaboration	1 2 3
		• Collaboration upstream and downstream begins	1 2 3
		• Business rules and metrics in place between partners to improve supply chain performance	1 2 3
		• Mutually beneficial supply chain improvements achieved	1 2 3
		Subtotals	
		Total	
V	Strategic Contribution	• Supplier input into company strategy	1 2 3
		• Multi company processes implemented and managed using IT to improve communication and information exchange	1 2 3
		• Benefit sharing arrangements in place with selected partners	1 2 3
		• Competitive advantage established due to the efficiency and innovative practices of the supply chain	1 2 3
		Subtotals	
		Total	

Scoring Key

The SCM maturity self-assessment table represents increasing levels of SCM maturity.

Scoring instructions: Add up the numbers corresponding to your responses to each level.

Your Score	Gauge your organization’s commitment to SCM at each level
Less than 5	Your organisation’s SCM maturity at this level could benefit from serious attention
Less than 9	Your organisation’s SCM maturity at this level could do with improvement
From 9 to 12	Your organisation’s SCM maturity at this level is good

Summary of Best Practices

This is a summary of the best practices and/or insights shown within this Management Brief:

1. Collaborate with all the supply chain players to maximise productivity and efficiency, and increase the overall value-add of the supply chain. It is believed that future competition will be strongly centred on supply chains rather than between organisations.
2. Work towards a lean and simplified supply chain and, in particular, consider outsourcing as an alternative for support operations.
3. Involve suppliers in research and development.
4. Consider engaging external innovation partners, use customised selection tools to select them, and create win-win relationships.
5. When buyers and suppliers share information both buyers and suppliers benefit.
6. Consider “reverse factoring” as a means to significantly reduce the cost of financing invoices.
7. China has been a hub of overseas manufacturing for thousands of American organisations. Many are now considering other options such as India and Vietnam.
8. Develop strategies to minimise the risk of natural disasters, terrorism, market risks, commodity risks, and transportation risks.
9. Simulate disruptions to better understand potential risks and how to overcome them.
10. Measure supply chain performance including the outcomes from alliances.

Conclusion

Supply Chain Management (SCM) involves joint collaboration between outsourcing partners, suppliers, and customers. It comprises the transformation of goods from raw materials through to the delivery of the finished product; it also includes the management of key information flows. SCM involves the integration of these activities and aims to improve relationships between the various parties, while achieving a sustainable competitive advantage through high quality and lower cost products. SCM is closely linked with enterprise resource planning (ERP) and electronic commerce systems.

Future supply chains are likely to be more dynamic in nature, and consist of collaborative value networks in which productivity and efficiency are constantly maximised. Purchasing firms need to ensure that costs and risks are equitably shared across the supply chain. Risk management has become a strategic imperative – particularly for manufacturers operating global supply chains. Risk categories include:

- natural disasters
- terrorism
- market risks
- commodity risks, and
- transportation risks.

Increased security and improved resilience are required to mitigate these risks. Regular testing of infrastructures using simulated disruptions can provide a better understanding of potential issues and possible deficiencies. Organisations that are dependent upon SCM must develop appropriate criteria for the appraisal of supply chain performance, and continuously measure this performance.

Note

Techniques and case studies mentioned or summarised in this article can be found in greater detail at BPIR.com, together with the full text of most of the articles and reports in the following reference list.

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