

Untangling sourcing and transactions

The rise of global sourcing arrangements has made the supply chain infinitely more complex. **Richard Wilding** and **Alan Braithwaite** examine the implications for transaction management

The growth in trade of global manufactured products is three to four times the overall rate of growth in the GDP of advanced economies, according to figures from the World Trade Organisation's International Trade Statistics Report 2005. This explosion in long-distance sourcing and supply is exposing the limitations of the transactional capabilities of many companies and their providers and, consequently, putting trading performance and shareholder value at risk.

Procurement and sourcing is a core strategy for profitability. Our financial modelling shows that a gain of 2 per cent in gross profit through low-cost supply can increase profits by 25 to 35 per cent. However, the implementation of low-cost sourcing strategies is being used as more than just a profit driver. The well-documented growth of Anglo-French group Kingfisher through its DIY chains, Castorama and B&Q, demonstrates that demand can be stimulated by better consumer value. An analyst's report posted on the group's website illustrates the contrast: a B&Q knife was originally sourced for 88p and is now sourced for 40p, while a Castorama wrench was originally sourced for 8.50 and is now sourced for 2. The resulting growth in volume and profitability has been a key driver of shareholder value for many retailers and manufacturers. Few can afford to ignore this aspect of strategy and the need to develop excellence in it.

Our work with companies through the Supply Chain Risk Forum at the Cranfield School of Management has identified considerable risks in global sourcing transactions. In a 2005 article published in Management Science, Kevin Hendricks, of the University of Western Ontario, and Vinod Singhal at the Georgia Tech College of Management, quantified the implications of these risks in the US. They studied the impact of companies issuing profits warnings from supply chain "glitches" such as late delivery, trade restrictions, and quality issues.

After analysing 1,000 such "glitches", they calculated the effect on shareholder value as being an average reduction of nearly 20 per cent in the share prices of the affected companies. On average, for technology companies, the loss of shareholder value is \$143m per glitch, \$123m for automakers and \$76m for consumer products companies. It is clear from this analysis, and case examples on this side of the Atlantic, that failure to master

global sourcing transactions in terms of their set up (design), planning and execution can be damaging to business continuity.

Best practice models

Our research into formalised best practice models for managing sourcing and transactions has revealed that such practices are not widespread; rather, they are generally ad hoc and informal. The need for a more formal approach has led us to develop a three-stage model for transactional excellence in global sourcing and supply.

■ Stage 1 - Mastering transaction design

A company should formally evaluate and resolve the validity of the sourcing decision. Is it right that the product is sourced globally? Does the price advantage cover its full cost of acquisition, all the way to the final customer, taking into account additional inventory and its storage and handling, the full costs of importation, the risk of obsolescence and the implications of responsiveness to market place uncertainty?

We have seen companies implementing this by engaging multiple sources to achieve a blend of supply that enables low costs and market place responsiveness. This often involves some or all of: working with suppliers to book capacity without placing long-term firm orders; flying tooling and designs around the world rather than finished product; local assembly to order from globally sourced generic components; and material and specification management to maintain supply. One example is Xerox, which has a formal supply chain design process for the launch and ramp of new products, during which the sourcing location and suppliers change as volume builds and risk profiles change.

■ Stage 2 - Mastering transaction planning

In this stage, the company creates an increasingly integrated view of its entire supply chain from forecasts and actual customer demand to materials and components, and identifies the key decisions that it must take and when the need to be taken. If suppliers or origins are at risk or unreliable, the implications of such supply-side risks should be factored in to detailed planning. There needs to be clear guidelines based on sound analytics, as these will increase transactional excellence. Such processes are commonly grouped together under the term "sales and operations planning", and

they should set the supply chain heartbeat for the business.

Excellence in sales and operations planning is seen in some of the major chemical companies, where it is driven by global supply to multiple regional markets and applications that must be reconciled in terms of supply and demand priorities. The retail and consumer sectors often use the term collaborative planning, forecasting and replenishment, which is promoted through the Voluntary Inter-industry Commerce Standards group, who's mission is to promote the flow of products and information within the retail supply chain. In this area, Procter & Gamble is moving to excellence.

■ Stage 3 - Mastering transaction execution

In this stage, the company completes the transactions. While it is clearly important that a company uses the design and planning stages to set itself up to execute well, there is much that can go wrong.

Failure to master global sourcing in terms of set up (design) planning and execution can damage business continuity

Internally, excellence in execution starts with data integrity by answering questions such as: are products and suppliers correctly set up on the system? Have realistic lead times been applied? Are products being ordered when required in line with the characteristics of the chain?

The order is then passed to the hands of the suppliers and the logistics providers. Supplier compliance programmes are commonplace in motor manufacturing, electronics and the supermarket sector, but are only just becoming standard in other sectors. They are designed to manage the interface between the supplier and customer, and cover delivery scheduling, quality, labelling, advanced notices of changes, engineering and specification revisions, packaging and container loading specifications. The list is extended, and a failure in any one of these can impact on manufacturing lines, or goods on sale at retail. A change in personnel through which local knowledge can be lost is often enough to create a disrupt-

tion. The opportunity "costs" of such failure measured in line stoppages or lack of availability are always far in excess of the cost of the material or the logistics. These opportunities are about wasting time; as Henry Ford observed, in 1926, "Time waste is more important than material waste in that there is no salvage."

To combat this, and in common with many large-scale manufacturers, Ford has established a giant supplier park next to its plant in Valencia, Spain that sequences materials to the lines with minute-by-minute precision. Supplier failure to maintain the schedule is heavily "fined".

This theme continues in the physical logistics of international trade. It is common for goods to be left behind because there was no room on the ship, they were lost in the corner of an airfreight hanger, or they were incorrectly documented and held by customs for days. On a more prosaic level, shipments can just take too long through clearance because the right procedure was not followed or a person was "away from their desk".

Lucent Technologies, now Agere Systems, was one of the first companies to establish a single global airfreight contract with DHL to provide a global 48-hour, origin-to-destination service. For them, the value in reliability and speed measured in millions of dollars.

Finally, execution within the financial chain should not be ignored as a source of both risk and cost. The international terms of trade are the method of apportioning financial risk in the supply chain. However they set an agenda that is about passing the direct risk in the cargo up or down the chain, rather than proactively managing the process to minimise the total risk.

In the high-speed world of global trading in products and commodities, our investigations have shown that financial supply chain practices are often arcane and self-serving. The costs of these practices can be as high as the entire cost of the logistics movement as every participant takes his cut and provides another potential fault line for the transaction.

We predict the future of global sourcing transactions will be different. The sector will mature, reliability will increase and costs will fall yet further in terms of the end-to-end acquisition of the products. We are seeing financial supply chain services emerge from companies like HSBC, EZD Global and Standard Chartered to improve financial supply chains. Some analysis suggests that this can be worth up to 2 per cent of costs.



Andy Martin/Inkshed

Foundations of global sourcing and transactions

We have identified six key features that will become commonplace in global sourcing to mitigate risk in transactions.

■ **Total cost management** This is a design capability. Companies need a predictive approach to guide their sourcing decisions in terms of the likely total cost including the associated costs of risk, inventories and transaction management. Cranfield School of Management is currently working with the UK's Department for Transport to develop a simple public domain model as a template for companies to adopt as a simple guide to good practice. It will also be used to inform public policy.

■ **One-touch information flow** This is an execution capability that will connect the operational and financial supply chains into a single service based on a single data set for the transaction, and to avoid double entry, duplication, mistakes and inconsistency.

Accuracy of information is a precondition of active management and

the ability to exercise risk mitigation measures. It is critical to have the widest view of the total supply chain on one information platform with the ability to recognise inconsistencies across the process.

The explosion in long-distance sourcing is exposing the limitations of transactional capability

■ **Total product identification and compliance** This is important to ensure the fast, accurate product and handling unit identification that feeds the one touch information requirement without delay. The use of bar codes and RFID (Radio Frequency Identification) to the correct standards is the enabling technology; this needs to be quality assured and enforced on the ground across many sites, with failures being fixed where they occur.

■ **Real-time routing through supply chain transparency** The capability to see through the chain, know what is coming and test for events that have not happened as planned; to interpret the implications of failures in an active way and make decisions to minimise their impact. This is the "traffic control" of global supply chain execution; it must be managed transparently and with the co-operation of all the parties in the chain.

■ **Vendor development - cycle time compression linked to real demand** The capability to understand and improve the long-term performance of vendors in terms of cycle times, timeliness, quality and accuracy is central to time compression and risk reduction. Based on historical performance of the end-to-end chain it is possible to identify improvement programmes to develop supplier reliability.

The ultimate goal is to issue orders and schedules on shorter lead times, reflecting real demand or more accurate forecasts. Understanding the underlying performance of the vendor, and his category of products in the marketplace is the starting point for this, and it depends on analysing information from across the chain.

■ **Information platform to provide consistent and timely information** The capability to put in place, operate and maintain a full supply chain visibility solution. All of the above capabilities are anchored by the operational skill to secure and maintain the information backbone with the diverse data structures that are needed by each supply chain function.

Conclusion

Global sourcing has been seen as a strategic "silver bullet" for many companies. In spite of the benefits that have been achieved, we estimate that there is as much as 2 per cent of revenue being wasted in the direct cost of global sourcing transactions and our observations have convinced us that the opportunity costs of failure can be much higher.

As the scale of global sourcing is set to grow, a level of corporate recognition is emerging that competition is no longer between individual companies but between the supply chains of which they are a part. Creating consistent transactional excellence along these lines will be the key to sustained competitive advantage and customer value.

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