

Business Briefing

Severe delays to the production of Boeing's latest jet liner have been put down to changes in the company's supply chain strategy. Robin Jackson examines the issues

It will be much more fuel efficient than its competitors, producing 20 per cent less CO₂. The groundbreaking Boeing 787 Dreamliner is billed as the most environmentally-friendly aircraft ever made. So far, though, it is still only a dream. The Dreamliner has been delayed twice and is currently expected to be rolled out at least 10 months later than promised.

The delays, as Boeing admits, are down to problems with supply chains after the US manufacturer ditched local sourcing and outsourced 70 per cent of the plane's components. Boeing chief executive Scott Carson said that while the design and technologies behind the plane remained sound, the firm had continued "to be challenged by start-up issues in our factory and in our extended global supply-chain".

With parts coming from around the world to be assembled in Seattle, the airline is now dependent on everything coming together at the same time - to its incalculable cost.

In Boeing's plight lie lessons for all in procurement about the risks and uncertainties involved in extended global supply chains.

It shows that the great bargain of buying from cheaper overseas sources can be prone to catastrophic disruption of supply resulting in costly halts in production. Unless your procurement team is aware of the complete flow of materials from raw materials to what you are buying, and understand the risk and uncertainty at each stage of the supply chain, disruptions in the supply chain can bring disaster to the bottom line.

The rationale for risk management planning goes beyond the effects of geopolitical or natural calamities. Procurement needs to understand that a company's failure to plan, measure and mitigate risk factors in its supply chains can negatively affect product quality, customer retention, brand strength and corporate earnings. In products that provide extremely high profit margins, risk management takes on an increasingly important role.

A good risk management strategy has several components. It must identify risks, and the probability of those risks occurring, for the entire life cycle of every product or service the company provides – from initial R&D through commercialisation. It must be able to predict the financial impact that a supply disruption can cause. It must offer strategies that can mitigate the

effects of any disruption of supplies – with costs and benefits associated with each different alternative. Finally, it must delve deeper into the supply chain than the first tier of suppliers. For your risk management to be effective, it must be fully integrated into your company's business processes. The process of identifying risks, analysing them and planning mitigation strategies must be documented and reported throughout the organisation. The benefits of effective supply chain risk management will be a more viable and sustaining long-range corporate business plan. Remember that effectively managing risk is an ongoing process and requires continuing attention and priority.

Many organisations fail to recognise risk throughout all tiers of the supply chain. They struggle with the issue of what constitutes risk in their business. They realise that risk management is important, yet they still aren't sure where to start or what to measure. Employing a risk management process from the first stages of outsourcing will help a business stay ahead of any market changes and plan for cause/effect risk contingencies.

Begin by thinking about what drives risks. They generally come from three kinds of causes. There are environmental causes such as those related to economic, social, governmental and climate factors, and now, terrorism. There are business causes including, for example, financial instability or changes in management. And there are risks associated with physical plant — conditions at a supplier's physical facility, sprinkler systems, cleanliness, regulatory compliance.

There can also be important internal drivers of risk, such as disruptions to operations, changes in key personnel or inadequate planning. These provide better opportunities for mitigation because they operate within the control of the purchasing company.

Risk management must be undertaken in each area to identify vulnerabilities, the circumstances that create the vulnerability, the probability of occurrence and a process to mitigate the risk.

The overlaps of the various internal and external risk factors create a broad area of concern we can call "total risk." This represents the sum of the collective risk factors for a given supply chain. It permits managers of different kinds of supply chains to analyse their situations and assign resources to improve their risk mitigation.

A six-step process such as the following one can help your company begin planning a risk management programme. Start by forming a multi-disciplinary team able to define and rank the risks in your supply chain. Then put them to work.

1. Profile the supply base. Identify raw materials and strategic materials and analyse supplier organisations.

2. Assess vulnerability. Examine supply risks, demand risks, environmental risks, process risks, and planning and control risks

3. Evaluate the implications of risk. Rank risks in order by assigning a score. Make an estimate of the probable duration of disruption and costs to recover, including a worst case scenario. Defining the probability of disruption occurrence along with risk costs will lead to a probability total cost.

4. Identify mitigation and contingency actions.

5. Complete a cost/benefit analysis. Identify highest net present value options. Taking mitigation costs and actions from above we need to consider the cost and benefits of requiring further mitigation actions. Evaluate these costs by considering the net present value (NPV) of requiring the supplier to prepare a second manufacturing operation in another location or possibly qualifying a competitive supply source in another geographic location. The investment of resources (cash) today prevents or reduces the probability of lost revenue (cash) in the future. This comparison will lead to a decision of whether or not to make the investment.

6. Gain management support and implement the plan. Like any major project, support from top management is crucial. Make sure you communicate effectively with board-level executives to gain their backing. Then put the plan into action.

The Dreamliner is Boeing's fastest-selling aeroplane, racking up orders for more than 800 models by the start of 2008. It will no doubt prove a technical success when it finally takes to the air. Meanwhile, however, Boeing's bosses may be pondering whether their radical shake-up of their supply management approach might have benefited from a little more expert analysis.

Robin Jackson is CEO of ADR International