by Miles Cook and Roman Zeller

Is there a driver on your supply train?

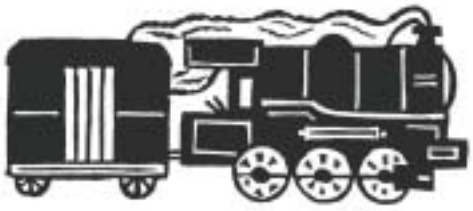
With top supply chain performers working twice as efficiently as the average, the potential for progress is considerable. Here are ten warning signs that all is not well.

When San Francisco and surrounding towns voted to spend $792m in 1962 to build the Bay Area Rapid Transit system (BART), the City's authorities reckoned that their new state-of-the-art 'driverless' trains would deliver substantial savings through lower operating costs. Without the human element, however, trains flying along 90 seconds apart began disappearing from the command centre's screen; brakes failed and electric motors that powered the cars shorted and burned-out. Before even inaugurating the passenger service, BART authorities had decided to reinvigorate their faltering light-rail project by bringing back the person at the controls.

Parallels can be drawn with the modes of delivery that transport materials to manufacturers, take finished goods to retailers and move inventory on to shelves. These 'supply trains' or 'chains' have become hot topics of discussion and investment in the internet age. Companies like i2 and Logility grew revenue by between 20 and 100 percent during 2000 as a result of demand for their modular, internet-based software packages that do everything from forecast inventory needs to automate purchases and plan transportation logistics. Unfortunately, cracks are beginning to appear as such software tools see greater adoption; these cutting edge e-enabled 'supply trains' have no 'drivers' and many are now crashing.

Research turns up some disturbing findings. Despite a substantial cumulative investment in supply-chain software 'tickets' or solutions – AMR Research points to expenditures of almost $7bn last year alone – total inventory turnovers for average companies in 2000 were relatively unchanged from those in 1990. More strikingly, a recent Bain & Company survey of 300 global companies found that 68 percent think they have failed to optimise their supply chain savings, while independent research suggests that 47 per cent of companies don't have a strategy for improving their supply chain at all. Is all this investment simply being wasted?

There are good reasons for hope. Independent studies show that the top performers in most sectors are



out-performing the average companies on supply chain measures by a factor of two to one. Specifically, they spend only half as much on their supply chains – 4.2 per cent of revenues – as the average firms do. The evidence suggests there is a huge potential for firms willing to tackle their supply chain problems. How can you tell if your supply train is running blind? Here are ten indications it may be:

1 No 'engineer' The single biggest mistake many companies make is running the train (system) without an 'engineer' – someone to take ownership of the entire system. Purchasing groups own their piece of the supply chain, as do manufacturing, inventory accountants and so on. No one is in the engine room making sure the whole train stays on course and achieves its goal. Best companies make supply chain management a key report for the CEO.

2 'Supply chain' means transportation At some companies, ask to talk to the supply chain engineer and you'll be directed to the transportation manager. This person's goals revolve around cost per unit of weight and, in the best companies, on time delivery. The problem is that sometimes by using the cheapest, slowest route, a fortune is lost in product velocity. Consider mobile phones, with an average market life of just nine months. Some companies have been known to hold items in inventory until enough demand builds to justify a truckload shipment – saving a few cents per phone in shipping costs but blindly losing market value.

3 No news is good news A sure way to guarantee trains won't be on time is to stop tracking their arrival. So, too, in supply chain management, companies that fail to measure performance seldom improve. Worse yet, they do not understand the true costs of their supply chain inefficiencies. A major retailer spent much time and energy managing gross margins with its vendors, while failing to measure other measures of supply chain performance. After examining vendor delivery performance over a two-month period, they discovered that poor performance on the vendor's part was fuelling the need to hold over $200m in additional stock inventory. The inventory was required to maintain adequate in-stock levels given the uncertain timing of delivery. Once the company realised the magnitude of the systemic fault, it began rigorous tracking of vendor deliveries and developed a program to charge vendors back for poor performance. Not surprisingly, vendor performance has improved and inventory levels are coming down.

4 Paying for one thing, expecting another A not-so-surprising fact of life is that employees tend to do what they are paid most for. Supply chain is a classic example. In our survey of 300 companies, barely 25 per cent used incentives to boost supply chain performance, and of those the majority used only a few measures of performance, all focused introspectively at the organisation. Bain has met buyers who receive incentives to manage stockouts – items out of stock – but not inventory turns; transportation managers measured on delivery cost but not on on-time performance; even senior supply chain executives with no incentives against return on assets or the cash conversion cycle.

5 Rules of thumb prevail If nobody is bringing maths or history to bear on supply management, you're probably about to derail. An example: one large retailer of high tech products until recently used industry rules of thumb to

determine how much safety stock inventory it should carry in its distribution centres. The simple rules ignored variation across products in both forecast accuracy and vendor delivery – two key inputs needed to determine optimal safety stock levels. The impact, at first believed to be minor, turned out to be about 15 per cent in excess inventory! Further damage came from the understocking of popular items, which resulted in lost sales while inventory costs were mounting. And most perversely, the lack of analytically set inventory meant that the retailer's careful efforts to forecast better and manage suppliers would have no impact on inventory plans. Fortunately, a quick (60-day) change to more contemporary statistical planning tools enabled them to get things running properly.

6 Information stays put Many companies view forecast and sales data as among their most valuable resources. While they are correct, what they fail to understand is that this information can yield even more value when it is actively shared with supply chain partners. One major electronics manufacturer allocates greater quantities of scarce product to those channel partners that share timely sales and forecast data. This is particularly important in the case of product promotions, where the channel requests significantly higher orders over a short period of time.

7 Single class of service A surefire sign that your supply chain is missing opportunities is when everything linked to it is standardised. All vendors deliver on the same terms, every item is stocked in every distribution centre, transportation modes are the same for all products, etc. This can result in a 'least common denominator' where logistical efficiency and scale of facility are the key focus, potentially at the expense of customer service, carrying costs and margin. Excellent supply chain management typically means managing multiple supply chains for different products and customers. Wal-Mart uses direct store deliveries for products like games, with rapid obsolescence, and time-to-market pressure, but puts other products through traditional distribution centres when velocity matters less than cost. The largest grocers may operate as

'The single biggest mistake many companies make is running their supply chains without any 'ownership'.

many as 50 different supply chains for different types of products (ambient, fresh produce, frozen, dairy, snacks, soft drinks, beer). Even Dell Computer, obsessively focused on cost efficiency, takes care to manage multiple product delivery strategies – it carries little inventory, but will stockpile some critical components; it is also willing to compromise its build-to-order approach and carry inventory of prebuilt machines (for a fee) to enable shipments to customers who value speed over cost.

8 Outputs are managed and inputs are ignored Companies often spend significant time managing forecast outputs, while ignoring the inputs that drive the forecasts. One retailer adjusted almost fifty per cent of its forecasts. This was necessary because the inputs to its forecasting models were not managed to reflect accurately product lifecycle and promotional impacts. The result was a process with few controls, where as many as five stakeholders could adjust a given forecast. Because so many forecasts were adjusted, it was impossible to manage and improve the underlying forecasting models and inputs. The remedy to this problem was twofold. First, a set of controls was put in place to limit the adjustments that could be made to the forecasts. This forced the buyers and stakeholders to manage the forecast inputs versus the outputs. Second, the company focused on improving forecasts for its most important items. As in most businesses, twenty per cent of the items were driving eighty per cent of the sales and inventory on-hand. By focusing on these items, they were able to free up time to get the forecasts correct.

9 B-Players park in purchasing For years the purchasing department was seen as a retirement home for not-quite-star-performers, while the best people were funnelled into customer-facing positions. Not so at supply-chain exemplar Ford Motor Co, where the new chief operating officer and former Jaguar Cars CEO, Nick Scheele, once held senior purchasing positions at Ford's European operations. Top companies are realising that purchasing, and the supply chain in general, are too sensitive and expensive to tolerate weak performers. Consider the impact a top team can have: a major electronic equipment supplier recently identified almost $500m of on-hand inventory that could be eliminated through a concerted focus on effective planning, relentless measurement and goal-setting, and superior vendor management. At a carrying cost of almost 50 per cent per year, the 'stars' in this area have discovered potential annual savings of $250m on the bottom line. In a 10 per cent net margin business, that's like adding an incremental $2.5bn to the top line. By the same token, weak performers can allow hundreds of millions of dollars in earnings to leak away through excessive inventory and poor service levels.

10 Supply train terminates at the receiving dock Top performers see a lot of opportunity when they look upstream to manage vendors and plan their supply. Surprisingly, they can find even more when looking downstream. The retail sector is a great example. Top performers have found that, in addition to managing suppliers and inventories, there is huge leverage in sophisticated management of shelf placement and pricing. Rather than the typical approach of 'art over science' in allocating product space, Mercari Technologies has created software to analyse what moves and moves profitably, and then assigns space and sets inventory based on product attractiveness. This is a key supply chain issue: items are typically out of stock up to 10 per cent of the time because the supply chain can't respond to shelf movement quickly enough.

An interesting footnote to the BART experiment: With drivers back on the trains the overall operating costs eventually did go down and today BART is considered one of the most efficient transportation systems. Supply chain managers, take note.

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