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The Sustainable Supply Chain

Balancing cost, customer service and sustainability
to achieve a high-performance supply chain

By Jonathan Wright, Derek Jones and Seb Hoyle

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Supply chain executives face ongoing pressure from their customers and from regulators to reduce carbon emissions and run "greener" operations. While the impression persists in many organizations that implementing more sustainable processes and technologies will be costly, Accenture's High Performance Supply Chain study¹ suggests that this does not have to be the case.

We recently interviewed supply chain executives to identify the performance characteristics of supply chain organizations that are achieving high performance in both cost effectiveness and customer service. We also asked several questions about their performance against key sustainability measures.

The result? The study found that the best-performing organizations on cost and service are typically also ahead of the curve on implementing sustainability across all parts of their end-to-end supply chain.



Research approach

As part of the High Performance Supply Chain study, Accenture surveyed 245 supply chain executives from diverse industries and from nearly all global regions during 2008.

The study segmented the surveyed organizations into three categories: masters, average performers and laggards. Masters were those organizations who achieved top quartile performance on both cost effectiveness and customer service, while laggards occupied the lower quartile (Chart 1).

Key findings

Masters place strong emphasis on cost-effective supply chain solutions, investing to improve service levels. Yet they also recognize the business imperative of sustainability in a world where 86 percent of consumers are either "extremely" or "somewhat" concerned by climate change.²

Masters are taking practical and cost-effective steps to address their

environmental impact. They are not just looking at the highly visible "last mile" of distribution, but are taking an integrated view through their entire supply chain (Chart 2). Our findings show that masters are:

- Designing products with sustainability in mind
- Actively managing down their supply chain carbon footprint
- Seeking the most pragmatic solutions to their environmental challenges
- Choosing systems and processes that offer the best possible return on capital
- Benefiting from an integrated view of sustainability across the supply chain

Masters recognize that now is the time to take action on sustainability. With the renegotiation of the global climate change policy framework during 2009, there will be numerous policy developments that will have an effect on the supply chain.

Governments have begun to pass laws that mandate carbon emission reductions and the expectation is that the cost of emitting pollutants will only grow.

Consumers and shippers alike are also picking up on the climate change agenda. Globally, 59 percent of consumers would be willing to pay more for a product that helped reduce carbon emissions.³ Seventy-one percent of business executives are ready to take action on climate change⁴ – and that action will inevitably affect the supply chain.

Chart 1 – Masters are organisations that achieve top quartile performance on both cost effectiveness and customer service

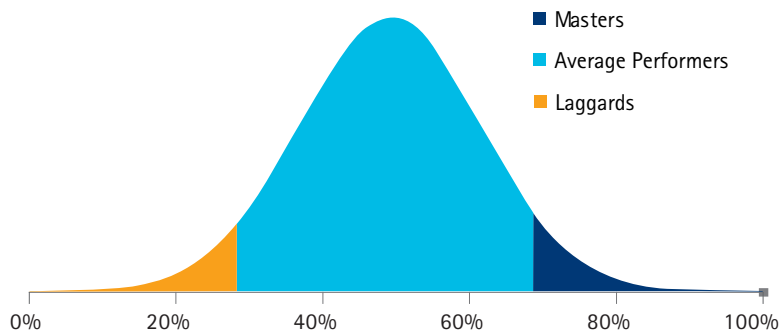
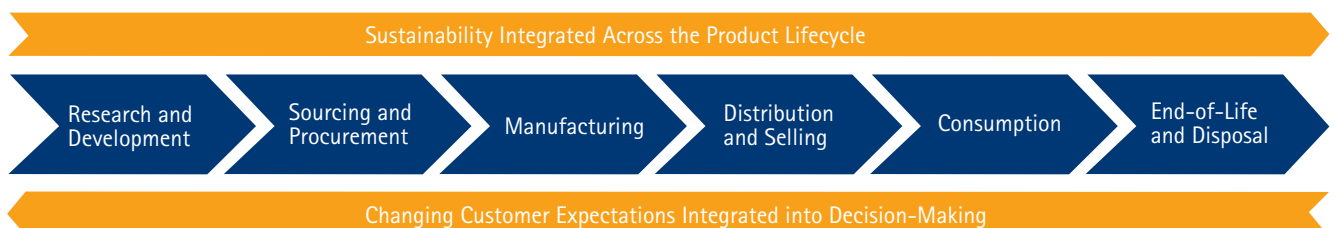


Chart 2 – Masters take an integrated view of their entire supply chain



Three dimensional thinking

Masters are creating high-performance supply chains by maximizing performance across three measures to drive value:

- Cost efficiency
- Quality of service
- Sustainability

Simultaneously addressing all three measures can create opportunities for short term profit improvement, through operating-cost reduction and cash-flow improvement. In the medium term, the approach can help achieve the strategic opportunities that come from linking investments in customer service with more sustainable business practices.

Where a business case traditionally would have looked to find the best balance between cost effectiveness and quality of service over the lifetime of the investment, Accenture suggests that masters are increasingly likely to develop a more sophisticated, three dimensional business case to assess the value of supply chain projects (Chart 3). Here, return on investment can be optimized by considering the sustainability improvement from a project, in addition to the cost and service implications.

End-to-end supply chain visibility

To help achieve high performance across each of the three dimensions, masters take an integrated view of all aspects of their supply chain. By leveraging superior visibility up and down the entire supply chain, they can achieve increased efficiency and reduce environmental impacts by aligning around common goals and making better-informed executive decisions.

Around thirty percent of masters routinely involve fulfillment considerations within their research and development processes, compared to only around fifteen percent of the laggard group. Masters are also twice as likely to model and actively manage their carbon footprint across all areas of their businesses - and more commonly have a specific focus on reducing environmental impacts through product lifecycle management (Chart 4).

Chart 3 - Masters apply a three-dimensional approach to business case development



Chart 4 - Masters leverage superior visibility in their supply chain

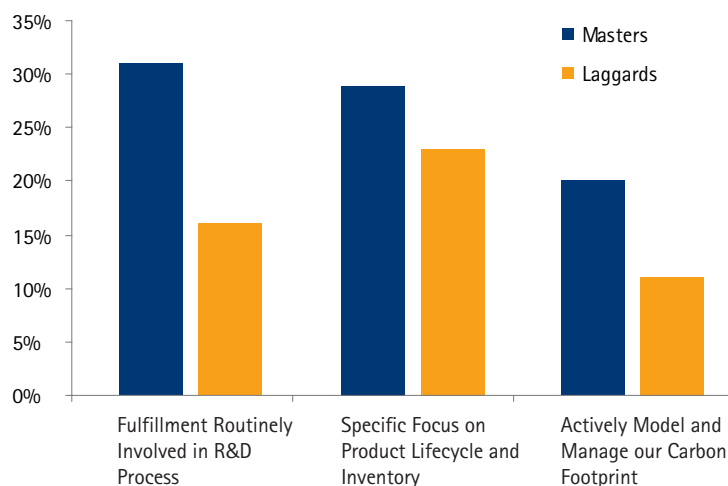
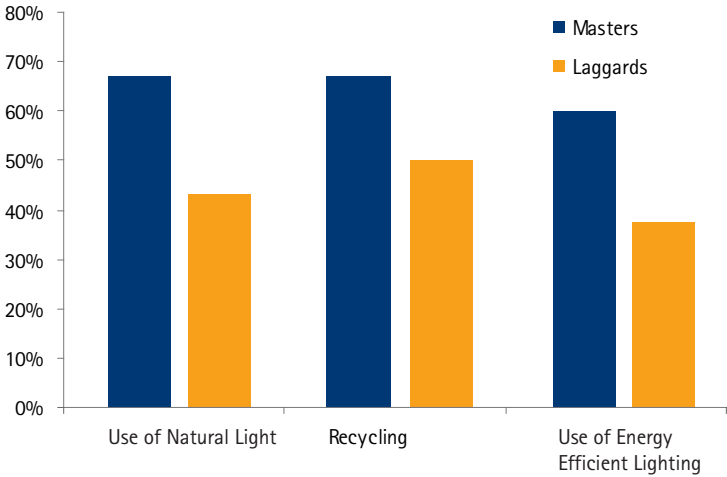


Chart 5 – Masters implement pragmatic solutions in their warehouses



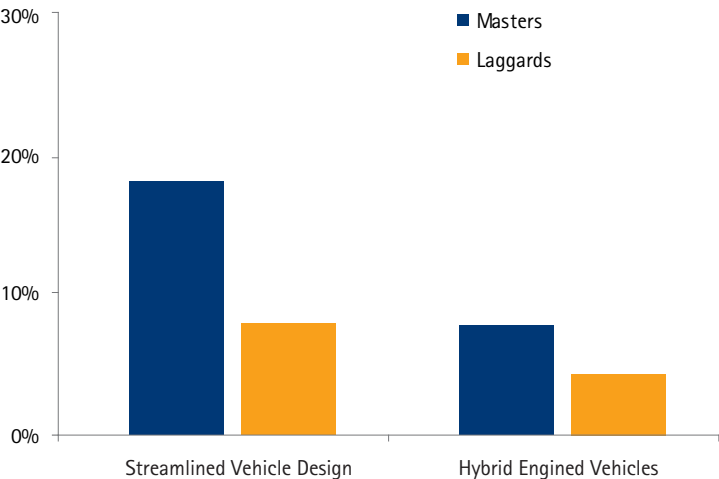
Pragmatic view of integrated sustainability

Masters select the most cost-effective and straightforward sustainable supply chain solutions.

In their warehouse operations, masters are about 30 percent more likely than the laggards to implement a pragmatic solution such as the introduction of natural lighting. They are also more likely to implement the use of energy efficient lighting, as well as to enact a recycling program (Chart 5). Conversely, they are not particularly likely to adopt costly and more complex solutions such as solar walls or heat exchanging systems.

In transportation, the same trend is seen: masters make significant investments in cost-effective and environmentally-friendly solutions such as streamlining or preventative maintenance. They are much less willing to invest in areas that bring higher commercial risk, such as switching to biofuels or purchasing hybrid fuel vehicles (Chart 6).

Chart 6 – Masters invest in proven, cost-effective transport technologies



A key characteristic of supply chain mastery is therefore a strong focus on the return made from an investment in sustainability. Although masters are more likely overall than the laggard group to invest in a sustainable supply chain, they are much less likely to invest in those green technologies that have long payback periods or offer low returns on the investment.

Anticipating decarbonization

Masters recognize that reducing consumption of fossil fuels in the supply chain can be the most significant lever of carbon emissions reduction. In a sector where fuel purchases can range from approximately 5 to 35 percent of the total cost base, masters appreciate that reducing consumption can also substantially reduce operating expenses.

Many supply chain organizations were significantly affected when oil prices spiraled up as high as \$143 / barrel in July 2008 (Chart 7). Yet others, such as those that hedged at higher prices, were affected when prices fell back sharply. Decarbonization allows organizations to reduce their exposure to this energy price volatility.

Additionally, reducing fossil fuel consumption can allow masters to preempt future changes in legislation, such as potential environmental taxes, thus reducing the significant burden which comes with urgent change close to legal deadlines.

Accenture estimates that the implementation of the European Union's Emissions Trading Scheme in the aviation sector in 2012 will result in a 4 percent rise in the cost base of airlines if it is fully implemented at current spot-market prices for fuel and carbon, for example.

For masters, supply chain flexibility can be a valuable tool to both leverage reductions in carbon emissions and simultaneously exceed their customers' expectations. In their transportation operations, our analysis shows masters to be more able to re-route their fleet while making deliveries, thus eliminating unnecessary miles; over 30 percent of masters are capable of performing real time transportation optimization, compared to only around 20 percent of the laggards (Chart 8).

Masters also appear in our research to be twice as likely as the laggard group to use automated data systems in their fleet; these are important tools in promoting efficient driver behaviors through driver feedback and training. By integrating sustainable thinking within their selection of technology for their operations, masters can therefore shift to lower carbon platforms and simultaneously reap business benefits.

Chart 7 - Daily evolution in oil prices over the longer term

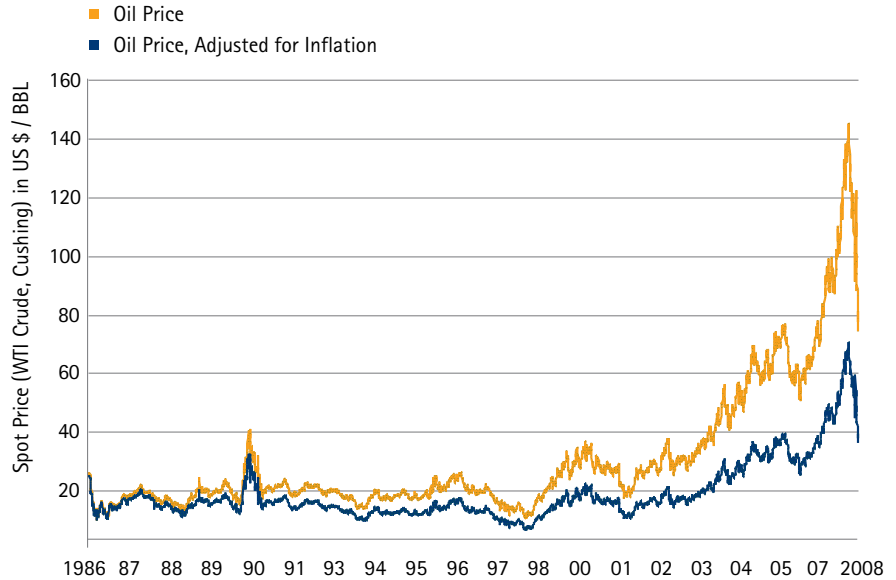
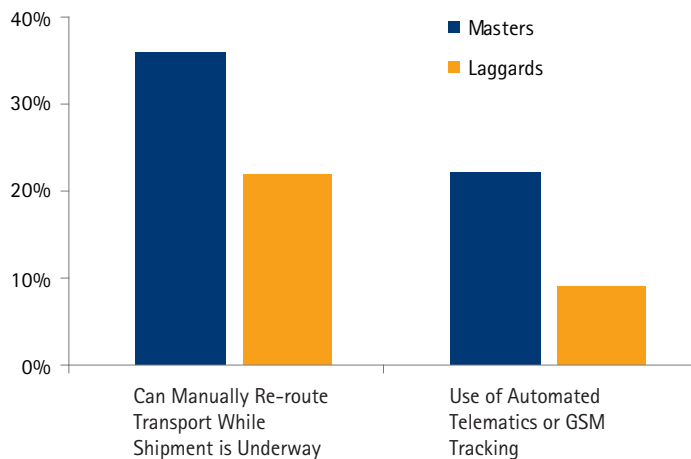


Chart 8 - Masters use flexibility to help achieve more sustainable operations



Implementing a sustainable supply chain

As Accenture's research shows⁵, high-performance businesses are taking practical actions to embed sustainability within their day-to-day supply chain operations. The High Performance Supply Chain study suggests that there are five key steps to help integrate a sustainability strategy within a high-performance supply chain:

1. Develop an integrated view of the end-to-end supply chain
2. Measure performance against the three headline measures of cost-effectiveness, customer service and sustainability improvement
3. Calculate the carbon footprint of the supply chain, then consider carbon as an integral part of the business case for projects

4. Maximize return on investment in the supply chain by adopting pragmatic solutions to environmental issues and considering the total cost of ownership
5. Selectively deploy the most cost effective, proven technologies

Many organizations are not yet deploying these steps in a systematic manner, however those that were identified as masters in our research are at least partway through the journey. The organizations that take the lead in developing innovative supply chain strategies and then proactively embed sustainability within their operations will most likely stay ahead on supply chain performance over the longer term.

Contact us

Accenture helps its clients develop and deploy supply chain strategies that create competitive advantage through high performance. We work across all industries and geographies to lead supply chain transformations which emphasize value creation and sustainability gain.

For further information on how Accenture can help you achieve high performance through a sustainable supply chain, please feel free to contact us directly.

In Asia, Pacific and Australia:

Jonathan Wright
Supply Chain Management:
Global Head of Fulfillment
jonathan.wright@accenture.com

In North America:

Derek Jones
Fulfillment Research and Development
derek.m.jones@accenture.com

In Europe, Africa and Latin America:

Seb Hoyle
Sustainable Supply Chain Management
seb.hoyle@accenture.com



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2 Accenture, End-Consumer Observatory on Climate Change, 2009. Published at www.accenture.com.
3 Accenture, End-Consumer Observatory on Climate Change, 2009. Published at www.accenture.com.
4 Accenture, Executive Survey on Climate Change, 2008. Published at www.accenture.com.
5 Accenture, The High Performance Supply Chain Study, 2008. Published at www.accenture.com.

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