How Green is your Supply Chain?
Questions all need to answer

Adapted from the book "Green Supply Chains, An Action Manifesto" (2010) by Stuart Emmett and Vivek Sood

There are five fundamental questions that every environmentally pro-active leaders and managers needs to ask about their Supply Chains.

It is generally accepted that environmental consciousness is now changing to being more pro-active, as organizations are discovering that it makes good commercial sense. Boards are asking managers to review their policies related to environmental norms, not only to bolster their corporate social responsibility aims, but also because consumers are increasingly asking for it.
It is also widely agreed that consumers will increasingly prefer to buy more, and even pay more, for products or services provided in environmentally sound manner.

A recent analysis has however revealed the following key additional points

Companies are still primarily focused only on having environmentally conscious internal production. For example, any company can become totally carbon neutral by outsourcing all its production, however, shifting the carbon producing activity up or down the supply chains does nothing more than hide the dirt under someone else's carpet. A holistic approach to carbon management is required, and this is provided by adoption of a Green Supply Chain methodology.

Environmental pro-activism is generally assumed to come at an additional cost to the corporations. It is widely thought that going green is expensive. On the contrary, our research and modeling indicates that adoption of Green supply Chain methodology should result in overall cost reduction, providing this is done in a thorough and logical manner.

Most business models are focused on growing the volume of their current offerings of goods or services to increase profits. A change in this focus towards providing customer end outcomes will, not only, reduce the impact on the environment, but also secure and/or increase market share whilst improving profitability.

So it is clear that a move to Green Supply Chains is not only necessary for sound environmental management, but it is also profitable and makes sound financial management.
How therefore can companies start making the move?
From our research and practical work in this area, we believe the following five fundamental questions really help to focus the discussion and crystallize action plans:

1. **What are the tangible and intangible benefits of moving towards a Green Supply Chain?**

In our experience these benefits are frequently neither fully explored, nor adequately quantified. Even where a robust analysis is carried out, analysts can either ignore some of the potential benefits, or find it hard to analyze the full impact on the business. As a result, the overall benefits do not get adequate attention at the board level and therefore do not generate enough interest to release the necessary finance to create the transformation.
In one company we know (a large global industrial and building products company with revenues in excess of $5 Billion) the task of exploring opportunities in Green Supply Chains was handed over a senior executive as an additional job over and above his regular job, without any funding, clear direction or expectations. In a situation like this (which is all too common), the potential benefits cannot be fully understood or be agreed by the key stakeholders, resulting in understaffed projects, and poor implementation.

Our analysis has also found that without any new technologies being utilized, just a move to a Green Supply Chain can reduce costs by 5-20%. The adoption of new technologies, however, can take cost reductions to a whole new level.
In addition, by raising their Green credentials amongst customers, employees, government authorities and other stakeholders, organizations also move rapidly towards ensuring a sustainable and successful future.

2. **What are the costs, both direct, and indirect?**

This is the flip side of the question above. For the same reasons, while companies have vague ideas of the costs, these are rarely fully explored and analyzed. In our experience, these are also frequently exaggerated because of uncertainty surrounding many of the costs. While all future costs have a certain amount of uncertainty, and there is general tendency to allow a buffer; our analysis finds that costs of going green are generally more uncertain, but the buffers allowed are made to be disproportionately higher.
The indirect costs are generally the source of most complications. It is really hard to estimate costs of process changes, disassembly lines planning and set up, waste collection and recycling modeling, additional research and

development, inventory reduction and green supply chain modeling etc. Once each one of these systems are fully functional, the costs will follow a predictable experience or learning curve pattern, but it is indeed, difficult to predict the transitional costs, and this makes the analysis complicated and perhaps insurmountable for many project teams.
Our research indicates that direct and indirect costs associated with Green Supply Chains are substantial but however they can be fully funded and more than offset by the benefits they generate.

3. **What influence do we have over our suppliers, their suppliers and our customers (especially the party with the most power in the supply chain) that would allow us to jointly work together and move the supply chain towards a green supply chain?**

This question is easier to answer as many pragmatic managers have a good idea of the relative power balance in their customer supplier relationships. While occasionally the influence is wrongly estimated, in general, we do find that just asking this question helps to focus action in the right direction.
Some organizations have broken their intra- organizational silos, starting by "winning the home games first" (Emmett 2005) and now do think in terms of the end-to-end supply chains.
However, there are still many more organizations that need to do this. Thinking holistically outside the boundaries of the organization, when applied to Green Supply Chain methodology, can yield some outstanding results. Under this primary question, a few additional secondary questions will help sharpen the focus even further to create the clarity, impetus and momentum towards positive plan and action.
Clearly, the organization which has the most influence over an end-to-end supply chain is best positioned to create the clarity and impetus towards the Green Supply Chains. For example in the retail sector, companies such as Tesco (UK) or Wal-Mart (USA) are best positioned to exercise this type of influence.
However with the automobile sector, retailers have far less influence and the influence comes more from the manufacturers.
In each supply chain, it is that entity which has the most influence that needs to be encouraged to think holistically and then to act in the interest of all parties that form part of that supply chain.
It is perhaps also clear why this crucial third question can only be answered after we answer the first two questions. Once the benefits, costs and influences are clearly expressed, defined and analyzed, then it much easier to have an informed discussion with the party that 'controls' the supply chain.
A corollary to this discussion is then going to be just how to distribute the costs and benefits of movements towards Green Supply Chains; as unless all the

incentives are properly aligned, some parts of the supply chain may well end up sabotaging the overall Green Supply Chain project.

4. **How will we communicate and measure our progress towards the green supply chain to the key stakeholders? How will we engage them?**

A new road needs new milestones. Traditional supply chain or financial measurements will not suffice in this case. We know of several organizations who started to make some progress towards vague environmental goals and defined this in terms of carbon impact reduction but without any clear definition of 4 or 5 key measurements that relate to supply chains at all levels. Not only were the measurements not clearly defined, but even the traditional KPI's adapted for the purpose, could not be uniformly and easily accessed by the key personnel who needed the information.

A typical Green Supply Chain project has far more stakeholders than any other transformational projects inside an organization. Besides internal staff, key suppliers, customers, and even the public; media, regulators and government are also stakeholders in a green supply chain transformation.

Therefore, a well thought out stakeholder engagement strategy, diligently executed, that includes clear and regular communication; is essential to success.

5. **What barriers to Green Supply Chains can be expected and how can these be overcome?**

There several categories of barriers to Green Supply Chains and these include legislation conflicts, inadequate or misaligned stakeholder incentives, lack of environmental norms and tools, lack of resources, and the high costs of implementation and technology.

Within each of these categories, are several specific components making the total number of potential barriers quite formidable and daunting.

Like in any other change initiative, barriers can be overcome through a properly structured, comprehensive and phased migration strategy.

A "Big-Bang" approach is not to be recommended.

Rather, each major project stream is dealt with by a series of phases that cover detailed analysis, design and implementation, and organization change management. Time and care should be taken on the first phase to ensure its success and the ability to leverage subsequent phases.

Summary

In summary, those organizations that wish to start on Green Supply Chain projects must ask some fundamental questions. The answers will then help to illuminate their way towards innovation, profitability and sustainability.

As is the case with all ground breaking endeavors, the first mover advantage is enormous, as are the challenges.

References

Stuart Emmett (2005) "The Supply Chain in 90 minutes
Stuart Emmett and Vivek Sood (2010) "Green Supply Chains, An Action Manifesto"

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