

MESM 2009/2010 Group Project Proposal:

Development of a Standard Tool to Measure the Economic Footprint of Footwear

Proposer

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Statement

Great strides have been made by companies in their efforts to mitigate the impact of corporate activity on the environment. Brands have put forward concerted efforts to develop products with eco-friendly materials and processes. Companies have also engaged their overseas manufacturing partners to audit compliance with ethical and environmental standards. This has required firms to dedicate resources to these efforts to ensure compliance from their trading partners.

One of the things that efforts in the development of eco-friendly standards have been lacking is universally accepted metrics to gauge the success of the efforts. As a consequence, environmental compliance is primarily a backward-looking activity for companies. Companies realize that they are reducing their impact on the environment from a directional perspective, but there is very little evidence that exists which clearly indicates the success of these efforts and there is little forward-looking data available to predict the environmental success of product and service innovations.

Objectives

The objectives of this study are to use existing data on environmental impact and to extend existing research on the impact of footwear manufacturing and distribution on the environment to do the following:

- To understand the key drivers of environmental compliance in the footwear business
- To evaluate the level of compliance for key materials used in Deckers' shoes

- To develop a model which evaluates the environmental compliance, or “carbon footprint” of any shoe, given the bill of materials for the shoe and the manufacturing and distribution processes utilized.
- To make recommendations on how Deckers Outdoor can mitigate its impact on the environment given the research findings. To make recommendations for carbon footprint measurement in terms of methodology and standards.

Background

In February, 2008 a Bren School project team produced original research which documented the carbon footprint of 2 pairs of shoes: A pair of Eco Sneaks from one of Deckers Outdoor’s key brands, Simple, and a pair of traditional leather shoes. Also, a 2009 Bren School project team is working to gather data from a core Deckers factory to evaluate alternatives to improve environmental compliance of our factory partners. The data gathered in these projects can be extended to the other materials that Deckers utilizes in its footwear. Furthermore, it would be desirable to develop an analytical construct to evaluate the eco footprint of any pair of shoes. This model could become a standard for measurement and reporting of eco friendliness of products.

Stakeholders

Several Groups within Deckers Outdoor Corp. (Development, Production, Distribution)

Shoe Manufacturing Factories in China

Shoe Manufacturers

Government Agencies Focusing on Environmental Compliance

Compliance Organizations, NGOs, etc.

Approach and Available Data

Approach

Use existing data from February, 2008 Bren School report to assess the carbon footprint information and assess the viability of a model that covers various models and materials. The model needs to be developed from the following:

- The drivers in terms of carbon footprint (materials, transport, factory facilities)

- The values of each driver in the Deckers Supply Chain for different materials used in our shoes and alternative supply chain strategies. Deckers will provide information on the materials and standard supply chain strategies.
- Develop a calculator that applies the calculations for a shoe given the materials and the supply chain strategy involved.

It should be noted that we will need to extend the current data set to represent the energy consumption across Deckers' various product lines.

Available Data

- Deckers will work to provide data in terms of the bill of materials for each shoe model and the carbon footprint in the materials that make up the shoes.
- Existing data from the Bren School/Deckers 2008 project to track the carbon footprint of Simple Eco Sneaks and conventional shoes.
- Other data on the energy consumption of various materials

Deliverables

- A predictive model which calculates the carbon footprint of a pair of shoes, given the proper inputs to the model.
- A standard way to represent the carbon footprint of a product (not just a shoe)
- Conclusions on the key drivers of the carbon footprint of various types of shoes and judgments as to what may be considered acceptable scores for a carbon footprint for a shoe.
- Recommendations on paths that Deckers can take to mitigate environmental impact in a proactive manner using the model and other outcomes from the project.

References

- 2008 Bren School study with Deckers on the Sustainability of Simple Shoes.