

Aluminum Versus Plastic

A Life-Cycle Perspective on
the Use of These Materials in
Laptop Computers

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PEARSON CASES IN SUPPLY CHAIN MANAGEMENT AND ANALYTICS

The case is reprinted from
The Applied Business Analytics Casebook
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Aluminum Versus Plastic: A Life-Cycle Perspective on the Use of These Materials in Laptop Computers¹

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Introduction

In recent years, trends in the marketplace have made aluminum an important material in product design due to its light weight, durability, and recyclability. No one might know this better than Steve Kapper, Innovation Manager at Durable Aluminum, Inc. Kapper has been with Durable Aluminum for seven years and in his current role for the past four years. Kapper's current goals include expanding aluminum's market share in the consumer electronics segment. His team has identified laptop computers as a primary entry point. Laptops are a growth driver of personal computers and are mainly designed with plastic for the exterior casing. Increasing aluminum consumption in this market could provide a real revenue boost to companies like Durable Aluminum.

¹ Although this case is based on discussion with managers from an actual company, the name of the company and data have been disguised. Additionally, the team meeting was fictional and based partially on conversations with managers from our contact company. Thus, no conclusions should be drawn about the sustainability aspects of aluminum versus plastic; instead, the case was developed as a learning tool for future students.

However, penetrating this market further will be a difficult task. Aluminum has typically been associated with high-end laptops such as the Apple Macbook Pro series. Additionally, while the laptop still commands a price premium over a similarly equipped desktop, prices have continued their long trend downward. How can Durable Aluminum convince original equipment manufacturers (OEMs) to adopt a more costly material when many consumers continue to focus on price?

Despite the upfront cost disadvantage of aluminum versus plastic, Kapper knows that Durable Aluminum can offer OEMs real value if he can get them to focus on the long-term advantages of aluminum. Consumers continue to demand products that are more environmentally friendly, and aluminum offers potential advantages for end users as it is easier to recycle, might offer more efficient cooling, and is more durable than plastic. Furthermore, the improved durability of aluminum might provide a direct advantage to OEMs in the form of lower warranty costs. However, communicating this value proposition to OEMs and helping them profit from it is no easy task.

Kapper decided to bring a broad base of organizational stakeholders at Durable Aluminum together on a team to build a strategic plan to address this challenge. The plan will be focused on positioning aluminum as the preferred choice of raw material in laptop casing design for OEMs with regard to the environment, consumer choice, and pricing.

The Aluminum Industry

Aluminum is the second-largest metals industry in the world, with 33.9 million tons produced and \$93.7 billion in sales during 2008.² Most aluminum is not found in its pure form but rather in several

² “Global Aluminum Industry Profile.” Datamonitor (2009). Reference code: 0199-2004. Accessed Jan. 16, 2010.