Case Study: Reclaimed the Greener Way
A Proposed Supply Chain Model for the Reclaimed Lumber Industry

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ABSTRACT

Thanks to the strategic priorities of the current federal administration, discussions about green management are a popular trend in the business community. Increasing efficiency, limiting energy consumption, and reducing waste internally as well as along the supply chain has been one way that managers have addressed “going green.” Some examples include front-to-back printing and stringent recycling efforts. For the lumber industry, going green is not as easy as changing how employees print or recycle plastic bottles, especially since one of the main resources in the lumber industry is wood. In this regard, the authors discuss a proposed supply chain model to reduce intra-process shipments, improve raw material acquisition and usage, and improve production yields through repurposing of the wood by-product created during the manufacture of reclaimed, wood-based products. The proposed model also suggests that entrepreneurial efforts could lead the way in innovating how wood by-products can be used to create disruptive methods that could lead to new wood-based businesses.

Keywords: Energy Consumption, Green Management, Production Yields, Supply Chain Model, Wood By-Products

INTRODUCTION

OurEarth.org suggests ten easy ways to go green. Their advice is simple: reduce, turn off electronics not in use, recycle, use florescent light bulbs, fix leaks, buy recycled, turn off computers, properly dispose of hazardous waste, and buy fresh and local organic vegetables. These are acceptable practices for homes or businesses at the end of the supply chain such as retailers. But as we move up the supply chain the conversation changes, particularly with the basic producers, converters and fabricators. For example, for a cotton producer to “go green,” they must consider alternative ways to use all of the cotton including the hull and the seeds. Some examples of how the cotton producers have dealt with this can be found at http://www.cottonseed.com/ where the webpage boasts of products that include cottonseed vegetable oil for cooking; cottonseed meal, a high protein supplement for livestock and poultry; hulls,
roughage for cattle feed; and linters, a cellulose feed stock for many industrial and consumer products. Similar ideas have been percolating for the soybean industry. Ethanol from the seed was perhaps the most popular idea but others include using the hull as a mattress filler as another innovation that is in research (www.busytrade.com; www.usda.gov).

A literature review of both peer reviewed and non-peer reviewed literature reveal fewer innovations for the wood industry. The website www.rethinkrecycling.com suggests recycle clean industrial scrap wood through shredding and chipping. Proposed end markets include animal bedding, compost and landscaping uses, and wood that is unsuitable for recycling can be processed for use as fuel. While these are some of the ways that wood can be re-used, not all woods can be used in this way, especially if it has been chemically treated. This paper proposes an alternative for green management of industrial wood waste based on the experiences of the owner of Run of the Mill, a family-owned, portable sawmill and wood products business located in Southern Minnesota. They specialize in on-site, small to medium-sized sawmilling jobs and hardwood lumber sales (www.runthemill.com). The company operates with an objective to reduce wood that finds its way into the landfills. They have done so for 10 years for “new wood”; producing hardwood lumber, flooring, beams, etc from trees that died from natural causes such as disease and storm damage. Recently the company has added reclaimed lumber products as a means of simultaneously increasing their markets and being more eco-friendly. While they currently focus on milling, the owner is always looking for ideas to streamline the manufacturing process and to reduce the overall waste of wood including within the industry.

**Literature Review of Supply Chain Management**

Supply chain management is the integration of the activities that procure materials and services, transforms them into immediate goods and final products and delivers them to customers. These activities vary from the purchase of raw materials and finished goods to the transportation to the end-customer. A typical supply chain consists of many businesses with the singular objective of building a value chain of suppliers and customers that focus on maximizing value to the customer. So today, the competition is not Wal-Mart versus Target. Rather it is between Walmart’s and Target’s supply chains and how well those supply chains are managed (Heizer & Render, 2008).

When supply chain management is discussed in the literature, the focus is on the value chain. Although the supply chain management field has typically focused on gaining strategic competitive advantages in cost, quality, delivery, flexibility and innovation (Fisher, 2007; Krause, Pagell, & Curkovic, 2001; Schroeder, 2008), other researchers argue that sustainability performance should be added as another dimension (de Burgos Jiménez & Céspedes Lorente, 2001). Similarly, Angell and Klassen (1999) suggest inclusion of environmental variables in the objective functions of traditional operations. For example, in Marshall Fisher’s (2007) analysis of how to select the right supply chain for a product, he discussed response times, costs, utilization, and traditional business strategies such as focus and differentiation along the chain. Other researchers have examined the impact of business and sustaining the earth. This research falls under the category of sustainable supply chain management (Pullman et al., 2009). In fact, several research studies are illuminating that a growing number of companies and researchers have even expanded beyond sustainability objectives to more comprehensively address social issues and sustaining the environment while considering long-term economic stability considerations along the supply chain (Gladwin, Kennelly, & Krause, 1995; Starik & Rands, 1995; Jennings & Zandbergen, 2005; Carter & Rogers, 2008; Pagell & Wu, 2009; Pullman et al., 2009). Specifically, when a company uses raw materials, sustainability practices should be part of a firm’s capabilities. Clearly, major enterprises have chosen to
Creating a Sustainable Supply Chain in Response to Unstable Market Expectations
Halina Maria Br dulak and Anna Janina Br dulak (2016). Sustainable Logistics and Strategic Transportation Planning (pp. 165-189).
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