Carpet Industry Study Suggests Manufacturers Can Reap Benefits from Sustainable Practices, Says Philadelphia University Researcher

PHILADELPHIA, August 30, 2007 – By incorporating certain environmentally sustainable practices into their manufacturing processes, U.S. carpet firms found they can reap some positive competitive outcomes, including reducing costs, increasing innovation and attracting new customers, a new study by Philadelphia University researcher Cathy A. Rusinko found.

“The findings suggest that sustainable practices can help not only the environment but also the corporate bottom line,” said Rusinko, associate professor of management, who has studied sustainable practices in several industries.

The study, Green Manufacturing: An Evaluation of Environmentally Sustainable Manufacturing Practices and Their Impact on Competitive Outcomes, was published in the August issue of IEEE Transactions on Engineering Management, the journal of the Institute of Electrical and Electronics Engineers.

What’s new in this study is the finding that specific sustainable practices can impact specific competitive outcomes, Rusinko said. For instance, the findings suggest that practices such as reducing raw materials and waste and recycling water can decrease cost but have almost no effect on such outcomes as product quality.

“Thus, to use sustainable practices effectively, managers must choose the specific sustainable practices that are consistent with their specific strategic and competitive goals,” Rusinko said. “Sustainable practices may appear ineffective if they are being employed to achieve the wrong goals.”

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The study, funded by the National Textile Center, is one of the first to tie specific environmental actions to manufacturing outcomes. While some of the practices are specific to the carpet industry, others – including waste recycling, reducing energy use and recycling water – are used more generally in manufacturing. Thus, the findings are relevant for engineering and operations managers in other manufacturing industries, particularly as companies respond to increasing environmental and competitive demands, Rusinko said.

The study reviewed 29 specific pollution prevention and product stewardship practices and looked at whether they impacted on such competitive outcomes as cost savings, attracting new customers and enhancing innovation in the company. Pollution prevention practices included reducing raw materials, energy use, solid waste and factory emissions and recycling water. Product stewardship practices included using recycled content and renewable materials, using eco-friendly energy, redesigning the product and process to improve sustainability and encouraging suppliers to use sustainable practices.

The results showed that carpet companies got the biggest bang for their environmental buck by reducing energy use and solid wastes, and much less from reducing factory emissions. For product stewardship practices, companies reported that while most didn’t cut costs or increase product quality, many of these practices did help improve the firm’s image, attract new customers and promote innovative ideas throughout the company.

In recent years carpet manufacturers have stepped up efforts to improve their environmental practices, according to the study. For instance, of the 4.5 billion pounds of used carpet that were targeted for U.S. landfills in 2005, about 10 percent was instead recycled into new carpet, carpet backing and other products, and the industry target is to divert 23 percent of used carpet by 2010.

Philadelphia University, founded in 1884, is a private university with 3,200 full- and part-time students enrolled in more than 50 undergraduate and graduate programs. The University includes Schools of Architecture, Business Administration, Design and Media, Engineering and Textiles, Liberal Arts, and Science and Health. For more information, go to www.PhilaU.edu.