

Editorial contact:

Miles Parker, Parker Group
(401) 272-1510
team@parkergroup.com

**Study Shows Product Redesign,
Not Outsourcing to China,
Holds Cost Advantage for U.S. Manufacturers**

Suggests overemphasis on comparative labor rates distorts outsourcing decisions

WAKEFIELD, R.I., USA, September 7, 2004 – Boothroyd Dewhurst, Inc., today announced the results of a benchmarking study titled “Improved Product Design Practices Would Make U.S. Manufacturing More Cost Effective.” The study attacks longstanding assumptions about product costs that have troubled manufacturers for decades, both in the United States and worldwide.

The authors argue that U.S. companies should do a much better job of integrating cost analysis into product design. If rigorous cost analysis was instituted as a foundation for product design, the study states, U.S. manufacturers would be able to develop innovative products that are more economical to produce in the United States.

The complete text of the study, “Improved Product Design Practices Would Make U.S. Manufacturing More Cost Effective: A Case to Consider Before Outsourcing to China,” coauthored by Nicholas P. Dewhurst and David G. Meeker, is available at www.dfma.com/truencost.

One of the more provocative conclusions of the study is that it can be more advantageous for U.S. manufacturers to lower costs by redesigning products than by outsourcing production to other countries such as China. In many instances, the study shows, redesigning a product and manufacturing it in the United States is a better option for saving money.

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To support this idea, the authors identify two principles of design best practices that many U.S. manufacturing companies overlook when making outsourcing decisions:

- **It is possible to redesign products to reduce part count and cost.** As an illustration, the study features an in-depth, quantitative analysis showing how the redesign of an electric drill would eliminate the cost advantage of offshore manufacturing and justify a decision not to outsource production.
- **It is necessary to account for all the additional costs associated with offshore manufacturing and to apply those additional costs to the product.** The study warns that companies may not be accounting for the full costs of outsourcing when they consider sending production overseas to countries with very low labor rates such as China. The authors identify a number of hidden costs, including shipping and logistics, that can add an estimated 24 percent to labor and material costs at the offshore location.

The study demonstrates that if companies consider the potential for design improvement along with a realistic estimate of the full costs of outsourcing, it often makes more sense to manufacture products in the United States.

“We know, from years of consulting with design engineers, that U.S. manufacturers have very little visibility into what their products should cost to make,” said coauthor Nicholas Dewhurst, executive vice president of Boothroyd Dewhurst, Inc. “Companies historically do a poor job of integrating cost analysis into early product design. Many companies now rushing to outsource manufacturing still do not understand that the design of the product determines the final cost.

“Outsourcing is not the first step in lowering product costs,” Dewhurst continued. “Considering the competitive nature of the global economy, and the many hidden risks associated with outsourcing ventures, U.S. companies should scour product designs for efficiency before resorting to offshore production. We hope this study encourages the U.S. manufacturing industry to take another look at design cost analysis.”

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About Boothroyd Dewhurst, Inc.

Boothroyd Dewhurst, Inc., founded in 1981, is the developer of software for Design for Manufacture and Assembly (DFMA®). In 1991 the company won the National Medal of Technology Award, presented by President George H. Bush. Engineers use DFMA software to design products for ease of assembly and to quantify the cost of producing new designs. Many customers of Boothroyd Dewhurst software are leaders in their industries, including Dell, Whirlpool, Boeing, Abbott Laboratories, Brooks Automation, Milwaukee Electric Tool, GE Plastics, Motorola, Delphi, and Harley-Davidson.

Boothroyd Dewhurst is dedicated to continually developing the DFMA knowledge base through its integrated software programs, workshops, consulting services and international conferences. For more information, contact Boothroyd Dewhurst, Inc., 138 Main Street, Wakefield, R.I. 02879, USA. Tel. (401) 783-5840. Fax (401) 783-6872. Web site: www.dfma.com. E-mail: info@dfma.com.

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