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Innovative Business Models May Lead to More Sustainable Operations

Written by Jennifer Kleiner on January 5th, 2015.

Companies often think "going green" means higher costs and less profit. But is it possible to have the best of both worlds in one business model according to research by Ioannis (Yannis) Bellos, assistant professor of information systems and operations management at the School of Business, and his coauthor, Vishal Agrawal of the McDonough School of Business at Georgetown University, it is possible—and "servicizing" may be just the model for the job—if done correctly.

Servicizing business models are receiving growing attention for their perceived environmental and economic benefits and are being implemented among a myriad of notable organizations, including IBM, Xerox, Caterpillar, and Daimler.

In servicizing business models, customer value is linked to the *use* rather than the *ownership* of a product. Bellos explains, "For example, rather than selling printers, Xerox offers 'document management' services and charges customers for each page they print. Similarly, Daimler AG through its Car2Go car-sharing program offers mobility solutions and charges only for the amount of time the car is reserved."

This innovative business model comes in various forms, ranging from a pure servicizing model to a hybrid of sales and servicizing. Whatever the case, these models have the potential to bring both environmental and economic benefits.

The most obvious environmental benefit of such business models relates to the firm's ability to *pool* customer needs. By pooling needs, the firm may not have to dedicate one product to each customer. Reducing the number of products manufactured would reduce the amount of materials and energy needed for production as well as the cost of the materials, energy and labor for the firm.

For instance, in a car-sharing program a single vehicle can be used to satisfy the transportation needs of several customers at different times. It has also been argued that since customers pay on a per-use basis (i.e., per hour reserved) they may be incentivized to cut back their consumption.

While servicizing models appear to be a win-win strategy that decreases the environmental burden without reducing company profits, Bellos argues that this may not always be the case.

His research found that even at maximum pooling, a pure servicizing model could actually be environmentally inferior because it may not only lead to higher use impact but also a larger quantity of products manufactured.

"Think of customers who normally use public transportation to cover their mobility needs but now switch to a car sharing model like Car2Go," Bellos explains. "This can make a pure servicizing business model environmentally inferior by increasing the environmental impact during both the production and use phases."

Finding a happy medium with servicizing seems to be the secret to gaining both environmental and economic benefits, and this appears to lie in the hybrid model.

While it's important to keep in mind that some of the benefits are dependent on the use and production costs, Bellos and his coauthor found that with the right structure hybrid models typically yield great benefits.

"A hybrid model can be environmentally superior by leading to lower use impact even when a firm's ability to pool customer needs is limited. Therefore, business models such as Xerox's document management services may actually be environmentally superior because printers have the majority of their impact in the use phase."

And in other circumstances, the model still brings benefits to all, "Under maximum pooling, a hybrid model can be both environmentally superior and more profitable for products with low production costs."

In their paper, "The Potential of Servicizing as a Green Business Model," Bellos and Agrawal share additional insights for firms and environmental agencies regarding how to know when servicizing may support the three pillars of sustainability: profit, people, and planet.

Bellos and Agrawal received the second place award for their paper in the 2014 INFORMS Energy, Natural Resources, and the Environment (ENRE) Young Researcher Prize. The paper can be read in its entirety here.