

Shifting innovation in reverse could solve urban transit issues

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When it comes to urban transit, both emerging and mature markets have some things in common—diminishing public resources, infrastructure constraints and air quality concerns.

And thanks to offshoring, many emerging markets have modern

technical, manufacturing and cost-cutting know-how. That's why University of Michigan entrepreneurship professor Peter Adriaens thinks urban transit solutions for the West will come from the developing world, as part of a growing trend of reverse innovation.

"Global companies are outsourcing low-cost innovation to their suppliers in emerging countries and having them come up with designs that are cheap, simple, effective, and designed for the local market," said Adriaens, with the Ross School of Business. "But now we're starting to see some of those re-made for developed markets. There's a huge opportunity for this reverse innovation to develop new mobility systems."

The ideas and opportunities are outlined in a research paper that Adriaens co-wrote with Susan Zielinski, director of the sustainable mobility program at the U-M's Transportation Research Institute, and Deborah de Lange, professor of business strategy at Ryerson University in Toronto.

Their research also forms the basis of a new course on reverse innovation offered by the Zell Lurie Institute at Ross. Students in the course study and apply scalable, efficient mobility systems that have been deployed around the world.

Traditional innovation follows this usual pattern—a new product or service is created and sold for a high price to early adopters. These risk-takers are willing to experiment before all the bells and whistles are perfected. But to appeal to the mass market, the new product or service has to become affordable, proven and easy to use.

Reverse innovation starts at the other end—with a solution that is already cheap, works for low-income, mass-market consumers, and is simple and versatile.

"So many companies can't get across that chasm," Adriaens said.

"Reverse innovation eliminates the chasm. You start with something simple that works and add features and design iterations into it for developed markets. You walk the adoption curve in the other direction. They innovate systems and designs that are cheap, simple, diverse, and meant for the home country, but they can be repurposed and scaled up for the West."

One of the earliest examples of reverse innovation is GE's development of a low-cost electrocardiogram developed for an emerging market and now sold worldwide as a mobile unit to first responders. This market was previously not addressed with these types of products but opened up as the result of reverse innovation.

For new mobility, companies and cities in developed countries should look at how entrepreneurs in emerging markets work around the lack of infrastructure, congested roads, lack of subsidies, and the varying types of mobile devices people use.

"Budgets are being pushed to the maximum here in the West, and without subsidies the scale of adoption for most new mobility ideas or mass transit isn't going to happen. It won't cross the chasm," Adriaens said. "That's why more and more global corporations are looking to entrepreneurs in developing economies to see what kind of product or service could or would work here."

From energy solutions to health care, the idea of reverse innovation is getting more attention in the corporate world and is likely to become a standard practice.

"There's no real corporate strategy for reverse innovation yet, because a lot of it is happenstance," Adriaens said. "But we're starting to find out what the characteristics are, and in the next year or two I think we'll see

strategy groups in corporations include this in their innovation portfolios."

More information: Adriaens, Peter and De Lange, Deborah and Zielinski, Susan, "Reverse Innovation for the New Mobility." (July 1, 2013). Ross School of Business Paper No. 1193. Available at SSRN: ssrn.com/abstract=2297912 or dx.doi.org/10.2139/ssrn.2297912

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