

RETHINKING SUSTAINABILITY AND EFFICIENCY IN CORPORATIONS

In decades of studying global corporations, Dr. Kefeng Xu has found that some companies treat environmental sustainability like a tradeoff that can hurt productivity. "The mindset of many managers has been: if you have high efficiency, you may have lower sustainability. Or if you have high sustainability, you may have lower efficiency. So the requirement to improve sustainability can become like a hot potato to pass on," Xu says.

But that doesn't have to be the case. Innovative suppliers can make all the difference, says Xu, a professor in the Department of Information Systems and Supply Chain Management at the Bryan School of Business and Economics. When considering a company's environmental impact, Xu imagines a pipe running the length of the supply chain – from the sourcing of raw materials all the way to a consumer purchasing the end product. When businesses clamp down on emissions in one part of the pipe, they often pop up elsewhere.

In an eight-year analysis of 183 multinational corporations with more than 400 suppliers, Xu and his fellow researchers found emissions were often passed upstream to those suppliers. Another study of 300 global firms over six years found that, by moving operations offshore, companies passed emissions to overseas subsidiaries. These subsidiaries were often based in emerging economies with looser regulations, according to the articles in *Decision Sciences and Productions and Operations Management*.

But when companies seek out suppliers that invest in sustainability throughout a product's entire life cycle, they can reduce emissions per unit. "So the main job for businesses should be trying to find innovative suppliers who will collaborate with them to reduce emissions, truthfully, across the whole supply chain," he says.

While this takes time, it proves worth it. "We found that when companies perform innovations this year, it could lead to higher emissions the same year, but generally lesser emissions in the next several years," Xu says. Having received multiple awards including a National Science Foundation Grant, Xu publishes in many fields including operations, logistics and information management strategy, supply chain sustainability, transportation, and inventory and supply management. He is associate editor of the *Journal of Operations Management* and serves on three other editorial boards.

He hopes to offer practical implications for supply chain managers, shareholders and students learning through case studies. "I often ask my students, 'What do you think the key challenges are here? If you are the manager in that situation, how would you resolve that challenge?'"



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