Research shows how organizations evaluate whether to imitate or differentiate when a competitor adopts new technology

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How an organization reacts to a nearby competitor adopting an important innovation may be influenced by the type and difficulty of problems it handles for its customers, according to a new study published in *Strategic Management Journal*.

The researchers found that organizations serving more difficult customer needs tend to defer investment in response to a competitor's technology adoption, while those who address less difficult problems are likely to accelerate adoption of that same technology. The study, led by Shirish Sundaresan, an assistant professor at Georgia State University, stresses the importance of letting the customer drive an organization's strategy around adopting a technology, regardless of what competitors are doing.

The research team, which also included Andrew Boysen and Atul Nerkar of the University of North Carolina, used case mix index—a novel measure of task requirements—in their study of robotic surgery system adoption by U.S. hospitals. According to Sundaresan, the healthcare industry is one of the very few contexts where this type of measure allows researchers to quantify the demand that each individual organization faces, and it can be identified on a case-by-case, year-by-year approach.

When a competitor in this space adopted the new technology, others in the same market had to simultaneously evaluate their two choices: imitate the competitor by also adopting the technology, or differentiate themselves by spending the money elsewhere.

"They have to evaluate the decision based on their own individual needs," Sundaresan says. "Which of these two paths is going to lead to the most success? We can show that things like knowledge spillovers, opportunity costs, things that really drive the competitive behaviors of firms can be very different based on an organization's own individual customers, and the tasks that they have to solve."

Fundamentally, he says, the strategy of an organization should be focused on the customers, the tasks, or demand side that they're facing, rather than what other competitors are doing in the market. For example, one organization the researchers studied had a competitor that invested heavily in cardiology services, and they had to decide whether to compete head-to-head by adopting the same technology. They determined the opportunity costs were very high and they could instead focus that same effort and money into an area that would allow them to differentiate and be a market leader in that other area. Plus, cardiology services weren't in high demand among their patients.

In addition to helping organizations react to a first-mover in the market themselves, the study also shows how organizations can evaluate how other competitors in the market will react to a first-mover: If the first-mover adopts the technology or innovation in a particular way, others in the market might be evaluating what they should do, and an organization can consider the other competitors' customer needs to determine how they may react.

More information: Shirish Sundaresan et al, Adopting Dr. Robot: Responses to Competitor Adoption of Innovation, *Strategic Management Journal* (2023). DOI: 10.1002/smj.3496

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