

# Managers use changes in team membership to judge individuals, new research shows

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How can supervisors evaluate individual performance when a worker is part of a team?

That question has interested economists for years, but a new study by Ross School of Business professor Jose Uribe provides an answer: Managers instinctively pay attention to changes in team performance based on which [team members](#) are present on any given day.

"Theoretically, there's a longstanding problem in economics about how you evaluate individuals when all you see is the product of their team work," said Uribe, assistant professor of management and organizations. "There's a classic paper, Production, Information Costs, and Economic Organization, that talks about something as simple as two people moving cargo onto a truck. Their [supervisor](#) might be able to see how much has been loaded at the end of the day, but it's going to be very hard to have a precise estimate of exactly how much each person helped with that task. That's puzzled academics for quite a while."

Working with a Midwestern manufacturing company that keeps detailed productivity data, Uribe and his coauthors developed and tested a theory: Managers pay attention to how a team's performance varies when a particular member is present or absent, and they use that information to rate individuals apart from their teams.

"This is a place that keeps their [production lines](#) humming 24/7, and often people have to switch teams," Uribe said. "They do rotations for learning purposes, and sometimes people are absent and you've got to pull somebody in from another line."

This type of setup provides [managers](#) an opportunity to see whether productivity falls or rises when any given team member is present or absent.

"Supervisors actually pay attention to how the work is done and who is doing the work, and they're very attuned to nuances about shifts in team membership," Uribe said.

The researchers then tested the managers' ability to accurately gauge the effects of changes in team membership. They created a measure of individual presence and team productivity, then compared those figures to workers' performance evaluations.

With some caveats, the researchers found that [supervisors](#) were quite accurate in separating out individual productivity.

"Without doing all of this math, the supervisors came up with a not perfectly accurate, but pretty accurate, estimate of who's pulling their weight in the team," Uribe said.

The supervisors were most accurate in rating performance of workers who had some authority over their team's performance, and of workers who were rotated among different teams, Uribe said. On the other hand, demographic factors like race and gender did not affect the accuracy of the supervisors' ratings.

Uribe said the study suggests a few key takeaways for companies struggling with evaluating individual performance in team settings.

First, regularly rotating employees among different teams could help clarify differences in individual contributions.

"When you have a [worker](#) who's always on the same team with the same co-workers, it's a little more challenging for the manager to understand who's doing what," he said.

This could be particularly useful for lower-authority workers, whose evaluations from supervisors may be less accurate.

Second, although more rotations can provide more information to separate out individual contributions, there is a potential downside of

implementing such a system explicitly. Managers should be aware that workers who know how they are being evaluated might try to "game" the system—for example, by withholding necessary tools from their teammates when they are absent to ensure that productivity falls.

The study—co-authored by Seth Carnahan of the Olin Business School at Washington University, John Meluso of the University of Vermont's Complex Systems Center, and Jesse Austin-Breneman of the University of Michigan's Department of Mechanical Engineering—has been accepted for publication in the *Strategic Management Journal*.

Uribe said the researchers' analysis was specific to a manufacturing setting. He hopes to research the issue further with different types of work, such as information technology or consulting, where productivity is less standardized.

"It would be wonderful if we could obtain the kind of data that we have about fine-grained production at the team level to understand how this plays out with different types of work," he said. "If we get into work that is harder to measure, this kind of process is actually more important."

**More information:** Jose Uribe et al, How do managers evaluate individual contributions to team production? A theory and empirical test, *Strategic Management Journal* (2022). [DOI: 10.1002/smj.3433](https://doi.org/10.1002/smj.3433)

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