When Individuals Don't Matter

by Michael J. Mauboussin

"If you watch an ant try to accomplish something, you'll be impressed by how inept it is," said Stanford biologist Deborah Gordon in a National Geographic article about swarm theory. "Ants aren't smart…ant colonies are." If you're familiar with the ideas behind the wisdom of crowds and swarm intelligence, you're probably nodding knowingly. Under the right conditions, groups—whether ant colonies, markets, or corporations—can be smarter than any of their members. In these complex adaptive systems, hard-to-predict behaviors emerge from the interaction of the individuals.

Executives make three common mistakes that show they don't really grasp how such systems work. What they miss is that you can't understand the behavior of a complex system, let alone manage it, by analyzing a few key individuals.

First, managers extrapolate individual behavior to explain collective behavior. Early in my career as an equity research analyst on Wall Street, I was told that earnings per share is the key to a company's stock price. (Investors, executives, and the media still beat that drum.) But then I saw studies by financial economists who concluded that cash flow, not earnings, drives the stock price. The earnings camp listened to what people talked about day to day in the investment community, on television, and in the Wall Street Journal's pages. By contrast, the economists looked at how the market behaved. One group focused on the components, the other on the aggregate.

The latter was the better approach. Research in experimental economics, for example, shows that markets can generate very efficient prices even when each participant has limited information. Just as watching one ant won't help you understand the colony's behavior, listening to individual investors will give you scant insight into the market. It can even be harmful for executives to heed individuals, who generally dwell on earnings, rather than collectives, which tend to appreciate cash flow. Those who do may cost their shareholders and themselves substantial value. A survey by Duke University's John R. Graham and colleagues reveals that 80% of chief financial officers would decrease value-creating spending in order to meet an earnings target.

Second, executives often fail to recognize that changes in one component of a complex system may have unintended consequences for the whole. The U.S. government's decision to allow Lehman Brothers to collapse in September 2008 is a good illustration. Since the market largely understood Lehman's poor financial condition, the argument went, it could absorb the consequences. But because Lehman's losses were larger than people had initially thought, the bankruptcy announcement roiled global financial markets, contributing to an increase in risk aversion. Even parts of the market that were perceived to be safe, such as money market funds, received a jolt.

Third, there is a tendency to prize a few standout individuals while ignoring how much they draw on their surrounding systems for support. For instance, many

companies, sports teams, and entertainment businesses hire a star when they want to quickly improve the organization's results. More often than not, however, newly transplanted stars fail to deliver, because they're separated from the people, structures, and norms that helped make them great in the first place. In one study, professors from Harvard Business School tracked more than 1,000 acclaimed equity analysts over a decade and monitored how their performance changed when they switched firms. The dour conclusion of the research: "When a company hires a star, the star's performance plunges, there is a sharp decline in the functioning of the group or team the person works with, and the company's market value falls."

All three mistakes have the same root: wrong assumptions about the relevance of individual agents to the behavior of a complex adaptive system. When trying to achieve system-level goals, think twice about agent-level changes. They're unlikely to have the effects you intend.