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What Drives Differences in Management?

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More from: **Erik Brynjolfsson**, **Itay Saporta-Eksten**, **John Van Reenen**, **Megha Patnaik**, **Nicholas Bloom**

Editor's Note: **Nicholas Bloom** is the William Eberle Professor of Economics at Stanford University, a Senior Fellow of the Stanford Institute for Economic Policy Research, and the Co-Director of the Productivity, Innovation and Entrepreneurship program at the National Bureau of Economic Research. This post is based on a recent **paper** authored by Professor Bloom; **Erik Brynjolfsson**, Director of the MIT Initiative on the Digital Economy, Professor at MIT Sloan School, and Research Associate at NBER; **Itay Saporta-Eksten**, Assistant Professor of Economics at Tel Aviv University; **John Van Reenen**, Professor, MIT Department of Economics and Sloan School of Management; and **Megha Patnaik**, Stanford University.

The focus of good corporate governance is making sure executives run their firms well. But how do we define success? One way is to look at performance in terms of profits, stock-prices or growth. But all these measures have a major component of luck and may be very poor signals of managerial quality. As any sports fan knows if your players are unlucky it's hard to win games no matter how great a manager you are.

So how can we get a more direct measure of management skill?

To tackle this our MIT-Stanford team worked with the US Census Bureau to develop some big-data on management practices. This data is unparalleled in scale and scope—it spans the entire US, covering over 30,000 manufacturing plants, across all size classes and industries, in both publicly listed and privately run firms. The survey measures the intensity of use of structured management practices: monitoring—including documenting faults in the production process and preventing them from recurring—and good Human Resource practices such as promoting employees based on performance rather than tenure and re-training or removing persistent underperformers.

We complement this management information with rich data on sales, profits, growth, productivity, patents and a host of other key performance measures from administrative data.

So what do we find?

Management matters—a lot

There is striking relationship between our measures of management and performance. Firms with these structured management practices enormously outperform their competitors. They grow faster, make more money, take out more patents, achieve higher stock market valuations and are less likely to go under. Moreover, management matters more than other key inputs such as Research and & Development, Information Technology spending or skills. It is positive news that major performance improvements do not always require enormous investments in new research projects or computer systems, but can be achieve by upgrading core management practices.

Management practices come in all shapes and sizes

We also find a large degree of variation in management practices. Almost one quarter of firms do not adopt even half of our basic practices, while about another quarter adopt over 75%. This spread in practices arises both within and between firms—indeed, about a third of this spread is across the plants within the same firms. This again suggests that executives could achieve a lot more by bringing their laggard establishments up to the best within the corporation.

Management is driven by tough competition, weak regulations and spillovers

Given these huge variations in management and its outsized role in shaping firm performance, a natural question is "what drives management?" We focused on four key factors that between them explain almost half of the spread in management practices.

Competition from other firms

Tougher competition is associated with better management across our firms. This comes from two sources. First is the "evolutionary effect"—only the best-managed firms can survive in markets with tough competition. The second is the "fitness effect"—tough competition forces poorly managed firms to shape up if they want to survive. This suggests that poorly managed firms are most likely to be found in protected industries—those facing limited domestic or international competition.

Business Regulation

States with more pro-business environments (as indicated by laws such as Right-To-Work) tend to produce more structured management practices. This is particularly true for HR practices like performance based hiring, promotions and rewards. Interestingly, it is not just the location of the plant that matters but also its headquarters. In the data, even if two plants are in the same state, if the first has a parent in a low-regulation state (like Texas) and the second has a parent in a high-regulation state (like California), the first is typically better managed.

Learning from the very best

Do companies pick up management practices from each other? To study learning spillovers we examine the impact of large-multinational firms entering into a county—for example, a new Toyota, Volkswagen or Nissan plant. We find local firms show a striking improvement in management practices after entry of these "Million Dollar Plants" which is likely caused by the transfer of management best practices.

A skilled workforce

Finally, we look at the workforce skill and show differences in education explains much of the variation in management practices across firms. To study if better education is causal for the adoption of more structured management practices, we use the allocation of land-grant colleges under the Morrill Acts, under which colleges were created in large empty plots of land in the late 1800's. We find that proximity to Land Grant Colleges are associated with higher uptake of structured management practices, even after controlling for the current level of local development. This is true especially in high-skilled industries, where educational supply is likely to be more important.

So this is all positive news for shareholders—management matters, it varies enormously and there are clear signals about what drives this. In particular, if you are investing in firms in protected markets, with heavy regulations, few multinationals and a poorly educated workforce you may want to examine their management practices.

Our research suggests there could be plenty of upside from a management upgrade.

The complete paper is available for download **here**.