

Linking Workforce Health and Business Performance

Going Beyond Health Measures to Corporate Performance

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Background

A significant and growing body of evidence shows a link between employee health, lost work time and productivity.¹ As healthcare issues garner greater attention from senior management, however—because of both rising healthcare costs and recent healthcare reform legislation—many employers are turning to a broader question: What is the impact of improved health on my company's performance?

Recent IBI research demonstrates that health and productivity management (HPM) practices are widespread among employers and are generally believed to improve health and productivity outcomes.² Both result despite a lack of rigorous studies into how *specific* interventions can improve business outcomes and in the face of our finding that many employers do not monitor the performance of their own HPM practices.

Organizational leaders may justify their HPM efforts as “the right thing to do” for their employees. At least some also exhibit faith that HPM can deliver tangible benefits and contribute in a meaningful way to the organization's goals or is at least consistent with a general philosophy of human-capital management.

To examine these broader issues, this IBI Quick Study investigates the relationship between employers' HPM scores and measurable indicators of organizational business success. The results indicate that companies that offer more of the highly rated HPM practices have better business performance outcomes.

Scoring Employers' HPM Efforts

In the spring of 2009, IBI surveyed 447 employers about their HPM practices.³ Employers rated how well their three most important HPM practices achieved their primary and secondary goals of reducing sick-day/disability absences, reducing presenteeism, improving health-related lost productivity or reducing medical/pharmacy expenditures. The impact responses were scored so that practices with improved outcomes received a score of +1 or +2 (depending on whether the outcome had moderately or greatly improved); those that worsened outcomes received a score of -2 or -1; and those that had “no effect” received a score of 0. If a respondent did not know the impact of a practice, no score was assigned. Figure 1 shows the average impact scores of the surveyed practices.⁴

¹ See for example Schultz, Chen and Edington (2009); Chatterji and Tilley (2002); Wynne-Jones, Buck et al. (2009); and Loeppke, Taitel et al. (2009).

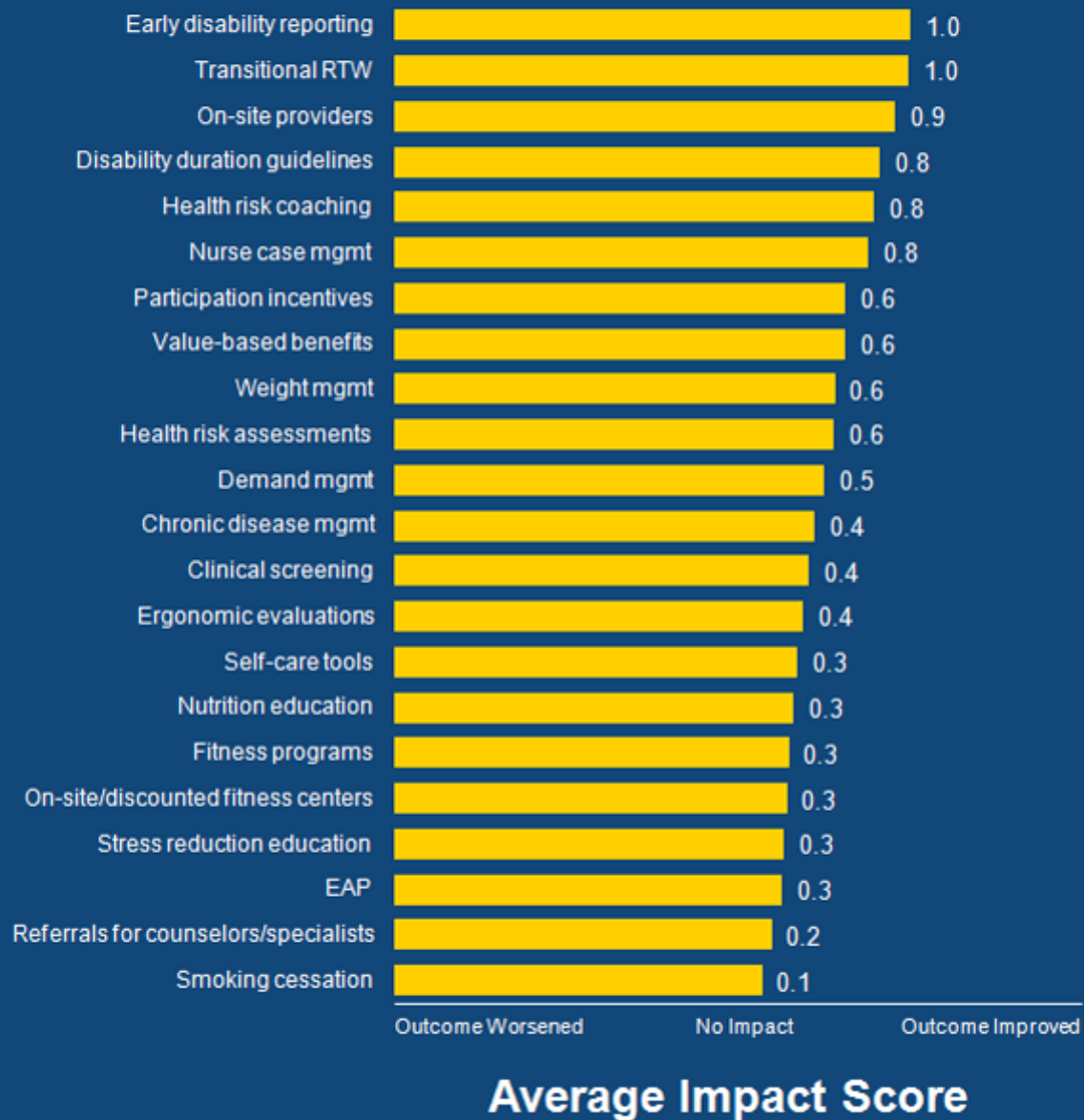
² Gifford and Molmen (2010) and Integrated Benefits Institute (2010).

³ See Gifford and Molmen (2010) for details about the survey.

⁴ See Integrated Benefits Institute (2010) for details about the scoring process and the impact of each practice on specific HPM outcomes.



Figure 1: Average Impact on Primary and Secondary Outcomes



The impact ratings of practices give insight into the overall quality of employers' efforts: If we know which practices tend to have a positive impact, we know something useful about what an effective HPM program might look like. Although our survey design and the limitations of respondents' time did not permit us to get detailed information from each employer about every practice offered, we gathered information from enough employers about their most important practices to compare the performance ratings of 22 out of 26 surveyed practices. This allows us to assign each employer an overall HPM score for the practices it offers based on the ratings of other experienced respondents in the sample.

For each employer, we calculate an HPM score by adding up the average ratings of the practices it offers, using this scoring methodology. The resulting employer HPM scores ranged from 0 (i.e., an employer offers none of the HPM practices shown in Figure 1) to almost 11.5 (i.e., an employer offers all the HPM practices shown in Figure 1), with an average value of 7.0 and a median value of 7.4.

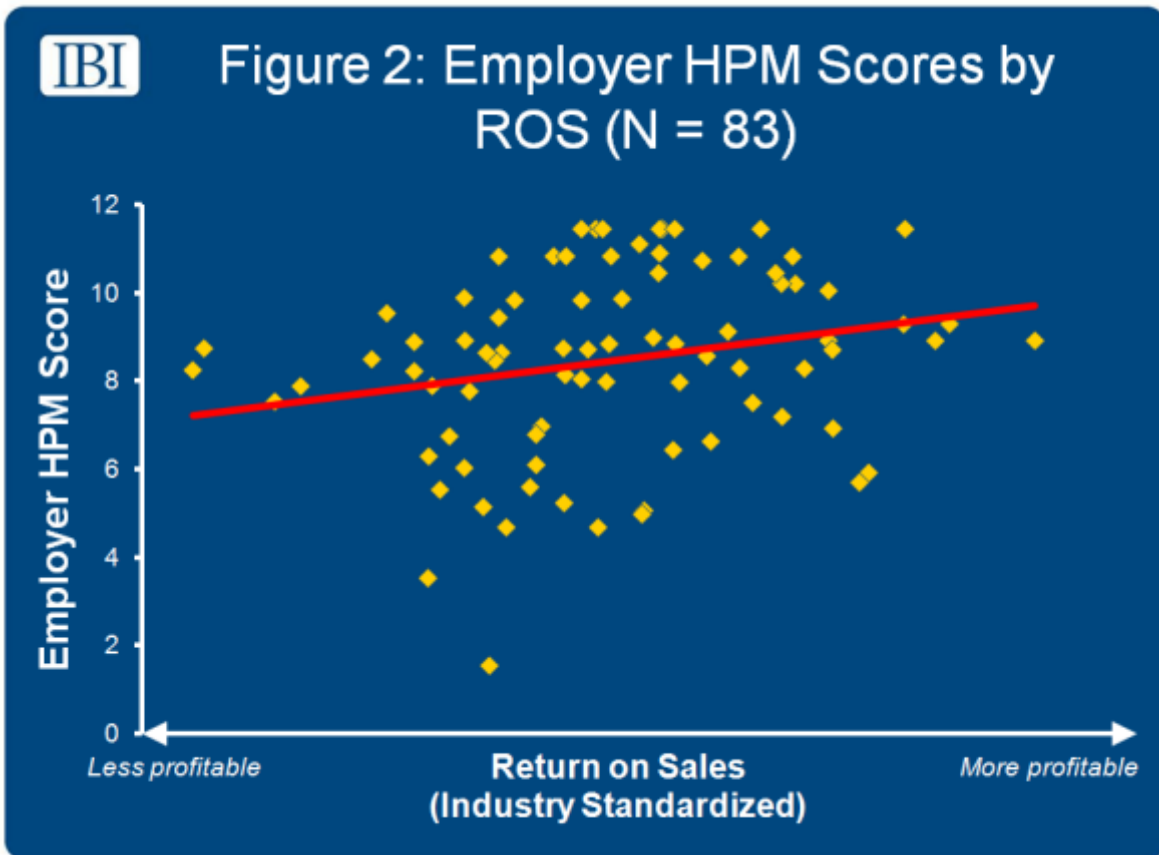
Business Performance

Our survey sample included 83 for-profit, publicly traded employers that we could identify through contact information provided by the respondent and for which publicly available business performance metrics are available from *Fortune* magazine's "Fortune 1000" list.⁵ We examined two financial performance measures:

- Return on sales (ROS) = (profit ÷ revenue × 100)
- Financial output per employee = (revenue ÷ employees × 1,000)

Return on sales. We find a statistically significant relationship between ROS and HPM scores. Each point in Figure 2 indicates one company based on its HPM score and ROS; the line illustrates the average rate of increase in expected HPM score for each observed increase in profitability.

While the scattered points show some uneven dispersion, the upward slope of the line suggests that, generally, as an employer's HPM score increases, so does its ROS.⁶ For example, for a company with an average HPM score of 8.4, we would expect average profits for its industry. This contrasts with an HPM score of 9.6 for a company with profits that place it in the 95% percentile of its industry.⁷



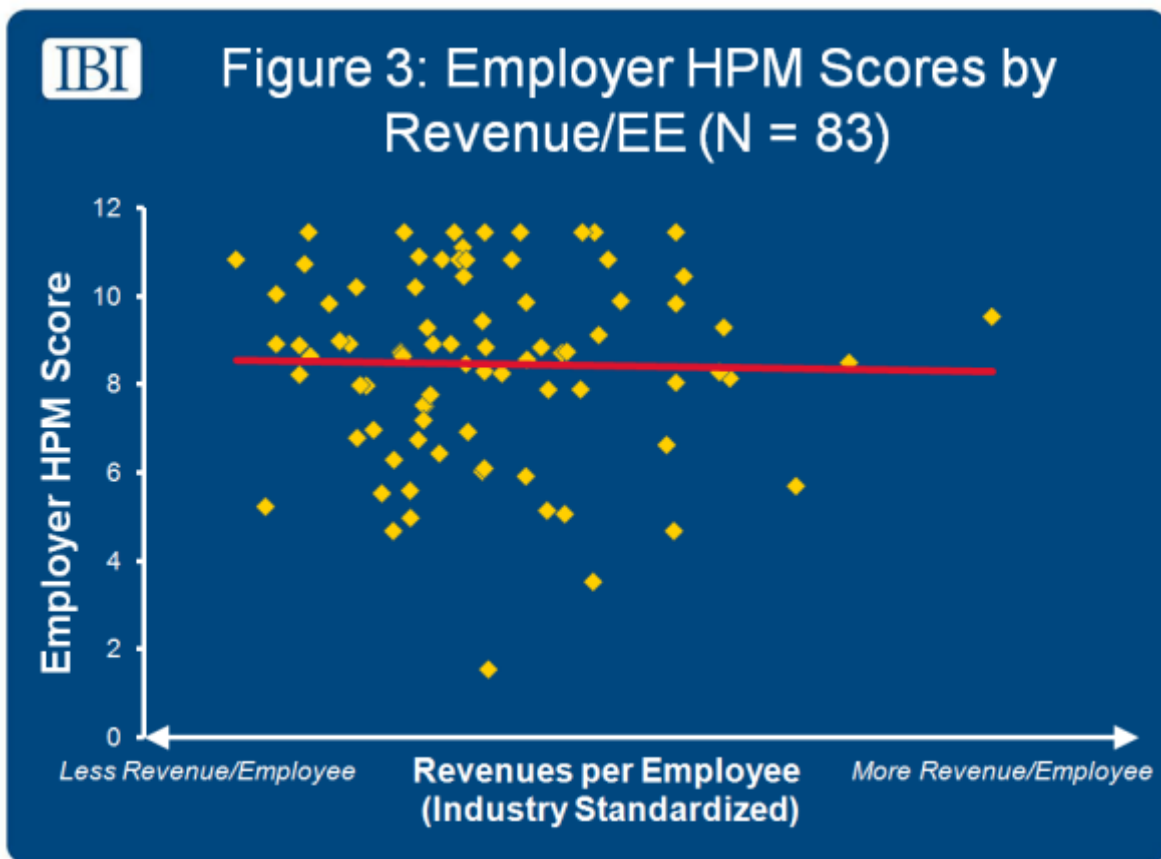
⁵ For details on employer identification and business performance measures, see the Appendix.

⁶ The correlation coefficient for these variables is 0.23. For reference, a perfect positive correlation coefficient would be 1.0 and would be indicated in Figure 2 by all the points falling on a line that sloped upward from left to right.

⁷ Given the small sample of employers and the strong correlation between the establishment size variable and the *Fortune* rankings, controlling for company and respondent demographics is not practical. Diagnostics statistics indicated that three companies exerted abnormal influence on the estimates due to extreme values on one or both of the variables. When these cases are excluded, the relationship remains significant below the 0.05 level, but the correlation coefficient slightly decreases (from 0.234 to 0.228).

It is important to note that this analysis cannot determine whether companies' HPM efforts are causal relative to improved profitability or vice versa. As discussed below, it is very likely that these results may be related through an unobserved third factor such as management effectiveness or organizational culture that similarly prioritizes efficiency and investments in employee health.

Output per employee. Although more-profitable companies tend to have higher HPM scores, as illustrated in Figure 2, we observed no relationship between HPM efforts and output per employee as measured by revenues per employee. While the regression line in Figure 3 slopes slightly downward, the correlation is weak (-0.02) and is not statistically significant.



It is not surprising that revenues per employee bear little statistical relationship to HPM scores. Identifying a precise mechanism between healthier employees and higher revenues is difficult and probably requires different metrics and analyses for different types of companies and different types of employees and business models. For example, in retail firms sales workers likely have a larger direct impact on output than administrative staff. In high-tech companies, software engineers may have a more direct impact than senior leadership. A common, generic measure of revenue impact is probably not adequate to summarize “productivity” across diverse organizations for this study or any other. One must take care in using per-employee metrics to indicate productivity changes.

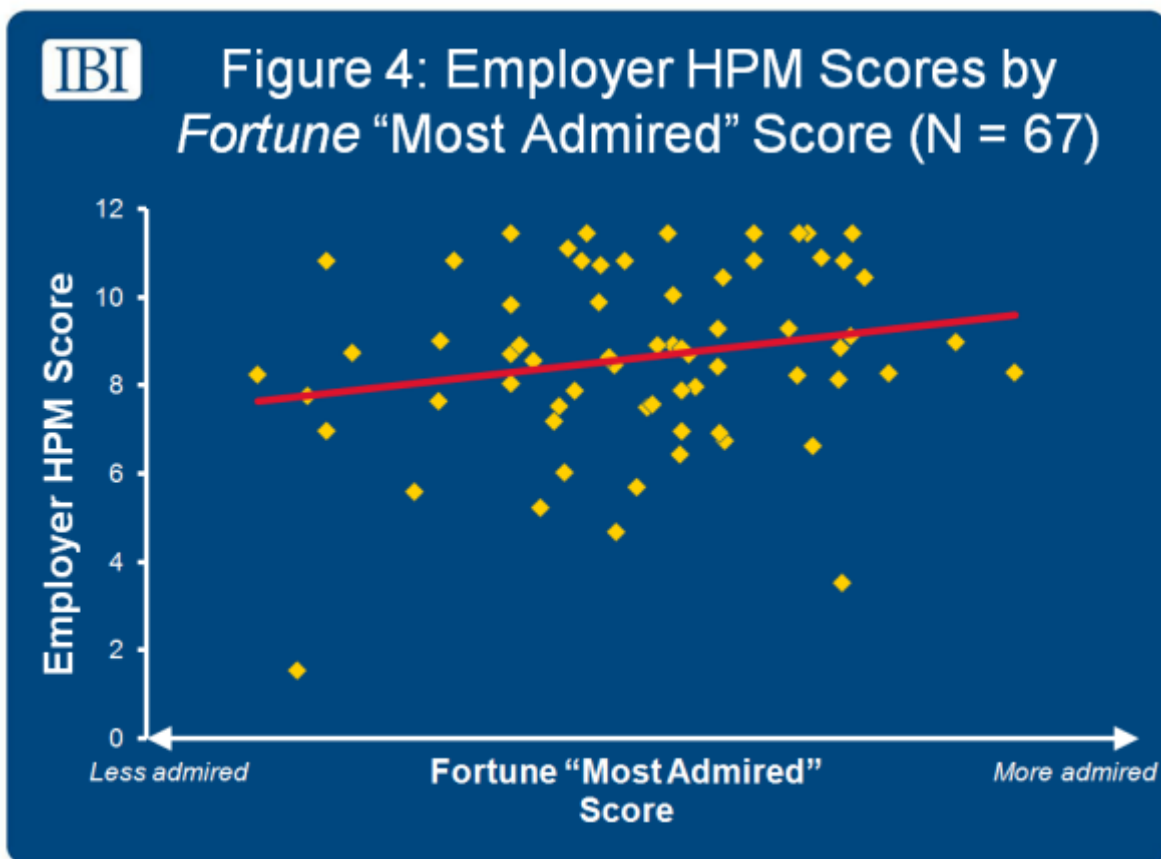
Corporate reputation. The finding that more-profitable firms tend to also have better HPM scores does not necessarily indicate that companies are more successful *because* they offer more or better HPM practices. It is not realistic to expect that effective HPM policies could overcome a bad business model, poor product, weak management or ineffective marketing. Nor should we accept the proposition that advantages of truly superior products or services necessarily would be diminished entirely by inattention to workforce health.

The reverse relationship may offer a better explanation: Successful and more-profitable firms continuously search for new “best practices” to maintain and enhance business success and likely have more resources for developing and implementing effective HPM programs. But understanding *why* well-resourced firms make

the decisions to invest in HPM requires attention to less tangible organizational factors such as management effectiveness and organizational culture. Leaders who can produce better margins may generally manage human capital better than others, and HPM may be consistent with their overall approach to human-capital management. Additionally, organizational leadership may communicate that employee health investment is a high priority on par with corporate efficiency. These are not mutually exclusive explanations, but in either case they suggest that HPM efforts may comprise a set of business best practices.

As a proxy for the quality of organizational leadership and cultures, we analyzed HPM scores based on how an employer fared in *Fortune's* surveys of the "Most Admired" companies over three years: 2007, 2008 and 2009. *Fortune* asks more than 4,000 executives, directors and securities analysts to rank the 15 largest international companies in their industry according to how much they admire them on nine dimensions: innovation, people management, use of assets, social responsibility, management quality, financial soundness, long-term investment, product quality and global competitiveness. Each company is then scored according to its average rank within its industry (the maximum reputation score in 2009 was 8.56, and the minimum score was 2.52).

We identified 67 employers in the IBI survey that had *Fortune* "Most Admired" scores.⁸ As illustrated in Figure 4, there is a positive, statistically significant relationship between HPM scores and "Most Admired" ratings;⁹ that is, the more a company is admired in the eyes of industry leaders and analysts, the higher its HPM score is likely to be.



⁸ To protect the employers' confidentiality, we standardize the "Most Admired" scores around the sample mean. In our sample, the mean score was 6.4 with a standard deviation of 0.95.

⁹ The correlation coefficient for these variables is 0.21.

Given that dimensions such as innovation, people management, use of assets, social responsibility and management quality are included in the reputation score, this finding sheds some light on the positive association between profits and HPM scores shown in Figure 2**Error! Reference source not found.** Although any organization may benefit from improved health and productivity outcomes, companies that are generally successful and well run also are those that are likely to incorporate effective HPM efforts into their overall corporate strategy. These results corroborate that the impact ratings across programs in our survey reflect best practices in HPM.

Commentary

This analysis is suggestive—as opposed to definitive—due to limitations in methodology and availability of data to IBI researchers. We used overall scores for HPM practices to represent an individual employer’s experience because we did not have detailed scoring from each employer for each HPM practice. We also lacked time-series data and information on business models and related factors required for a more causal analysis between HPM and business outcomes.

Despite these limitations, the message here is that HPM is emerging as part of a best-practices strategy as corporations come to understand the importance of healthy human capital as a productive engine and as successful companies likely continue to seek ways to maintain and enhance that success. This analysis supports a correlational relationship between effective HPM practices and corporate business success without asserting causality. Other intervening variables—the strength of the company’s business model and products, enlightened management, corporate culture, communications and marketing strategies—likely combine with HPM as best practices to support corporate success.

Appendix: The For-profit Sample and Business Performance Measures

Two hundred sixteen respondents voluntarily provided contact information in the form of an e-mail address from which we extracted company names when possible. We identified specific organizations by cross-referencing the e-mail addresses with IBI's member and contact list. When no such cross-reference was possible, we used the e-mail domain as an organizational identifier. We excluded domains that possibly signified an Internet service provider rather than the organization for which a respondent worked. In all, we identified 140 for-profit organizations. Where possible, we attached publicly available organizational and business performance information for these for-profit employers.

IBI ensured respondents that their responses would be kept confidential and that data would not be shared or stored anywhere outside of IBI. Nonetheless, to fully protect the confidentiality of the responses, after the data were matched information that could be used to identify the organization was stripped from the data; the crosswalk files will be deleted from IBI servers immediately after the release of the final research product or within one year after the closing of the survey, whichever is sooner. IBI kept a separate record of respondents who wished to be contacted about IBI employer membership, who requested a copy of the final research results or who granted permission for follow-up information about their organization's HPM efforts.

The most comparable and easily accessible source of publicly available business performance information is *Fortune* magazine's 2009 list of the 1,000 American companies with the largest revenues. We identified 83 surveyed employers listed in the Fortune 1000. Although this source excludes foreign-owned organizations and those with revenues less than \$1.7 billion, an examination of HPM scores among large companies is nonetheless informative given the finding that organizations with more employees tend to have higher scores than do smaller organizations. Moreover, the revenue range of the Fortune 1000 (\$1.7 billion to \$442.8 billion) allows meaningful comparisons within this group of large companies.

A review of the research literature on determinants of organizational performance indicated three measures that are comparable across businesses with different products and structures in both goods-producing and service industries:

- Return on sales (ROS) = (profit ÷ revenue × 100)
- Return on assets (ROA) = (profit ÷ assets × 100)
- Financial output per employee = (revenue ÷ employees × 1,000)

Because ROS and ROA are highly correlated (0.83 in our sample) and produced very similar results in our analyses, we concentrate on ROS as our primary business profit metric. These performance measures vary widely across industries. For example, the average ROS for network and communications companies in 2009 was 20.4% contrasted with -13.4% for airlines. The profit leader among 10 airlines (1.6% ROS), however, may be better managed than a communications firm with an ROS as high as 5%—in which case it would still finish behind six of its competitors.

To ensure that we are measuring performance attributable to some aspect of an organization itself, rather than the general circumstances of its industry, we standardize each measure around the industry distributions. For each company in an industry, the industry's mean is subtracted from the company's value, and the result is divided by the industry's standard deviation (as shown in Equation 1). Each company is therefore compared for its relative performance within the context of what is typical for its industry.

$$\text{Equation 1: } \textit{Company standard measure} = \frac{\textit{Company's value} - \textit{industry mean}}{\textit{Industry standard deviation}}$$

Because the components of these measures are prone to wide variation in the short term, we collected these data from the 2007, 2008 and 2009 *Fortune* lists. For example, the sum of three years' worth of profits is therefore relative to the sum of three years' revenues.

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