ARE THE 100 BEST BETTER? AN EMPIRICAL INVESTIGATION OF THE RELATIONSHIP BETWEEN BEING A "GREAT PLACE TO WORK" AND FIRM PERFORMANCE

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We argue that positive employee relations effectively serves as an intangible and enduring asset, and may, therefore, be a source of sustained competitive advantage at the firm level. We survey a number of measures of firm-level performance and conceptualize how each measure is likely to be affected by highly positive firm-level employee relations. We then empirically investigate whether positive employee relations is related to firm performance, focusing on publicly traded firms included in the "100 Best Companies to Work for in America." The relative performance of these "Best Companies" is examined via comparisons to both companies in the broad market and a group of matched firms. Our analyses suggest that companies on the 100 Best list enjoy not only stable and highly positive workforce attitudes, but also performance advantages over the broad market, and in some cases, over the matched group.

In *Competitive Advantage*, Michael Porter noted that "Human resource management affects competitive advantage in any firm, through its role in determining the skills and motivation of employees" and that "In some industries, it holds the key to competitive advantage" (1985, p. 43). The growing importance of good employee relations is underscored by the suggestion that firms disclose information on employee at-

titudes in their financial reports (Litan, 2000). Similarly, strategy tools such as the Balanced Scorecard (Kaplan & Norton, 1992) presuppose that tomorrow's financial performance depends to an important degree on how well internal business processes are managed, including the relationship with employees. Indeed, McKinsey & Company's study of nearly 6,000 managers concluded that "talent" will be *the* most important firm resource over the next 20 years (Fishman, 1998).

Growing competition for talented workers has given firms added incentive to review their employee relations strategies in order to more effectively attract, motivate, and retain the type of workforce that will help them be successful (Gubman, 1998). Such efforts typically include benchmarking against companies that are considered to be leaders in employee relations, such as those included in *Fortune* magazine's annual list of "100 Best Companies to Work for in America" (e.g., Levering & Moskowitz, 1998). The wisdom of benchmarking against firms like those on the 100 Best list depends on the validity of two assumptions: First, that companies on the 100 Best list really do have better-than-average employee relations, and, second, that strong employee relations are indeed beneficial to the organization.

Prior analyses, mostly in the popular press, suggest that inclusion on 100 Best lists is associated with good relative financial and market performance (e.g., Branch, 1999; Filbeck & Preece, 2003; Grant, 1998; Gubman, 1998; Lau & May, 1998; Levering & Moskowitz, 2001; Watson, 2002). These analyses suffer from a number of limitations, however. First, most prior studies are relatively atheoretical, concerned more with the empirical results themselves than with systematically exploring why the 100 Best seem to do better. Second, with the lone exception of Filbeck and Preece (2003), prior studies used only broad market peer groups (e.g., the S&P 500 or Russell 3000 indexes) for comparison, raising the possibility that in those analyses, companies on the 100 Best list perform better because they differ from control firms in terms of industry or other omitted variables. Finally, and most important, previous studies have never documented, using employee survey data, that employee relations are in fact "best" in the 100 Best firms.

In this study, we explore whether superior firm-level employee relations effectively serve as an enduring resource that is associated with better financial and market performance relative to other firms. We begin by surveying the limited prior empirical research that has examined the link between employee attitudes and collective workplace performance outcomes. Next, we consider theory and research that has focused on identifying sources of sustainable competitive advantage at the firm level. We then review a number of commonly employed measures of firm-level financial and market performance, focusing on how each is

likely to be impacted by excellent employee relations. Finally, we derive and test hypotheses regarding the stability of employee relations over time and the relationship between employee relations and various indicators of firm-level performance.

Background, Theory, and Hypotheses

Employee Attitudes, Organizational Performance and Competitive Advantage

Historically, numerous studies and meta-analyses have found surprisingly little association between individual-level job satisfaction and job or task performance (e.g., Brayfield & Crockett, 1955; Iaffaldano & Muchinsky, 1985). More recent analyses, however, seem to support the existence of such a relationship; Judge, Bono, Thoreson, and Patton (2001) report meta-analytic results indicating an average correlation on the order of .30, a "moderate" effect size (Cohen & Cohen, 1983) that is consistent with the effect sizes of other established predictors of individual job performance. Individual-level results do not automatically translate into parallel findings at aggregated levels, however (Ostroff, 1992). For example, at the individual level, a study conducted within a single firm will find a larger relationship between attitudes and performance to the degree that there is ample variance across employees on both measures. By contrast, the relationship at the firm level will be larger to the extent that within-firm differences are small relative to between firm differences. The construct of employee relations pertains to a collective firm-level property, which is different than an individual employee's attitude.

Positive employee relations are thought to impact aggregate-level performance through effects on worker quality and effects on collective worker motivation and productivity (Ostroff & Bowen, 2000). Studies conducted at various aggregate levels do seem to confirm a relationship between aggregate employee attitudes and performance at higher organizational levels. The only academic study we know of that has demonstrated this at the organization level is a study by Ostroff (1992). However, her study used a sample of schools, meaning that outcome measures such as financial performance that are of interest in for-profit organizations were not available as dependent variables. Ryan, Schmit, and Johnson (1996); Harter, Schmidt, and Hayes (2002); Gelade and Ivery (2003); and Koys (2001) have explored similar relationships in for-profit settings, but at aggregate levels below the firm level (such as business units or branches within a firm). Thus, although these studies are important, no research to date has demonstrated a relationship between workforce attitudes and financial performance across firms.

Because we are interested in the link between employee relations and firms' performance relative to other firms, we turn to the strategic management literature, which has devoted considerable attention to exploring how firms compete. The resource-based view (RBV) of the firm (Barney, 1991; Wernerfelt, 1984), a dominant research paradigm in this area, posits that sustained competitive advantage accrues to firms as a result of the existence of idiosyncratic and hard-to-imitate internal assets. Firms able to achieve good employee relations may see improved performance for reasons described previously (higher worker quality, etc.), but if all firms are equally able to follow suit, employee relations don't create sustained relative advantage for one firm over another. Anecdotal evidence (and empirical evidence later in this paper) suggests that firms do seem to vary in terms of employee relations. Even companies that have achieved good employee relations have done so through different means (e.g., various human resource [HR] practices/systems, cultures, leadership, etc.), contributing to inimitability. In further describing internally developed strategic assets, strategic management researchers emphasize that "the strategic asset is the cumulative result of adhering to a consistent set of policies over time" (Dierickx & Cool, 1989, p. 1506). This suggests that such strategic assets are not created overnight and that once created, such assets will tend to be stable over time.

The two perspectives described thus far point in the same direction. The attitudes–performance literature builds the case that employee attitudes are associated with performance at various levels of analysis, but stops short of examining firm-level attitudes and financial performance. The RBV perspective, on the other hand, frames firm level attributes as "resources" or "assets," which may enable an organization to achieve superior performance relative to other firms over time. Combining these two viewpoints leads us to expect that positive employee relations effectively function as strategic assets for firms that are able to create and maintain them.

In order for employee relations to be a plausible source of sustainable advantage, it is desirable to establish whether a key aspect, employee attitude, does in fact exhibit stability in organizations across time. Thus, we hypothesize the following:

> *Hypothesis 1*: Companies included on the 100 Best list will exhibit stable levels of positive employee attitudes over time.

Employee Relations and Organizational Performance: All Measures are Not Created Equal

The most common "language" used to describe organizational performance focuses on financial outcomes, specifically accounting perfor-

mance and stock market performance. Due to conventions of generally accepted accounting principles (GAAP), there are limitations on what can be learned from financial statement data alone. Consider that for accounting purposes an asset is described as a resource that, among other characteristics, "embodies a probable future benefit that involves a capacity, singly or in combination with other assets, to contribute directly or indirectly to future net cash inflows..." (Statement of Financial Accounting Concept 6; Paragraph 26). Accounting standard setters historically have tended to be conservative, favoring more objective versus subjective criteria for balance sheet reporting of assets. To illustrate the point, consider a purchased piece of equipment or a factory. Because there is usually an "arm's length transaction" in a ready market when this type of tangible asset is acquired and because economic ownership is not in question, the asset is initially recorded on the company's balance sheet at its acquisition price. Over the estimated life of most physical assets other than land (such as equipment, buildings, etc.), the original cost of the asset is systematically reduced on the balance sheet and charged against income, spreading the original cost into the future to offset the revenues being generated from that asset.

In contrast, although other assets are expected to generate future income streams, because valuation is difficult and often subjective (e.g., there is no ready market for them, economic ownership is uncertain, timing of income streams is uncertain, or for other reasons), GAAP does not allow them to be recorded as assets in the financial statements. Instead, costs associated with creating these assets are all expensed as incurred; resultant revenues or cost savings recognized in future years are not offset by these initial costs. Thus, many of an organization's intangible assets are not reflected on the corporate balance sheet. Such assets may be broadly classified to include those related to innovation (research and development [R&D] activity), those related to organizational practices (establishment of brand names or corporate reputation), and those related to human capital (investment in worker knowledge, attitudes, and productivity through HR practices and knowledge sharing infrastructure; Lev, 2001).

To get around these limitations, observers interested in gauging the value of a publicly traded company also tap into stock market data. Stock prices reflect the collective expectations of the investing public about the value of a firm based on its anticipated future prospects. Because investors are motivated to consider all available information and are not restricted to what is reported in financial statements, the stock market's valuation of a company theoretically includes the value of all expected income streams, including those from intangible assets about which the market has information. Investors' stock returns reflect changes in stock

prices (as a result of changing expectations about a firm's value) as well as dividends paid.

For purposes of this study, we focus on two financial performance ratios that are well known to management researchers: return on assets (ROA) and market value of equity divided by book value of equity (or market-to-book ratio). In addition, we examine annual and multiyear cumulative shareholder returns.

ROA includes two components: in the numerator, a measure of bottom-line or near-bottom-line net income and, in the denominator, a measure of total assets as recorded for accounting purposes. ROA gauges the efficiency with which an organization utilizes its assets to generate income and is positively impacted by efforts to increase revenues, decrease expenses, and efficiently leverage firm assets. Comparing two otherwise identical firms, where one has more net revenue-generating *intangible* assets than the other, its ROA will likely be higher as a function of the fact that it has a higher net income figure in the numerator but the same level of assets (at accounting book value) in the denominator.

How might positive employee relations impact ROA? Good employee relations may contribute to an environment that influences subsequent individual level attitudes like job satisfaction, affecting workers' in-role performance and productivity (see Judge et al., 2001). Aggregated productivity increases could positively impact net income and, thus, ROA by increasing the value of salable output/services per worker. Attitudes may also be related to individual level extra-role behaviors such as organizational citizenship behaviors (OCBs; Bateman & Organ, 1983; Organ, 1988; Organ & Ryan, 1995), which in the aggregate have been associated with business unit performance quantity and quality (Podsakoff, Ahearne, & MacKenzie, 1997), and subsequent business-unit profitability (Koys, 2001). One might expect similar effects at the organization level. Furthermore, we know that positive employee relations impacts customer satisfaction positively (e.g., Koys, 2001), which should enhance a firm's ability to cost effectively maintain its revenue levels (it is often less expensive to maintain existing customers than to generate new ones). And, finally, positive employee relations may also strengthen a firm's ability to attract and select better job applicants and to decrease voluntary turnover, resulting in a pool of more productive workers (increasing ROA) and reducing per-employee recruitment, selection, and training costs (increasing ROA).

A second financial performance measure, the ratio of market-to-book value of equity, combines both stock market and financial statement information. The denominator conceptually represents what the shareholders of the firm's common stock own based on the accounting value of assets and net of corporate debt and other liabilities at a given

point in time (such as the end of the fiscal year). The numerator is the collective market value of common stock held by shareholders at the same point in time. The external market valuation incorporates, among other things, any additional value assigned to the firm by the market that is due to intangible assets. Given two otherwise identical firms, one would generally expect a higher market value for a firm with intangible assets versus one without. Studies in the accounting, economics, and finance literatures have explored this market valuation phenomenon with respect to a number of other intangible assets (e.g., Brynjolfsson, Hitt, Yang, Baily, & Hall, 2002; Chan, Lakonishok, & Sougiannis, 2001; Ittner & Larcker, 1998).

Stock market returns for a given firm, which incorporate changes in stock price from one period to another and corporate dividend payments (if any), are affected by investor revisions in their valuation of companies from one period to another. These revisions can occur due to general economic or industry conditions or in response to firm-specific activities such as earnings announcements, a takeover bid, corporate scandal, and so forth. How might positive employee relations affect stock returns? To the extent that positive employee relations is viewed as beneficial to the firm in the future *and* where news about a firm's positive employee relations is new information to investors, the stock price will subsequently adjust to reflect the incremental value of this information. Later, investors may revise their estimates of the value of this asset if they come to expect that it will be more or less beneficial to future cash flows than previously thought, which would also affect returns. Alternatively, positive employee relations can have an indirect, but important effect on stock returns by contributing to current earnings-related information that is incorporated in stock prices.

In summary, positive employee relations is expected to have a positive effect on firm-level accounting and market performance. Given that it is difficult to interpret any of these measures without comparing them to measures from other firms and, also, that we are interested in competitive advantage accruing to firms with strong employee relations, relative performance is ultimately what is of the greatest interest. Consequently, we expect that:

> *Hypothesis 2*: Companies included on the 100 Best list will exhibit better performance relative to other companies because of their emphasis on employee relations.

Although we expect that 100 Best companies will exhibit generally superior performance, performance measures may capture this in different ways due to the fact that they originate from different sources. Sustained superior employee relations would likely result in company-

reported ROA that is persistently higher for 100 Best than comparison firms across time. Superior relative ROA could, in turn, be reflected to some degree in subsequent market-based measures, particularly if investors expect the good performance to continue. The market-to-book value of equity ratios and stock returns would also be affected by the informational content of the 100 Best list itself and the market's expectations about how much employee relations will impact future performance. The 1998 *Fortune* 100 Best list was not the first or only attempt at publicizing firms with good employee relations (e.g., Levering & Moskowitz, 1993), and some of the 100 Best were probably known to be good companies to work for through other news sources. Even assuming that the publication of the list did offer new information to the market, it is difficult to ascertain precisely when this information would have become widely known; advance notice that this list was forthcoming could have filtered out to the market prior to the publication date (Filbeck & Preece, 2003).

Notwithstanding these issues, it is likely that the 1998 list did provide the market with some measure of new information by identifying new companies and confirming existing companies with superior employee relations. The *Fortune* article containing the list not only ranks the companies but also details company-specific workplace practices thought to contribute to employer reputation. This company-specific information may have provided new information, even for companies that had been an earlier list published in a 1993 book (Levering & Moskowitz, 1993), because company practices highlighted in 1998 and in the 1993 book were not necessarily the same. Perhaps even more important from an informational standpoint, the 1998 100 Best list was unique in that company ratings were derived largely on the basis of employee survey responses; this insider perspective was particularly novel at that time and likely would have been considered news by the market.

We would then expect to see persistently superior relative ROA across a number of years preceding and subsequent to the list publication year. To the degree that high relative ROA influences market perceptions of the value of the firm and is expected to continue in the future, one might expect that the 100 Best would generally have higher subsequent market-to-book value of equity ratios versus peers with average employee relations. In addition, any new information about firms' good employee relations provided by the publication of the 100 Best list would also be incorporated into market-based measures such that we would be especially likely to see higher market-to book ratios and annual returns for the 100 Best versus peers in 1998 (following list publication in January 1998), and possibly in the preceding year (1997) if information about the list was known to the market prior to publication. Once market

values adjust to reflect information about a new intangible asset (good employee relations), we would expect to see higher market-to-book values compared to peers in subsequent years (post-1998) as well. Thus, we consider the following hypothesis:

> *Hypothesis 3*: The superior performance of 100 Best firms relative to other companies as captured by ROA will be more persistent over time than superior performance as measured by market-to-book value of equity or by annual stock returns.

Method

Sample

The January 12, 1998 *Fortune* article "The 100 Best Companies to Work for in America" (Levering & Moskowitz, 1998) was the source of the "best companies" that are the focus of this study. Two hundred thirty-eight companies were invited to submit information supporting inclusion in the 100 Best. This particular group was selected by the authors, Levering and Moskowitz, from their own "database of more than 1,000 companies" because they met certain minimum criteria (firms had to have been in existence for at least 10 years and employ a minimum of 500 people) and because they were considered the "most viable candidates for the list" (1998, p. 84). Of those invited, 161 agreed to participate.

Each participating company was asked to distribute to 225 randomly selected employees (see Appendix A for suggested random selection procedure provided to companies) a 55-item attitude survey called the Great Place to Work® Trust Index©(created by the Great Place to Work®Institute), which was designed to measure a broad range of attitudes, including credibility, respect, fairness, pride, and camaraderie (survey length, dimensionality, and sample items available at www.greatplacetowork.com). Once they identified the sample group, companies were responsible for sending out the questionnaire packets, which contained a preaddressed and stamped envelope to return the questionnaire directly to the data processor (not to anyone at the company). Thus, the surveys were both confidential and anonymous to the company. As a follow-up step, the authors also asked the company contacts for information about how the companies generated their random samples (i.e., by social security number, employee ID, etc.) and how they distributed the questionnaires (e.g., by internal mail, regular mail, etc.). Finally, they compared the demographics of the final survey responses to the demographics reported in an independent survey to determine if there were any sampling irregularities. Each company was also asked

to complete the People Practices Inventory (PPI), a 29-page, company-level questionnaire designed by Hewitt Associates, a management consulting firm.

The response rate on the employee survey was good (58%), resulting in a sample size of over 20,000 employee attitude surveys. About 40% of employees also included handwritten comments. The employee survey was weighted 100 points out of a total of 175 points; the Hewitt company survey, combined with company-submitted information, was weighted 55 points. The remaining 20 points were allocated based on an evaluation of handwritten comments added by employees to the employee survey. Relative total ratings (out of a possible 175 points) were used to select the 100 Best (Levering & Moskowitz, 1998). Note that the employee survey accounted for 120 out of 175, or almost 70%, of the points in this selection process.

Using the 100 Best list as a starting point for the analyses of financial performance, we then eliminated privately held companies, nonprofit organizations, public utilities, and financial institutions from our analysis. The first two categories were excluded due to the nonavailability of financial information and stock returns data. The latter two categories are commonly either excluded or examined separately in studies of financial performance in corporate finance (e.g., Loughran & Ritter, 1997) primarily because firms in these industries use different financial reporting practices, rendering some of their financial performance measures incomparable to those of other firms. In one case, a company included on the 100 Best Companies list was not publicly traded but was a division of a firm that was. Because the division contributed substantially to the overall sales of the parent (over 60% of total sales was from this division), we substituted the parent company in the analysis. To be included in the study, we required that each of the 100 Best companies have Compustat data available in the matching year (1997, the year prior to publication) to facilitate selection of a matching company. Our final sample consisted of 50 companies from the January 1998 100 Best list. Table 1 describes the industry breakdown of firms included in this study.

To select a set of firms with which to compare the 100 Best companies, we adapted a control firm matching procedure suggested by Barber and Lyon (1996, 1997) and used by Loughran and Ritter (1997). The goal of this procedure was to find for each 100 Best company a comparison firm that was the closest suitable match, given a set of constraining criteria. Like the 100 Best, matching firms could be listed on the NYSE, the AMEX, or NASDAQ. We required that matching firms not ever been on any annual list of 100 Best companies, up through and including the January 2000 list. The primary criteria used to select company matches were industry, size, and operating performance in the matching year. Poten-

TABLE 1

"Best Companies" Included in Study By Industry Classification
(2-digit Compustat SIC Code)

Industry	2-digit SIC code	Number of companies in industry
Food and kindred products	20	4
Chemicals and allied products	28	6
Stone, clay, glass and concrete products	32	2
Industrial and commercial machinery and computer equipment	35	8
Electronic and other electrical equipment/ components, except computers	36	6
Business services	73	7
Other		17
Totals		50

Note: The 2-digit SIC code is provided here for general information about the broad industry breakdown of the sample. The matching algorithm (described in Appendix B) actually matched companies on more specific (4- or 3-digit) SIC codes wherever possible (39 firms were matched on 4- or 3-digit SIC codes; 11 were matched on 2-digit SIC codes).

tial matches were first chosen based on industry and size; the final match was then chosen from the resulting pool based on operating income (the firm with the closest operating income to the target in the matching year was selected as the matched firm). See Appendix B for details about the procedure used to select matching companies.

Validity of the 100 Best List

An important assumption in our study is that the companies on the 100 Best list do have exemplary employee relations, a task we set out to verify. The 1998 list was chosen primarily on the basis of a large-scale ($n > 20,000$ responses), multi-item, employee attitude survey, the Great Place to Work® Trust Index©. These particular attitude data are proprietary and unavailable to us.

However, we were able to gain access to data on six employee attitude survey items that were collected at each of the applicant companies, but which were not used to select the 100 Best. The six items are:

- I have appropriate opportunities to participate in problem solving. (5-point scale)
- I have appropriate opportunities to participate in decision making. (5-point scale)
- There are great opportunities here to collaborate with people I find interesting and stimulating. (5-point scale)
- If you have your way, how likely are you to be working at this organization 1 year from now? (6-point scale)

- If you have your way, how likely are you to be working at this organization 5 years from now? (6-point scale)
- If the organization successfully achieves its goals, how confident are you that you will achieve your personal goals as a member of this organization? (6-point scale)

Examination of the psychometric properties of the 6-item scale reveals an average interitem correlation among the six items of .582 at the individual level of analysis ($n = 18{,}021$) and .750 at the organization level of analysis ($n = 153$). The corresponding coefficient alphas are .874 and .938, both indicating substantial internal consistency reliability.

The point-biserial correlation between this 6-item scale and whether a firm that applied to be on the 1998 100 Best List was selected to appear on the list is .67 ($n = 153$). This suggests to us that using 55 items, as did the full survey actually used to select the 100 Best, would likely yield a substantially higher point-biserial correlation than .67. In other words, .67 is probably a *lower bound* for the actual correlation between 100 Best list membership and employee survey results.

For one of the six items (which had a mean score based on 11,497 employees in the 100 Best companies of 5.65 on a 6-point scale), we were able to obtain comparable normative data from two sources: Hewitt Associates ($n = 170{,}868$ employees) and the Gallup Organization ($n = 1{,}000$ employees). This item was: "If you have your way, how likely are you to be working at this organization 1 year from now?" ($6 = very$ $likely$, $1 = not\ likely\ at\ all$). The Hewitt item was identical to the item administered to employees at the 100 Best companies. The Hewitt sample is based on employee responses from client organizations. The Gallup item differs somewhat from the item administered to the 100 Best companies and the Hewitt item, but is similar in its focus: "Plan to be with the company a year from now?" (2-point scale with $1 = yes$, $0 = no$). The Gallup data come from a nationally representative sample of employed adults aged 18 and older (Gallup, 2001). Because the Gallup norm is a positive/negative response, the 100 Best responses were transformed to a proportion, with responses on the positive side of neutral (i.e., 4, 5, or 6) being coded yes (i.e., as 1) and remaining responses (1, 2, or 3) being coded no (i.e., as 0). The 100 Best mean on this recoded dichotomous item was 94.5%, versus a mean of 61.3% for the Gallup norm.

To compare the 100 Best responses to the Hewitt and Gallup norms, we used the d statistic, an effect size statistic equal to the difference between means divided by the standard deviation. According to Cohen (1992), a d of .20 indicates a small effect size, .50 a medium effect size, and .80 a large effect size. Comparing the 100 Best mean to the Hewitt norm and to the Gallup mean yields effect sizes of .59 and 1.28, respectively. The mean of these two d statistics is .94, a large effect size. Note

that this d is based on a single item. It is likely that d would be larger if based on the multi-item employee survey that was actually used as a major factor in assigning companies to the 100 Best list, as the multi-item survey would be more reliable.

We conducted additional analyses by breaking the 100 Best companies into 10 ranks (companies ranked 1 to 10 were in Rank 1, companies ranked 11 to 20 were in Rank 2, and so forth). Those companies not on the list were placed in a separate rank. We then entered these 11 rank categories as a class variable in an ANOVA and used them to predict both the single employee survey item and the 6-item scale. We obtained the following Rs: Single-item .632; 6-item scale .760. Treating the 100 Best list and the 6-item measure as alternate forms of a measure assessing the same construct, a satisfactory degree of reliability is observed (Nunnally & Bernstein, 1994, suggest .70 as an acceptable minimum standard). Alternatively, the .760 might instead be seen as a convergent validity, given that the methods are not the same.

The question of whether the companies on the 100 Best list are really "best" can also be approached analytically. Drawing on the properties of the normal distribution, we can estimate how a sample that is selected based on a particular cut score will differ from the mean of the population. Assume that variable x has a normal distribution and that the p percent highest scoring observations are selected for inclusion in a sample, and that c is the cutoff score (in standard score terms). Then, the mean standard score of those selected for inclusion in that sample is given by (Hunter & Schmidt, 1990, p. 133):

$$Z_x = \frac{1}{p} \times \frac{1}{(2\pi)^{\frac{1}{2}}} \times exp\left(-\left(\frac{c^2}{2}\right)\right)$$

As noted in our description of the selection of the 1998 Best Companies, 238 companies were invited to submit materials supporting their inclusion in the 100 Best. With 100 out of these 238 companies having been selected for the list, $p = .42$, which yields a $Z = .93$. In other words, our estimate would be that the 100 Best set of companies would be .93 standard deviations above the mean of the population (i.e., a $d = .93$) on variable x, which is close to the $d = .94$ estimate obtained above. Even using only the subsample ($n = 161$) of companies choosing to participate (presumably a self-selected subsample having better employee relations than those choosing not to participate) yields a $Z = .61$.

Although these analyses do not assure that the 100 Best companies had better employee relations and employee attitudes than companies in the two company peer groups used for comparing financial performance, we believe that the evidence presented above makes a compelling case. The companies in the broad market index and the matched companies

used in this analysis were *not* selected on the basis of positive employee relations. Thus, there is no reason to believe that, as a group, they are anything but average on this dimension, whereas we have shown that the companies on the 1998 100 Best list are much better than average. We note that our approach, comparing companies that are above the mean on the independent variable to companies that are at the mean, is more conservative than the type of comparison that is sometimes used, which is to compare companies that are one standard deviation above the mean to companies that are one standard deviation *below* the mean.

Employee Attitude Measures

The majority of employee survey questions used in selecting the 1998 100 Best list were created and administered by the Great Place to Work Institute® of San Francisco and this instrument is referred to as the Great Place to Work® Trust Index©. This group has administered the employee survey each year since 1998 for *Fortune*'s 100 Best list. The Great Place to Work Institute® has a Web site (www.greatplacetowork.com) which describes a number of sample items from the survey along with the dimensions they are intended to capture. Examples include:

Credibility
- Communications are open and accessible
- Competence in coordinating human and material resources
- Integrity in carrying out vision with consistency
- Management keeps me informed about important issues
- People around here are given a lot of responsibility

Respect
- Supporting professional development and showing appreciation
- Collaboration with employees on relevant decisions
- Caring for employees as individuals with personal lives
- Management involves people in decisions that affect their jobs or work environment
- Employees offered training and development to further themselves professionally

Fairness
- Equity—balanced treatment for all in terms of rewards
- Impartiality—absence of favoritism in hiring and promotions
- Justice—lack of discrimination and process for appeals

Pride
- In personal job, individual contributions
- In work produced by one's team or work group
- In the organization's products and standing in the community

Camaraderie
- Ability to be oneself
- Socially friendly and welcoming atmosphere
- Sense of "family" or "team"

Financial and Market Measures

Accounting performance. Return on assets (ROA) is calculated as net income divided by the average of total assets at the end of the previous year and at the end of the current year. ROA measures the efficiency with which a firm utilizes its current assets in place. The market-to-book ratio is the number of common shares outstanding at the end of the year (i.e., the number used to compute earnings per share) times the closing price, divided by the book value of common shareholders' equity. This ratio gives a sense of the market's perception of the value of a company relative to the accounting measure of equity and, thus, is considered an indicator of anticipated future profitability (e.g., Loughran & Ritter, 1997). All financial ratios are on a fiscal year-end basis. Financial information used for matching and to form accounting ratios was taken from the annual database of Standard & Poor's Compustat.

Stock returns. Stock returns data are obtained from the Center for Research in Security Prices (CRSP). Stock returns for a given firm are computed by CRSP as simple returns, which, when measuring long-term return performance, are preferable to continuously compounded returns (Barber & Lyon, 1997). Annual returns are on a calendar year basis; dividends (if any) are reinvested at month end. Portfolio returns (annual and cumulative) are computed as the equally weighted average of the returns for each of the stocks in the portfolio. Annual and cumulative returns are computed for both 100 Best and matched portfolios; in addition, annual and cumulative returns are computed by CRSP for the broad stock market using the CRSP value-weighted NYSE-AMEX-NASDQ index compounding over the appropriate number of holding periods. Returns for this index proxy returns for the stock market as a whole.

Analyses

Employee Attitudes

To assess stability in the employee attitude levels of companies in our sample, we used 2 years of data on the single attitude item described earlier, "If you have your way, how likely are you to be working at this organization 1 year from now?" (6 = *very likely*, 1 = *not likely at all*).

This item was included on the survey, but not used in the selection process. The first year of data was based on the sample used to generate the 1998 *Fortune* list. The second year of data, collected 1 year later, was collected on the sample used to generate the 1999 *Fortune* list. In both samples, we used all companies reporting data, not just those that made the 1998 *Fortune* list, in order to increase our sample size. We also included privately held companies in the stability analysis (even though they could not be included in our later comparisons of financial performance), again to increase sample size. We computed intraclass correlations (Shrout & Fleiss, 1979) to estimate reliability of company level attitude means within each sample year. We then estimated the test–retest correlation for the company level mean for that item across years.

Accounting and Stock Market Performance

We analyzed financial (accounting) performance and stock returns for 3 years prior to the publication of the list, the publication year itself, and subsequent years through and including 2000. Thus, 1995 through 2000 was our analysis period.

Adapting a methodology sometimes used for long-term event studies (Loughran & Ritter, 1997), we analyzed annual and multiyear comparisons between the 100 Best portfolio and the market index (for stock returns) and between the 100 Best portfolio and the matching firm portfolio (for stock returns and accounting ratios). We adapted this design because it allowed us to choose a matched firm at a point close to the announcement of the 100 Best list and then look backward in time to see what performance differences might have existed that predated and, thus, would have been uninfluenced by inclusion on the list. Though not of primary interest to us, such a design could also shed some light on whether there is a financial performance "halo" influencing selection to the list of The 100 Best Companies to Work for in America, as has been found to be the case with other notable lists (Brown & Perry, 1994). We were also able to look forward prospectively from list publication to see if prepublication patterns were sustained in subsequent years.

We opted to use this approach (comparing firms on the list to those not on the list) instead of comparing 100 Best ranking with financial performance among the 100 Best for two reasons. First, using rankings to predict performance does not allow us to control for variables such as industry, firm size, and so on, that may also have effects on performance. In addition, from an applied standpoint, we are less interested in the incremental value of small differences in employee attitudes among companies who are already leaders in employee relations (within group differences) and more interested in the effect of having great employee

relations as compared to merely average employee relations (between group differences).

Nonparametric statistical tests are recommended where the analysis variables are accounting ratios due to the typical nonnormality of these ratios (e.g., Barber & Lyon, 1996). Consistent with other studies using similar methodology (e.g., Loughran & Ritter, 1997), we utilized the Wilcoxon signed-rank test. Monthly stock returns are relatively normally distributed (Fama, 1976); consequently, standard t-tests were used to test for statistical significance.

Results

Employee Attitudes

There were 111 companies reporting data on the single attitude item ("If you have your way...") for both years. Our first step was to estimate the intraclass correlation (Shrout & Fleiss, 1979) of the single employee attitude item for the 1998 and 1999 samples ICC(1,1), the estimated reliability of a single employee response, was .056 for 1998 and .037 for 1999. Our interest here, however, is in the reliability of the company average employee attitude (group-level mean), thus, the ICC(1,k) is more relevant (Glick, 1985). Even in the presence of low ICC(1,1) levels, reliable group-level means may be obtained with sufficiently large group sizes (Bliese, 1998). With an average of 136 employee responses per company, the ICC(1,k = 136) was .890 in Year 1 and .839 in Year 2. These ICC(1, k) estimates indicate that firms can be reliably differentiated with respect to their mean employee attitude, a key indicator of employee relations.

Next, we obtained the test–retest correlation of mean company employee attitude to directly examine stability. Based again on 111 companies, the correlation between the 1998 and 1999 surveys (i.e., a 1-year interval) was .65, which shows substantial stability. One factor to recognize in interpreting this correlation is that it is attenuated due to range restriction. Based on the sample of 111 companies, the mean of the company attitude means in 1998 was 5.51 with a standard deviation of .29. Companies on the 100 Best list had a mean of 5.64, $SD = .21$. Those not on the list had a mean of 5.30, $SD = .31$. (F statistic for the difference is 43.08, $p < .0001$, point-biserial correlation between attitude mean and whether on the list or not is .53). To estimate the correlation in the absence of range restriction, one needs a good estimate of the unrestricted population standard deviation estimated at the company level of analysis. That is not readily available. However, to illustrate the potential effect of range restriction, consider that Ostroff (1992), in a large

multiorganization sample and using an organization-level analysis, reported a mean of 3.23 and a standard deviation of .28 (on a 5-point scale vs. our 6-point scale) for her measure of employee satisfaction, or a standard deviation to mean ratio of .087. If our standard deviation had likewise been .087 times our mean of 5.51, that would imply a standard deviation of .48, rather than our observed .29. For sake of illustration, using .48 as the population standard deviation estimate and .29 as the restricted sample standard deviation estimate would yield, using Cohen and Cohen's range restriction correction formula (1983, p. 70), an estimated test–retest correlation of .94.

In addition, it is informative to assess stability by examining the change in mean employee attitude over the 1-year interval. For each company, we computed the raw change in its mean employee attitude from 1998 to 1999. The mean ($n = 111$) was –.01. Because some companies no doubt increased and other decreased, raw changes may have offset each other. Thus, we also computed the absolute value of the change in mean employee attitude from 1998 to 1999. As expected, this yielded a higher sample mean, .17 ($n = 111$). However, dividing .17 by the beginning (1998) mean of 5.51 indicates that the mean absolute change was only 3% across companies. This small change again suggests very strong stability of employee attitude.

Taken together, these analyses provide support for Hypothesis 1. It is important to recall that this significant stability was found despite using only a single employee attitude item in these analyses. It seems quite possible that a multi-item employee survey, like the Trust Index© used in selecting the 100 Best list, would exhibit substantially higher stability.

Firm Performance—Accounting Measures and Stock Returns

We present median values of the accounting ratios for both the 100 Best group and the matching group in Table 2. Significantly higher ROA was noted for the 100 Best in 1997 and 1998, and marginally higher ratios in 1999 and 2000. We note that for 1997, the matching year, ROA is significantly different. Because the matching procedure included as one of the matching criteria an operating performance measure similar to ROA, there would ideally be a nonsignificant difference in 1997 (the matching year). However, because the operating performance measure was the last hurdle in the match screening process (after industry and firm size matching), the fact that such a difference remains suggests that many of the "best companies" on the 1998 100 Best list simply performed better than all others in their matching pool based on just industry and size. In these instances, even though the next closest performer was selected for the match, the differences were apparently large enough and

TABLE 2

Median Return on Assets, Market-to-Book Ratios, and Z-Statistics Testing the Equality of Distributions Using the Wilcoxon Matched-Pairs Signed Ranks Test For Selected Companies in the Fortune "100 Best Companies to Work for in America," published January 12, 1998, and Matching Companies 1995–2000

	Portfolio median return on assets			Portfolio median market-to-book ratio		
Year	100 Best	Matched firms	Z statistic	100 Best	Matched firms	Z statistic
1995	9.86%	7.11%	0.41	3.69	2.64	0.92
1996	10.09%	8.17%	0.96	4.20	3.05	1.57
1997	10.78%	7.76%	3.23**	4.91	3.18	2.49*
1998	9.03%	6.65%	2.66**	4.34	2.32	2.62**
1999	9.15%	7.64%	1.76†	4.43	2.77	2.23*
2000	7.93%	6.96%	1.68†	5.40	2.17	2.34*

Note: Sample sizes range from 43 to 50 for ROA, and 39 to 48 for market-to-book ratio as result of missing data and delisting due to mergers, etc., with generally smaller sample sizes in later years.
†$p < .10$ *$p < .05$ **$p < .01$

numerous enough to influence the significance of the group comparison in that year. ROA was not significantly different between the 100 Best and matched groups prior to 1997. The results here suggest that the 100 Best firms do have better profitability than matched firms in most of the years compared.

Market-to-book ratios were significantly higher among the 100 Best in 4 out of 6 years. The dominance of market-to-book ratios seems to indicate that the marketplace values 100 Best firms more highly relative to their book value of equity than it does their industry- and size-matched peers.

Table 3 presents annual and cumulative stock returns (total shareholder returns) over various periods. The top half of the cumulative returns table shows the comparison between our subset of 100 Best firms and the broad market index. The lower half of the cumulative returns table shows the comparison between the 100 Best firms and their matched firms. Similarly, for annual returns, the top half of the table compares the 100 Best to the broad market and the lower half compares the 100 Best with matching firms.

All cumulative returns of the 100 Best portfolio are significantly higher than those for the broad market index during the same time periods. The magnitude of the significant differences between cumulative returns is substantial. Indeed, Table 3 indicates that the forty-five 100 Best list companies with stock returns information for all years had a total return during the 1995–2000 period of 376%, compared with 193% for the broad market index, an advantage of 183 percent-

TABLE 3

Selected Cumulative and Annual Returns For Selected Companies in the Fortune "100 Best Companies to Work for in America," published January 12, 1998, the CRSP NYSE/AMEX/NASDAQ Value-Weighted Index, and Matching Firms

| | Cumulative returns | | |
| | Mean cumulative total shareholder return for portfolio | | |
	1995–1997	1998–2000	1995–2000
100 Best companies	156.6%	82.2%	376.4%
Value-weighted index	114.7%	36.5%	193.0%
Difference	41.9%	45.7%	183.4%
t-statistic	2.15*	2.13*	2.53*
n	47	46	45
100 Best companies	166.0%	88.7%	421.1%
Matching firms	117.7%	52.7%	246.8%
Difference	48.3%	36.0%	174.3%
t-statistic	1.76†	1.05	1.64
n	40	39	33

| | Annual returns | | | | | |
| | Mean annual total shareholder return for portfolio | | | | | |
	1995	1996	1997	1998	1999	2000
100 Best companies	40.9%	39.9%	27.6%	24.9%	37.8%	7.4%
Value-weighted index	35.7%	21.3%	30.4%	22.5%	25.1%	−11.0%
Difference	5.2%	18.6%	−2.8%	2.4%	12.7%	18.4%
t-statistic	0.90	3.27**	−0.57	0.37	1.18	2.66*
n	47	47	49	50	48	46
100 Best companies	41.6%	38.2%	27.6%	25.8%	39.2%	4.3%
Matching firms	47.0%	31.8%	19.6%	7.2%	33.5%	4.7%
Difference	−5.4%	6.4%	8.0%	18.6%	5.7%	−0.4%
t-statistic	−0.62	0.67	1.18	2.37*	0.45	−0.04
n	42	45	49	49	46	39

†$p < .10$,   *$p < .05$ **$p < .01$

age points or 95%. Analyses in the lower half of the cumulative return table indicate that the 100 Best were marginally better performers than matched firms in the 3-year period prior to the announcement of the 1998 list: 166% versus 117.7% ($p < .10$). Differences in other cumulative return comparisons were in the predicted direction but not significant, although the 1995–2000 cumulative return was nearly so ($p = .1091$).

With respect to annual returns relative to the broad market index, the 100 Best were significantly better performers in 1996 and 2000. Compared to the matched firms, the 100 Best had higher returns (25.8% vs. 7.2%) in 1998, following the January publication of the 100 Best list.

In summary, the results of the financial performance and stock returns analyses are generally supportive of Hypothesis 2, particularly for financial ratios and cumulative stock returns. Financial performance as

measured by ROA and market-to-book value of equity is generally better among the 100 Best than their matched peers, with significant differences in 4 out of 6 years. Cumulative stock returns of the 100 Best relative to the broad index are significantly better. Relative to the matched portfolio, performance of the 100 Best is marginally significantly better ($p < .10$) over the 1995–97 period. As for annual returns, although the 100 Best are not in any year significantly worse than the broad market or their matched peers, the 100 Best are significantly better only in sporadic years.

These results are partially supportive of Hypothesis 3, which proposes differential effects on accounting and market performance measures. To be supported, effects of sustained superior employee relations would be reflected in ROA of the 100 Best for several years before and after list publication, whereas the strongest effects on measures like market-to-book value of equity and stock returns would be expected around the time of list publication (to the degree the publication of the list contains new information) and later (for market-to-book value of equity). Based on our statistical significance tests, ROA and market-to-book value of equity are both significantly higher for 100 Best versus peers in the same four years, 1997–2000, and although differences are in the predicted direction, ROA is not higher compared to peers in 1995 and 1996, contrary to Hypothesis 3. The observation that ROA and market-to-book value ratios seem to move together (i.e., are significantly better in the same years) could be due to the market recognizing and rapidly incorporating the superior operating performance of these firms into the stock price. It is also possible that significant market-to-book ratios in 1997 could be due to the market having information about firms with good employee relations from sources pre-dating the publication of the 100 Best list, or that market values were reflecting advance news of the January 1998 list that may have become available in late 1997. Hypothesis 3 is supported in the sense that, compared to matched firms, median ROA for the 100 Best group is more consistently superior across time than are annual stock market returns. ROA is higher for the 100 Best in 4 of 6 years, although annual stock market returns versus matched firms are only higher in 1998. This finding (superior annual returns in 1998) is not inconsistent with the Hypothesis 3 logic that announcement of the 100 Best list was informative over and above any prior information the market may have had about firms' employee relations.

Post hoc analyses were employed to attempt to tease out issues of causality. We regressed postannouncement performance on preannouncement performance, and retained the residuals. If preannouncement performance affected selection to the list through effects on at-

titudes, these "cleaned" postannouncement residuals should not differ between 100 Best and matched firms. We then attempted to repeat our analyses using residualized ratios and returns. Unfortunately, due to a lack of requisite years' longitudinal data for many firms, those results were largely inconclusive (i.e., sample sizes were generally too small to enable us to rule out the possibility that any nonsignificant differences were due to low power. See Koys, 2001, for further evidence on the causality at the facility level of analysis.) In any event, our analysis runs the risk of overpartialling if it is the case that previous financial performance is endogenous to previous employee relations.

Discussion and Future Directions

To examine whether having an attractive workplace is related to sustained superior organizational performance, we consider companies included on the list of 100 Best Companies to Work For in America in comparison with two sets of other companies, a matched group and the broad market of publicly traded firms. We find that organization-level employee attitudes of the 100 Best firms are both highly positive and stable over time (supporting Hypothesis 1), bolstering the case for the characterization of positive employee relations as strategic assets as described in the strategic management literature. We then find that accounting ratios (ROA and market-to-book value of equity) of publicly traded companies included on the 100 Best list are generally better than those of a matched comparison group, supporting Hypothesis 2 and establishing a link between employee attitudes and organization-level financial performance, which has previously been unstudied. As for stock returns, we find that the 100 Best companies outperform the broad market when considering cumulative (longer-term) returns, though not consistently for annual returns. We do not find that the 100 Best significantly outperform their matched peers in most annual returns comparisons other than 1998; they do outperform their peers in the 1995–1997 cumulative return period. Taken together, these results suggest that 100 Best companies are able to successfully manage relationships with multiple stakeholder groups (Freeman, 1984; Jones, 1995), in this case, both employees and shareholders. At a minimum, these companies are able to create attractive workplaces without hurting the bottom line, and in many cases the 100 Best exhibit superior performance. Our hypothesis that different measures of performance would be affected differently over time is partially supported (Hypothesis 3). For the 100 Best versus peers over time, similar patterns are observed for superior ROA performance and higher market-to-book value of equity, but superior annual stock returns are less frequently seen. This analysis illustrates the point

that various measures of performance may be differentially affected by a similar phenomenon.

Our study is the first to demonstrate a connection using *firm-level* data between the strategy of developing an attractive workplace (the success of which is judged primarily by employees themselves) and having financial performance that is as good, and often substantially better than that of competitors. That this subset of companies from the 1998 100 Best list performed better than other companies provides, to our knowledge, the strongest evidence to date of a direct positive link between employee relations and employee attitudes and financial performance at the firm level. Being an attractive employer may create an important intangible asset, positive employee relations, that differentiates firms in a value-producing way. At the very least, our study finds no evidence that positive employee relations comes at the expense of financial performance. Firms can have both. In fact, our study demonstrates that an investment portfolio constructed on the basis of employee relations in 1998 (i.e., whether a company was on the 100 Best list) would have yielded significantly superior cumulative investment returns over the broad market in subsequent years (82% vs. 37% over 1998–2000 in our subset of 100 Best firms).

Having found a link between being an attractive employer and financial performance, it is constructive to think about what the next steps might be in this line of research. This study is the first that we know of that has attempted to validate whether the 100 Best are indeed better than other firms when it comes to employee relations. Given the many attractive features of the 100 Best selection process (large employee sample, repeated annually, etc.), future researchers would benefit from continuing to study and validate this process in greater detail. In addition, it would be useful to understand which specific organizational practices contribute most to workplace attractiveness. For example, although the high performance/high involvement work systems paradigm (e.g., Batt, 2002; Ichniowski, Shaw, & Prennushi, 1997; Mac-Duffie, 1995) has identified a range of HR practices that may be beneficial, there is a lack of consensus regarding which of these practices is most relevant (Becker & Gerhart, 1996; Godard & Delaney, 2000). In addition, there is, as of yet, little systematic evidence on how these practices actually relate to key employee attributes such as attitude. Although it seems reasonable that aggregate employee attitudes, like other workforce characteristics such as firm-specific skills and behaviors, are impacted by HR practices, the intervening mechanisms by which this occurs are not yet well understood.

Another obvious domain for further exploration is the search for the intervening processes whereby workforce attitudes affect financial

performance. Our study demonstrates a relationship and our prior discussion suggests some likely avenues, but the explication of the specific mechanisms at play is left to future studies. Is this linkage accomplished by way of in-role job performance, through extra-role behaviors such as being a good organizational citizen, or through increases in even more discretionary behaviors such as innovation and knowledge-sharing? To what extent do good employee relations ultimately improve workforce quality (e.g., through retention of experienced employees and/or through reputational effects on recruitment) and what is the impact of improved workforce quality on performance?

Answering these questions will depend on designing studies (or a series of studies) that document the key mediating variables between organizational practices (such as HR practices), employee attitudes, and firm performance and, once established, identifying potential moderators in these relationships (Becker & Gerhart, 1996; Becker & Huselid, 1998). The findings of our study provide an important step in this direction, suggesting that differences in workplace attractiveness and workforce attitude play a key role in generating differences in firm performance.

In terms of methodology, we drew from both psychology and strategic management "traditions," which enabled us to effectively link what are commonly thought of as relatively microlevel phenomena (i.e., employee attitudes) with organization-level outcomes. Capitalizing upon the fact that the 100 Best selection process utilizes multiple respondents from each firm, we were able to develop a highly reliable measure of firm-level employee relations, thus overcoming the measurement error problem that has typically plagued studies of the relationship between HR practices and business performance (Gerhart, Wright, McMahan & Snell, 2000). Our use of a longitudinal design strengthens our confidence in the causal direction of the relationship between employee relations and firm performance. In addition, we drew heavily from the finance literature in our effort to isolate the influence of employee relations on firm performance, while controlling for other firm characteristics that could influence performance; we found it helpful to capitalize on a previously established methodology in our study given the importance of choosing good matches for our comparisons. We encourage researchers to consider whether integrating methodologies not only from different perspectives within management but also from fields outside of management might be useful in future research.

REFERENCES

Barber BM, Lyon JD. (1996). Detecting abnormal operating performance: The empirical power and specification of test statistics. *Journal of Financial Economics, 41*, 359–399.

Barber BM, Lyon JD. (1997). Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of Financial Economics, 43,* 341–372.

Barney JB. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17,* 99–120.

Bateman TS, Organ DW. (1983). Job satisfaction and the good soldier: The relationship between affect and employee citizenship. *Academy of Management Journal, 26,* 587–595.

Batt R. (2002). Managing customer services: Human resource practices, quit rates and sales growth. *Academy of Management Journal, 45,* 587–297.

Becker B, Gerhart B. (1996). The impact of human resource management on organizational performance: Progress and prospects. *Academy of Management Journal, 39,* 779–801.

Becker B, Huselid MA. (1998). High performance work systems and firm performance: A synthesis of research and managerial implications. In Ferris GF (Ed.), *Research in personnel and human resources,* (Vol. 16, pp. 53–101). Greenwich, CT: JAI Press.

Bliese PD. (1998). Group size, ICC values, and group-level correlations: A simulation. *Organizational Research Methods, 1,* 355–373.

Branch S. (1999, January 11). The 100 best companies to work for in America. *Fortune,* 118–144.

Brayfield AH, Crockett WH. (1955). Employee attitudes and employee performance. *Psychological Bulletin, 52,* 396–424.

Brown B, Perry S. (1994). Removing the financial performance halo from *Fortune*'s "most admired companies." *Academy of Management Journal, 37,* 1347–1359.

Brynjolfsson E, Hitt LM, Yang S, Baily MN, Hall RE. (2002). Intangible assets: Computers and organizational capital. *Brookings Papers on Economic Activity, 1,* 137–198.

Chan LKC, Lakonishok J, Sougiannis T. (2001). Stock market valuation of research and development expenditures. *The Journal of Finance, 56,* 2431–2456.

Cohen J. (1992). A power primer. *Psychological Bulletin, 112,* 155–159.

Cohen J, Cohen P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences.* Hillsdale, NJ: Erlbaum.

Dierickx I, Cool K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science, 35,* 1504–1511.

Fama E. (1976). *Foundations of finance.* New York: Basic Books.

Filbeck G, Preece D. (2003). *Fortune*'s 100 best companies to work for in America: Do they work for shareholders? *Journal of Business Finance and Accounting, 30*(5/6), 771–797.

Fishman C. (1998, August). The war for talent. *Fast Company.* Retrieved July 9, 2002, from www.fastcompany.com/online/16/mckinseyhtml.

Freeman RE. (1984). *Strategic management: A stakeholder approach.* Boston: Pitman.

Gallup. (2001). What your disaffected workers cost. *Gallup Management Journal, Spring,* 32.

Gelade GA, Ivery M. (2003). The impact of human resource management and work climate on organizational performance. PERSONNEL PSYCHOLOGY, 56, 383–404.

Gerhart B, Wright PM, McMahan GC, Snell SA. (2000). Measurement error in research on human resources and firm performance: How much error is there and how does it influence effect size estimates? PERSONNEL PSYCHOLOGY, 53, 803–834.

Glick WH. (1985). Conceptualizing and measuring organizational and psychological climate: Pitfalls in multilevel research. *Academy of Management Review, 10,* 601–616.

Godard J, Delaney JT. (2000). Reflections on the "high performance" paradigm's implications for industrial relations as a field. *Industrial and Labor Relations Review, 53,* 482–502.

Grant L. (1998, January 12). Happy workers, high returns. *Fortune,* 81.

Gubman E. (1998). *The talent solution*. New York: McGraw Hill.

Harter JK, Schmidt FL, Hayes TL. (2002) Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology, 87*, 268–279.

Hunter JE, Schmidt FL. (1990). *Methods of meta-analysis*. Newbury Park, CA: Sage.

Iaffaldano MT, Muchinsky PM. (1985). Job satisfaction and job performance: A meta-analysis. *Psychological Bulletin, 97*, 251–273.

Ichniowski C, Shaw K, Prennushi G. (1997). The effects of human resource management practices on productivity: A study of steel finishing lines. *The American Economic Review, 87*(3), 291–313.

Ittner CD, Larcker DF. (1998). Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of Accounting Research, 36* (supplement), 1–35.

Jones TM. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of Management Review, 20*, 404–437.

Judge TA, Bono JE, Thoresen CJ, Patton GK. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychological Bulletin, 127*, 376–407.

Kaplan RS, Norton DP. (1992, Jan./Feb.). The balanced scorecard—Measures that drive performance. *Harvard Business Review*, 71–80.

Koys DJ. (2001). The effects of employee satisfaction, organizational citizenship behavior, and turnover on organizational effectiveness: A unit-level, longitudinal study. PERSONNEL PSYCHOLOGY, *54*, 101–114.

Lau RSM, May B. (1998). A win–win paradigm for quality for work life and business performance. *Human Resource Development Quarterly, Fall*, 211–226.

Lev B. (2001). *Intangibles: Management, measurement and reporting*. Washington, DC: Brookings Institution Press.

Levering R, Moskowitz M. (1993). *The 100 best companies to work for in America*. New York: Currency/Doubleday.

Levering R, Moskowitz M. (1998, January 12). The 100 best companies to work for in America. *Fortune*, 84–95.

Levering R, Moskowitz M. (2001, January 8). The 100 best companies to work for in America. *Fortune*, 148–168.

Litan RE. (2000, May 25). Corporate disclosure in the internet age. *Financial Times*, 15.

Loughran T, Ritter J. (1997). The operating performance of firms conducting seasoned equity offerings. *The Journal of Finance, 52*, 1823–1850.

MacDuffie JP. (1995). Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review, 48*, 197–221.

Nunnally JC, Bernstein IH. (1994). *Psychometric theory*. New York: McGraw Hill.

Organ DW. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.

Organ DW, Ryan K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. PERSONNEL PSYCHOLOGY, *48*, 775–802.

Ostroff C. (1992). The relationship between satisfaction, attitudes, and performance: An organizational level analysis. *Journal of Applied Psychology, 77*, 963–974.

Ostroff C, Bowen DE. (2000). Moving HR to a higher level: HR practices and organizational effectiveness. In Klein K, Kozlowski S (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 211–266). San Francisco: Jossey-Bass.

Podsakoff PM, Ahearne M, MacKenzie SB. (1997). Organizational citizenship behavior and the quantity and quality of workgroup performance. *Journal of Applied Psychology, 82*, 262–270.

Porter ME. (1985). *Competitive advantage: Creating and sustaining competitive advantage.* New York: Free Press.

Ryan AM, Schmit MJ, Johnson R. (1996). Attitudes and effectiveness: Examining relations at an organizational level. PERSONNEL PSYCHOLOGY, *49*, 853–882.

Shrout PE, Fleiss JL. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin, 86*, 420–428.

Watson N. (2002, May 27). Happy companies make good investments. *Fortune*, 162.

Wernerfelt B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5*, 171–180.

Appendix A

Instructions Provided to Firms for Conducting a Random Sample

Guidelines for Selecting a Random Sample

To select the sample of employees, Hewitt Associates, the consulting firm assisting us with this project, suggests you follow the steps outlined below. This is an example, which needs to be revised based on your employee population size. (Consider U.S.-based employees only.) The example below assumes an employee population of 6,700. If your employee listing is computerized, your in-house system staff may be able to select the sample by computer. The first step is to obtain a list of all U.S.-based employees and ensure this list is randomly sorted. Often companies use Social Security number or employee ID number by which to sort the list. Then continue as outlined below.

The steps	For example
1. Divide the number of your total U.S. employee population by 225 (the number of surveys to be distributed). The resulting number is your "quotient."	Assuming your U.S. population is 6,700 employees, then the division would be 6,700/225 = 29.8.
2. If the quotient is a fraction, round it down to the next lower whole number.	Therefore, your quotient is 29.
3. Choose a number randomly between 1 and your rounded quotient.	Say you pick the number 5 (a number between 1 and the rounded quotient, 29).
4. Refer to the employee list arranged randomly. Count downward and start at the random number you selected. (That becomes the first participant on your list.)	The fifth employee on the list becomes the first selected participant.
5. From the first participant, count down the list to whatever your rounded quotient is. (That becomes the second participant on your list.)	The 34st employee (5 plus 29) becomes the second participant.
6. Continue the process of counting down by the quotient until you come to the end of the list. (The end is the name just before the first one you began with.)	Number 63 (34 plus 29) becomes the third participant. Number 92 becomes the fourth and so on until you reach the end of the list. You should end up with 225 employees chosen to receive a survey.

Appendix B

Method for Selecting Matching Firms

For the analysis of operating performance and stock returns, matching firms were selected for each of the "best companies" on the basis of (a) industry, (b) size, and (c) scaled operating performance. Financial data are as of the end of the year closest to the announcement of inclusion in the "best companies" list, that is, Compustat data year 1997. Compustat data items used for matching include: (a) industrial classification (SIC) code, (b) total assets, and (c) the ratio of operating income before depreciation to ending assets (OIBD/Assets ratio). We also eliminated as potential matches companies that have ever been included on any listing of "100 Best Companies to Work for in America" (through and including the January 2000 list). In addition, we also required that matching company securities be identified as corporate common shares in CRSP and that each company have returns data available at the time of the announcement of the 100 Best list.

Our primary concern was to select matching companies that were as similar to the 100 Best companies as possible on factors that might have an effect on relative performance, focusing primarily on industry, then on firm size, and lastly on operating performance at a given point in time. Including matching year operating performance as a matching (control) criterion was done because there is evidence that test statistics comparing levels of operating performance in matched samples are misspecified when comparison firms are not matched on operating performance (Barber & Lyon, 1996). Including operating performance as a matching criterion potentially stacks the deck against finding significant differences, depending on the composition of the matching pool that results from filtering on the basis of size and industry first, prior to applying the final performance criterion. We also sought to make the matching group as different as possible from the 100 Best companies on the predictor of interest: employee-rated reputation as a good place to work. It is for this reason that we did not allow prior or subsequent 100 Best companies (including those on a 1993 list selected using a different methodology [Levering & Moskowitz, 1993], and through and including the January 2000 *Fortune* list) to be included as matching firms. The following algorithm was used to select matches:

1. If there is at least one company other than the target "best company" in the group of companies in the same 4-digit industry code group and with total assets within 25% to 200% of the target company, the firm with the closest OIBD/assets ratio to the target is chosen as the matching firm. (Thirty-three of the 50 matching firms were selected using this set of criteria.)

2. If no company meets criterion (a), the matching pool is expanded to the group of companies in the same 3-digit industry code as the target, also with the same size range restriction. The nontarget with the closest OIBD/assets ratio to the target is chosen as the matching firm. (Six of the 50 matching firms were selected using this set of criteria.) If no match is found, the same procedure is followed with the larger group of companies in the same 2-digit industry code group, again with the same size range restriction. (Eleven of the 50 matching firms were selected using this set of criteria.)

3. If one of the 100 Best companies is delisted from Compustat, it and its matching company are eliminated prospectively from the analysis of ratios utilizing Compustat data (ROA and market-to-book value of equity). If a matching company is delisted from Compustat while information on its corresponding 100 Best company is still available, a replacement matching company is selected utilizing the algorithm above for the original matching period and used on a prospective basis. For any given year where both "best company" and matching company information are available, but where information to compute a particular ratio is unavailable for one or the other, that pair of companies is excluded from the computation of medians and test statistics for that particular ratio for that year. If either a "best company" or a matching company is delisted during the year from CRSP, the CRSP Value-Weighted Index of NYSE/AMEX/Nasdaq stocks is spliced in for the remainder of that year only for purposes of computing the annual return. Annual returns are only computed for those firms that are still CRSP-listed during the year (including firms with spliced returns for a partial year). Multiyear cumulative returns are only computed where data for all relevant years are available, including any index data spliced in subsequent to delisting. For any given period where returns information is unavailable for one or the other of a matched pair, that pair of companies is excluded from the computation of means and test statistics for that particular item (annual or cumulative return) for that year.

This matching procedure is adapted from a methodology employed in corporate finance studies using matched pair financial performance analysis (Barber & Lyon, 1996; Loughran & Ritter; 1997). The final list of Best companies and matching firms included in the study is available upon request from the first author.