REACTIONS TO SIGNALS OF A FIRM'S INVESTMENT IN PEOPLE: INVESTIGATING THE SHORT-TERM AND LONG-TERM IMPACT ON SHARE PRICE

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Abstract

There is growing evidence that investments in a firm's human resource are associated with superior firm performance. Employing event study methodology, we examine the impact of these investments on firm performance. Specifically, we develop hypothesis related to both the short-term investor reactions and long-term performance.

Introduction

More than a decade ago, Hannon and Milkovich (1996) provided evidence suggesting signals of significant investments in people positively impacted short-term share price. In this study, the authors used a number of announcement types—including "100 Best to Work for", "Best for Working Mothers", "Best for Blacks" and others, to create a sample of events acting as signals of high investment in people. While the authors concluded a positive impact on share price, the results were generally mixed with only 1 of the 6 announcement for each of the selected lists. Further, the signaling events used in these studies all had release dates of prior to 1990. In the intervening decades significant empiric evidence has accumulated related to the influence of investments in people on firm performance (Combs, Liu, Hall & Ketchen, 2006) as well as a considerable growth in practitioner oriented attention to these investments (e.g. O'Reilly & Pfeffer, 2998; Pfeffer, 2005). In light of these methodological issues and possible shifts in public perceptions, we believe there is significant utility in revisiting these findings. In the present study, we attempt to provide rigorous replication by limiting our sample to a single list—100 Best, and following these announcement over a period of seven years.

Our intent here is to provide a full investigation of the performance impacts of signals of investments in people in terms of both short-term investor reactions and long-term market performance. We accomplish this by employing event study methodology to track the any abnormal short-term movement in share price in the days following these signaling events. Additionally, we plan to examine the long-term performance of these firms when compared to the performance of the larger market. We use the annual announcements of the Fortune Magazine's 100 Best Places to Work (100 Best) for the years 2000-2007 as a dramatic and obvious signal of a firm's investment in its people. This methodology provides a robust context to investigate how these investments are interpreted by shareholders.

The Relationship Between High-investment HR Strategies and Firm Performance

Research has shown collective workplace attitudes and individual performance outcomes to be related. Meta-analysis has shown a substantial relationship between individual job satisfaction and individual performance (ρ =.30; Judge, Thoresen, Bono, & Patton, 2001). Extending this relationship to the organizational level, employee attitudinal and motivational variables have been demonstrated to impact organizational performance outcomes (e.g. Ostroff, 1992; Schneider, Hanges, Smith & Salvaggio, 2003). Finally, research has also demonstrated firms appearing on the 100 Best list outperform other firms in terms of return on assets and share price (Fulmer, Gerhart & Scott, 2000; Lau, 2000).

This research is complemented by a growing attention to the study of Strategic Human Resource Management (SHRM). This line of research investigates bundles, or sets, of high commitment work practices and their relationship to firm level outcomes. Employee centered outcomes are argued to result in improved organizational functioning and performance (Barney, 1991, 2001; Cappelli & Singh, 1992; Wright & McMahan, 1992). Empirically, there is growing evidence that a positive relationship exists between the use of employee intensive HR practices and firm level outcomes. Recent meta-analytic treatments of the literature suggest a relationship between adoption of these systems of practices and organization level outcomes, including profitability, productivity, and turnover (Combs et al., 2006; ρ = .19, SD= .12). Consistent with these findings, we expect:

Hypothesis 1 - Events signaling significant investments in people will positively impact firm share price in the long-term.

The collective impact of this research to the management of human resources—including the importance of investments in people, is to increase likely that the public's awareness and sensitivity to

organizational approaches to the management of human resources. Signaling theory suggests the public's perception of firm is shaped by key and reputational signals in evaluating an organization (Spence, 1974). Clearly, one way to create a quality HR reputation is to be recognized as a "Best Employer" through popular practitioner outlets such as Fortune magazine's "100 Best Companies to Work for in America" (Ballou, Godwin, & Shortridge, 2003). Being named to such a list is presumed to enable organizations to attract and keep more talented employees which may result in both strategic and financial benefits. Therefore, we expect that events signaling investment in employee satisfaction and commitment will manifest in short-term reputational and long-term positive impacts on a company's stock price. Based on these assertions we propose the following:

Hypothesis 2 - Events signaling significant investments in people will positively impact firm share price in the short-term.

The Possible Influence of Firm Characteristics on Shareholder Decision-making

The implicit assumption in the previous discussion is that shareholders apply a consistent logic across all organizations when interpreting these high investments in employee signals. However, this may not be the case. There is a growing literature suggesting organizations may not be best served by the universal application of high-investment in people strategies (Lepak & Snell, 1999; Lepak & Snell, 2002; Huselid, Beatty & Becker, 2005). Generally, the intensity of the human capital requirements in the firm's environment is asserted to be the most important moderating condition in shaping the efficacy of these strategies (Wright & Snell, 1999).

For example, Lepak and Snell (1999, 2002) have argued the optimal approach to HR management is driven by characteristics of the jobs within the firm. Strategic value is determined by the degree to which job functions possess value creation potential through the enactment of strategies that improve efficiency, effectiveness and exploit market opportunities. In circumstances where employee skills are not readily obtained in the market and are characterized by interdependencies and firm specificity, a job function may be considered to have unique human capital characteristics. These arguments are largely consistent with Huselid and colleagues' (2005) assertion that organizations are best served by developing unique HR responses contingent upon the strategic importance of the firm's human resources.

In line with this reasoning, we assert that the impact of progressive HR practices may be contingent on industry characteristics. We considered several different industry orientations that may shape shareholder perceptions of the relative strategic importance of the firm's human capital. The first is the possible difference between industries considered to be technology intensive. In these instances, shareholders may perceive the difficulty of finding and retaining talent as placing a premium on developing a stable and committed workforce. Further, the demands placed on these firms by their relatively dynamic competitive environments would likely be perceived as requiring a more skilled, capable and committed workforce. For this reason, we expect both:

Hypothesis 3 - The relationship between events signaling significant investment in people and share price will be more positive in the long-term for firms in technology intensive industries than less technology intensive industries.

A second distinction in industry orientation that may shape shareholder perceptions of the relative importance of the firm's human resources is the difference between firms in the manufacturing versus service industries. Manufacturing is generally perceived to be more reliant on exploiting manufacturing technologies, economies of scale, supplier relationships and physical plant investments. Within the service industry, the firm's are more reliant on their employees in the creation of the product/service. Moreover, the employee and customer often interact very directly in the creation of the product/service (Heskett, 1986; Porter, 1985). For these reason, on balance, the human resource capabilities of the firm—

especially significant investment in people, would be more likely viewed as positive in a service than a manufacturing context. Therefore, we expect:

Hypothesis 4 - The relationship between events signaling significant investment in people and share price will be more positive in the long-term for firms in service industries than manufacturing industries.

This relatively intuitive line of reasoning may also be applied to investors' reactions to signaling events regarding the firm's investment in people. In other words, shareholders may employ a contingent logic in their decision-making following announcements by believing that investment in people may be more appropriate in certain contexts. If so, the upward or downward movement of the firm's share price following a signaling event would rely on the inherent strategic importance of the firm's human resources. Using this industry segregation described above, this would mean more positive short-term reaction by investors in technology intensive industries where firms rely more heavily on the firms human assets. Similarly, this variability in short-term reactions would also be expected between service and manufacturing, with a generally more positive short-term reaction for service intensive industries. Thus, we hypothesize:

Hypothesis 5a - The relationship between events signaling significant investment in people and share price will be more positive in the short-term for firms in technology intensive industries than less technology intensive industries.

Hypothesis 5b - The relationship between events signaling significant investment in people strategies and share price will be more positive in the short-term for firms in service industries than manufacturing industries.

Sample

The data for this study come from the annual "Fortune 100 Best Companies to Work For" from the years 2000-2007. Fortune's rating is based on six different criteria, with multiple questionnaire items within each of them. These criteria include: (1) pay and benefits; (2) opportunities; (3) job security; (4) pride in work and company; (5) openness and fairness; and (6) camaraderie and friendliness (Lau, 2000).

There are 800 firms listed from 2000-2007. The companies must be publicly traded in order for us to collect the dependent variable, cumulative abnormal returns. Nearly half (46%) of these firms are private companies, reducing the total usable observations to 425.

Analysis

To estimate abnormal performance, we conducted an event study, employing a CRSP market model. The essence of the event study methodology is to determine if there is a statistically significant change in the stock price of a company during a specified event window following an announcement of interest. Here, we are interested in whether there is a significant increase in stock price following a firm being named to the 100 Best. We start by considering a market adjusted model using the equally weighted CRSP index. This model is stated as:

$$R_{jt} = \alpha + \beta_j R_{mt} + \mathcal{E}_j$$

where Rjt is the rate of return of the *jth* firm in month *t*; Rmt is the rate of return on the market index in month *t*; and *j* is a parameter that measures the sensitivity of Rjt to the market index.

For robustness, however, we also estimate abnormal returns using buy and hold abnormal returns. The CRSP market model allows us to take all eight Fortune lists and aggregate them to one event date. Thus, we are able to examine the returns around the specific date. The issue date of the Fortune magazine article containing the Top 100 serves as the event date. We use mean cumulative abnormal returns to examine the performance around the event date. Cumulative abnormal returns are the returns for a specific firm over a specified number of days following the issue date over and above the return for the market as a whole. The use of the CRSP market model allows us to control for market expectation, industry membership, and firm risk as well as stock market fluctuations. Market expectation and firm risk are controlled because the market model first calculates what a "normal" return should be in order to calculate the "abnormal" return. The normal return is itself the market expectation and takes the inherent risk of the firm into account.

Results

Table 1. All firms - Faual Weighted

To test hypothesis 1, we conducted an event study using the CRSP equally weighted market adjusted model. We examined the mean cumulative abnormal return from 1 month before the issue date announcing the list of Fortune 100 Best Places to Work to 3 months, 6 months, 12 months, 18 months and 24 months after the press release. There are a total of 800 firm observations on the Fortune list from 2000 through 2007. Nearly half of those (372) are privately-held firms and must be excluded from the analysis, leaving a sample of 428 observations. The 2008, although published cannot be used because 2008 data are not available yet on CRSP.

Table 2. All firms Value Weighted

	Equal Weigh	ncu	Table 2. All filling –	Table 2. An mins – Value Weighten		
	Return	Sign.		Return	Sign.	
3 months	-3.59	.001	3 months	1.14	N/S	
6 months	-5.75	.001	6 months	0.91	N/S	
12 months	-6.88	.001	12 months	4.48	.100	
18 months	-10.14	.001	18 months	3.36	N/S	
24 months	-11.05	.001	24 months	5.68	N/S	

Each of the estimation periods produce a negative cumulative abnormal return (CAR) ranging from -3.59% to -11.05%. All of these returns are significant at the .001 level. The market adjusted value weighted produces no significant CARs for any of the estimation periods, although it should be noted that all long-term estimation periods produce positive CARs.

To test hypothesis 2, we conducted an event study using the CRSP equally weighted

market adjusted model. We examined the mean cumulative abnormal return from 3 days before the issue date announcing the list of Fortune 100 Best Places to Work to 3 days, 5 days, 10 days, 15 days, 20 days and 30 days after the press release.

Table 3: All fire	ms – Equal Weigh	ited	Table 4: All firr	ns – Value Weigł	nted
	Return	Sign.		Return	<u>Sign.</u>
3 days	-1.29	.001	3 days	0.05	N/S
5 days	-2.01	.001	5 days	-0.09	N/S
10 days	-2.75	.001	10 days	0.02	N/S
15 days	-2.17	.001	15 days	0.48	N/S
20 days	-1.98	.001	20 days	0.79	N/S
30 days	-3.43	.001	30 days	0.61	N/S

Each of the estimation periods produce a negative cumulative abnormal return (CAR) ranging from -1.29% to -3.43%. All of these returns are significant at the .001 level. The market adjusted value weighted produces no significant CARs for any of the estimation periods. The fact that equally weighted are highly significant while the value weighted are not suggests there is a firm level effect. Small firms must be severely underperforming large firms. The large firms' better performance is causing the value weighted returns to be higher.

To test hypothesis 3, we divided the overall sample into high and low-tech firms by using the AEA (American Electronics Association) industry classification system. The AEA is a national non-profit trade association founded in 1943 that represents all segments of the technology industry. They identified 45 SIC codes in 13 categories as high-tech industries. The 13 categories include: computer and office equipment, consumer electronics, communications equipment, electronics components and accessories, semiconductors, photonics, defense electronics, electromedical equipment, communications services, software services, data processing and information services, and retail and other computer-related services. Based on SIC code, 126 observations are in high-tech industries (29.4%) and 302 are in low-tech industries (70.6%).

	Return	Sign		Return	Sign.
3 months	-6.05	.010	3 months	-0.69	N/S
6 months	-12.20	.001	6 months	-4.41	N/S
12 months	-11.36	.010	12 months	1.75	N/S
18 months	-20.70	.001	18 months	-5.26	.100
24 months	-19.71	.001	24 months	-0.46	N/S
Table 7: Low-tech fi	rms – Equal	Weighted	Table 8: Low-tech	firms – Value	Weighted
	Return	Sign.		Return	Sign.
3 months	-2.56	.010	3 months	1.90	N/S

6 months

12 months

18 months

24 months

.050

.050

.050

.050

-3.05

-5.00

-5.71

-7.42

Table 6: High-tech firms – Value Weighted

3.14

5.62

6.98

8.25

N/S

.050

.050

.050

Table 5: High-tech firms – Equal Weighted

6 months

12 months

18 months

24 months

We tested the market adjusted equally weighted model as well as the value weighted model for each group for 3 months, 6 months, 12 months, 18 months and 24 months. High-tech firms have highly negative (-6.05% to -20.70%) and significant returns (p<.01) according to the equally weighted model. The value weighted model produces no significant returns at the .05 level. Low-tech firms also have highly negative (-2.56% to -7.42%) and significant returns (all at least p<.05 level) according to the equally weighted model. The value weighted model, however, tells a completely different story. All estimation periods produce positive CARs and three of those (12 months, 18 months, 24 months) are significant at the .05 level. It is clear that low-tech firms are outperforming high-tech firms in our sample and, again, we have a firm size effect where the large firms are outperforming small firms.

To test hypothesis 4, we divided the sample into service and manufacturing firms. SIC codes ranging from 2000-3999 are classified as manufacturing; all others are classified as service. As a result, 275 observations (64.3%) are service firms while 153 observations (35.7%) are manufacturing firms.

Table 9: Service firms – Equal Weighted

Table 10:	Service	firms –	Value	Weighted
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	Return	Sign.
3 months	-3.66	.001
6 months	-5.07	.001
12 months	-6.35	.050
18 months	-8.75	.001
24 months	-10.15	.010

	Return	Sign.
3 months	0.93	N/S
6 months	1.29	N/S
12 months	4.35	N/S
18 months	4.03	N/S
24 months	5.67	N/S

Table 11: Manufacturing firms – EqualWeighted

Table 12: Manufacturing firms – ValueWeighted

	Return	Sign.		Return	<u>Sign.</u>
3 months	-3.47	.050	3 months	1.51	N/S
6 months	-6.98	.050	6 months	0.23	N/S
12 months	-7.84	.050	12 months	4.70	.100
18 months	-12.64	.001	18 months	2.16	N/S
24 months	-12.67	.050	24 months	5.71	.050

We tested the market adjusted equally weighted model as well as the value weighted model for each group. Both service and manufacturing firms have highly negative and significant returns (p<.05) according to the equally weighted model. The value weighted model, however, produces all positive returns. None of the five estimation periods are significant for the service firms. The 12 and 24 month returns are positive and significant for manufacturing firms. Hence, there is no clear difference between service and manufacturing firms in terms of long-term performance.

To test Hypothesis 5a, we examined the short-term implications of the Fortune announcement from 3 days before the announcement to 3 days, 5 days, 10 days, 15 days, 20 days and 30 days after the announcement for high-tech and low-tech firms.

 Table 13: High-tech firms – Equal Weighted

Table	14:	High.	tech	firms -	Value	Weighted
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	Return	<u>Sign</u>
3 days	-2.83	.001
5 days	-3.71	.001
10 days	-4.50	.001
15 days	-4.78	.001
20 days	-3.60	.001
30 days	-5.74	.001

	Return	Sign.
3 days	-0.95	.010
5 days	-0.95	.010
10 days	-1.22	.010
15 days	-1.44	.010
20 days	-0.34	.050
30 days	-1.13	.100

Table 15: Low-tech firms – Equal Weighted

Table 16: Low-tech firms – Value Weighted

	Return	<u>Sign.</u>		Return	Sign.
3 days	-1.44	.001	3 days	0.12	N/S
5 days	-2.31	.001	5 days	-0.05	N/S
10 days	-2.58	.001	10 days	0.18	N/S
15 days	-1.72	.010	15 days	0.98	.010
20 days	-1.65	.050	20 days	0.97	.050
30 days	-2.72	.010	30 days	1.03	.100

We tested the market adjusted equally weighted model as well as the value weighted model for each group. High-tech firms have highly negative (-2.83% to -5.74%) and significant returns (p<.001) according to the equally weighted model. The value weighted model also has all negative returns for high-tech firms (-0.34% to -1.44%) but they are less significant (four at .01 level, one at .05 and one at .10 level). Low-tech firms also have highly negative (-1.44% to -2.72%) and significant returns (all at least p<.05 level) according to the equally weighted model. The value weighted model, however, tells a different story. Five of the six returns are positive, three of which are significant. It is clear that low-tech firms are outperforming high-tech firms in our sample and, again, we have a firm size effect where the large firms are outperforming small firms.

To test Hypothesis 5b, we examined the short-term implications of the Fortune announcement from 3 days before the announcement to 3 days, 5 days, 10 days, 15 days, 20 days and 30 days after the announcement for service and manufacturing firms.

 Table 17: Service firms – Equal Weighted

Table 18: Service firms – Value Weighted

	Return	<u>Sign.</u>		Return	<u>Sign.</u>
3 days	-1.49	.001	3 days	0.13	N/S
5 days	-2.46	.001	5 days	-0.09	N/S
10 days	-2.90	.001	10 days	-0.05	N/S
15 days	-2.13	.001	15 days	0.68	N/S
20 days	-1.94	.010	20 days	0.81	N/S
30 days	-3.33	.001	30 days	0.53	N/S
Table 19: Manufacturing firms – Equal Weighted		Table 20: Manufacturing firms –Value Weighted			
	Return	Sign.		Return	Sign.
3 days	-2.49	.001	3 days	-0.79	N/S
5 days	-3.19	.001	5 days	-0.72	N/S
10 days	-3.58	.001	10 days	-0.57	N/S
15 days	-3.50	.001	15 days	-0.48	N/S
20 days	-2.73	.010	20 days	0.18	N/S
30 days	-4.12	.010	30 days	0.14 N	/S

We tested the market adjusted equally weighted model as well as the value weighted model for each group. Service firms have highly negative (-1.49% to -3.33%) and significant returns (p<.01) according to the equally weighted model. The value weighted model, however, has positive returns for four of the six estimation periods (-.09% to 0.81%). None of the six estimation periods are significant for the value weighted model. Manufacturing firms also have highly negative (-2.49% to -4.12%) and significant returns (p<.01) according to the equally weighted model. In the value weighted, none of the returns are significant. Four of the six are negative ranging from -0.79% to 0.18%. Here, it is clear that service firms are outperforming manufacturing firms in our sample and, again, we have a firm size effect where the large firms are outperforming small firms.

Discussion

In considering the overall reaction to the public valuation of firms appearing on the 100 Best lists, the direction and strength of the effects were unexpected. Considered in light of the first hypothesis, it

would seem that the collective interpretation of a high investment in people signal is largely negative and results in significant abnormal downward pressure on share price.

Obviously, this finding is counter to rather consistent evidence that high investment in employee strategies is associated with superior performance. The reactions of the market then to these announcements belie these findings. We believe that there are several possible explanations. First, it may be that shareholders believe that endeavoring to compete via the deliberate development of a highly committed workforce is ill-advised. This issue may be exacerbated by the notoriously slow distillation of research findings into the marketplace. Several researchers have suggested that research-practitioner gap is especially acute regarding the effects of human resource practices (Rynes, Colbert, & Brown, 2002; Rynes, Bartunek, & Daft, 2001).

A second explanation for the decrease in share price could be related to a belief that the organization was preparing for a period of strategic growth. If becoming named a member of the Best 100 list signaled that the organization hoped to attract employees, it could be seen as an attempt to hire more employees to prepare for a period of growth. The signal received by the shareholders may be that in the short term, the organization plans to focus on growth which may in turn result in short term uncertainty or an accumulation of debt that could negatively affect the stock price.

A third possible explanation may be some anomalous occurrence beyond the knowledge of the researcher that systematically influenced these findings. However, we think this is unlikely for several reasons. First, by only examining the changes in market pricing of the shares in the day immediately following the announcement, we minimize the noise, or extraneous influences of the market. Further the publicity surrounding the announcement of the list in January of each of the sampled years ensure that the signal is indeed salient to shareholder in their decision-making in the days following the announcement. Finally, the consistency of these findings in the sampled years further strengthens our confidence in our findings.

Limitations and Future Research

There are several potentially fruitful avenues of future research stemming from the current study. First, the current study is limited to the immediate impact on stock price within the first 30 days of public announcement. We would like to examine the impact of being named to 100 Best list over time. We will examine the impact on stock market valuation over longer periods of time such as one year, two years and three years after the announcement.

Second, we want to examine the impact on the firm's growth following inclusion on the list. One potential reason for a firm to desire inclusion on the list is to attract quality job candidates immediately preceding a major expansion or growth phase. It would be interesting to examine the similarities and differences between firms before and after announcement in terms of number of employees, net sales, market capitalization, etc.

Third, we need to further explore the differential impact for small and large firms. It appears, from the results of the present study, that smaller firms are significantly underperforming larger firms. It is obvious that smaller firms experience a deeply significant negative impact and are influencing the overall result. It would be interesting to see what the real impact is for the larger firms on the list.

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