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Organizational culture: An analysis of the aggregate impact on financial performance

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ORGANIZATIONAL CULTURE: AN ANALYSIS OF THE AGGREGATE IMPACT ON FINANCIAL PERFORMANCE

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Abstract

Strong organizational culture, although an intangible asset, can produce tangible gains for businesses in the form of stock returns. This study uses *Fortune* magazine's 100 Best Companies to Work for in America to identify companies with strong organizational culture. Of those 100, I used the stock performance of 20 public companies who have (1) been on the list for at least 10 years and (2) have been publicly traded for at least 10 years. Each of the companies is assigned a matching industry sector and the returns are compared to the overall stock market, represented by the S&P 500. From March 2007 to February 2017, the aggregate returns from the 20 companies outperform the matching industry sectors by 48.45% and outperform the S&P 500 by 87.33%. The 20 companies also outperform the S&P 500 and the matching industry sectors when the performance is adjusted for risk.

"I used to believe that culture was 'soft,' and had little bearing on our bottom line. What I believe today is that our culture has everything to do with our bottom line, now and into the future."

– Vern Dosch, author, Wired Differently

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Introduction

In recent years, organizational culture has been emerging as an integral part of business. Multitude of studies have been conducted to analyze the relationship between organizational culture and financial performance, most of which have found a strong correlation. A company's organizational culture is its unique personality. It can be viewed as a system of shared assumptions, values, and beliefs that govern how people behave within organizations. All organizations develop a unique culture that serves as a guideline for its members and it cannot be imitated (McLaughlin, n.d.).

Organizational culture is complex and difficult to measure (Organizational Cultural Assessment, n.d.). There is no one right method to evaluate the culture of a firm. For that reason, *Fortune's* 100 Best Companies to Work for in America, hereafter referred to as 100 Best, will be used as a proxy to represent firms with strong organizational culture. The culture of the 100 Best are evaluated using both qualitative and quantitative data. From hundreds of thousands of surveys and management feedback, the cultures of all participating firms are ranked. Given the magnitude and extensiveness of the evaluation process, and that the 100 Best have been used in previous studies to represent firms with strong organizational culture, this demonstrates the reasoning behind the proxy.

In a recent survey by Deloitte on the future of the workplace, nearly seven in ten executives said company culture will be critical to realizing their organizational mission. A separate survey of CEOs by PriceWaterhouseCoopers found 41% view organizational culture as the aspect of their talent strategy that would attract and retain workers needed for the firm to remain competitive (Three Predictions, 2017). As these numbers show, organizational culture has become a prevalent issue in the workforce.

This study provides 10-year stock growth comparisons between companies who have been recognized at least 10 times as one of the 100 Best and the overall stock market. A separate comparison between the 100 Best and their corresponding industry sectors is also made to ensure the data is not biased due to industry sector performance. The purpose of this study is to see whether firms with strong organizational culture have greater financial performance in the long run. It demonstrates whether having a strong organizational culture affects a firm's bottom line.

The data shows that the 10-year aggregate stock returns, from March 2007 to February 2017, outperform the market, represented by the S&P 500, by 87.33% and outperform the corresponding industry sectors by 48.45%. Using the Treynor ratio and Jenson's alpha, the risk-adjusted stock performance of the 100 Best still outperform the market and the matching industry sectors. Investing in the 100 Best in March 2007 and realizing the capital gains in February 2017 would yield greater growth than the matched industry sectors and the S&P 500.

Given these results, this study derives positive implications about the long run profitability of having strong organizational culture. It demonstrates that firms who do have strong organizational culture are highly correlated with having stronger financial performance. This has implications for executives because it shows the potential value of maintaining a strong organizational culture. For recent graduates or new businesses, it demonstrates a valuable method to potentially garner greater long-term growth. Lastly, it has implications for investors because it signifies potential long-term profitability from investing in firms who have strong organizational culture.

Essential Background

The 100 Best Companies to Work for in America was first published in a book in March 1984 (Levering, Moskowitz, & Katz, 1984). It was not until January 1998 that *Fortune* magazine began publishing an annual issue of the list, which continues to be overseen by Robert Levering and Milt Moskowitz. To identify the 100 Best, *Fortune* partners with Great Place to Work to conduct the most extensive employee survey in corporate America. The current rankings are based on feedback from more than 232,000 employees. Companies must have over 1,000 employees and be Great Place to Work- Certified to be considered on the list of 100 Best (How Best are Measured, n.d.).

Determining company ranking on the 100 Best list takes a two-pronged approach consisting of a Trust Index and a Culture Audit. The Trust Index makes up approximately two-thirds of a company's score and is based on responses from a random sample of employee surveys. Through the surveys, qualitative and quantitative data is collected to see how much the employees trust the people they work for, have pride in what they do, and enjoy the people they work with (Survey, Analyze, and Improve, n.d.). Some of the areas they assess include quality of communication by managers, degree of support for employees' personal and professional lives, and authenticity of relationships with coworkers (How Best are Measured, n.d.). Most questions are answered with a Likert scale while a couple of questions are open-ended (Edmans, 2011).

A Culture Audit is a questionnaire completed by management, making up the remaining approximately one-third of the scoring. All questions fall under five categories: diversity, turnover, compensation, benefits, and work-family issues. The questionnaire also contains numerous open-ended questions pertaining to a variety of topics such as inspiring and listening. Combined, the Trust Index and Culture Audit give an overall ranking to a company's culture

(Edmans, 2011). The total amount of points possible is 175, with 120 points coming from the Trust Index and 55 points from the Culture Audit (Simon & DeVaro, 2006). By addressing all aspects of the workplace, from both the employee and management perspective, this gives a more holistic view of firm-level job satisfaction. For that reason, companies on the 100 Best list are characterized as companies with strong organizational culture.

Standard & Poor's 500 Index, S&P 500, is widely regarded as the most accurate performance gauge of the stock market. It is an index of 500 company stocks that are chosen by the S&P Index Committee, a committee of analysts and economists. They evaluate market size, liquidity, and industry grouping, among other things, when picking which companies comprise the S&P 500. This index is viewed as representative of market stocks because it uses a market-cap methodology where the weighting of the index is based on company size; larger companies have greater weight and vice versa. Of the Total Stock Market, the S&P 500 makes up 80%, which makes it a good benchmark to compare the profitability of the 100 Best companies (Standard & Poor's, n.d.).

One method to evaluate stock market performance is by calculating simple return. This is done by taking the current price of the stock, what it is selling for on the market, and subtracting the amount that was paid to initially buy the stock; the remainder is then divided by that initial price. Lastly, that final number is taken times 100 to calculate the percentage return; this can be done on a daily, monthly, and yearly basis. Stock splits and dividends paid influence this percentage, but many online finance resources automatically adjust the stock prices to reflect these changes.

Another important aspect to consider when evaluating stock prices is risk. An investment may have a high return, but the return must also be worth the risk. In other words, is the reward

worth the risk. Two methods that can evaluate the risk of an investment are Jensen's alpha and the Treynor ratio. Jenson's alpha measures the average returns above or below what was predicted by the capital asset pricing model (CAPM) given the portfolio's beta and the average market return. It measures if a portfolio is earning the proper return for its level of risk. If the value of alpha is positive, this means the portfolio is receiving excess returns (Jensen's Measure, n.d.).

The Treynor ratio measures how successfully an investment compensates investors for the investment's inherent level of risk (Treynor Ratio, n.d.). The ratio relies upon beta, market risk, to measure volatility. Beta represents the degree to which stock prices move in response to changes in the overall market. A beta of 1 indicates that the stock price moves with the market, less than 1 means it is less volatile than the market, and greater than 1 means it is more volatile than the market (Beta, n.d.). The ratio shows how much performance investors gained for each unit of risk. When the Treynor ratio is high, it demonstrates that high returns were generated for the risks taken (Treynor Ratio, n.d.). Jenson's alpha and the Treynor ratio use different formulas to calculate whether or not the return is worth the risk. Formulas for the two methods are below.

Jenson's alpha: $R(i) - (R(f) + B \times (R(m) - R(f)))$

$R(i)$ = the realized return of the portfolio or investment

$R(m)$ = the realized return of the appropriate market index

$R(f)$ = the risk-free rate of return for the period

B = the beta of the portfolio of investment

Treynor ratio: $\frac{\text{Average return of a portfolio} - \text{Average return of the risk-free rate}}{\text{Beta of the portfolio}}$

Literature Review

There have been many studies that have analyzed the relationship between corporate culture and firm financial performance. Several of these studies also looked at the 100 Best as having strong organizational culture. One such study, conducted by Fulmer, Gerhart, and Scott (2003), looked at the financial performance of the 100 Best listed in 1998. Not all companies are publicly traded, so the sample size of the 100 Best was reduced to 45 companies. The financial performance (accounting ratios) and stock returns of the companies were analyzed from 1995-2000 with data garnered from Compustat, a database on financial, statistical, and market information (Fulmer, Gerhart, & Scott, 2003).

Each of the 45 companies were assigned a matching company, one that was similar in size, industry, etc., but had never been on the 100 Best list. The aggregate 100 Best and matching company's financial performance were compared by looking at return on assets (ROA) and market-to-book value of equity. Both of these accounting ratios of the 100 Best were found to be significantly higher than matched firms from 1997-1998, marginally higher from 1999-2000, but neither were significantly higher from 1995-1996. Stock market performance, measured by cumulative and annual stock returns, was compared to the matching firms and to the market, represented as the CRSP, NYSE, AMEX, NASDAQ value-weighted index. All cumulative returns were significantly higher than the market while only marginally higher, 1995-1997, than the matched firms (Fulmer, Gerhart, & Scott, 2003).

Another study by Goenner (2008) found similar results by comparing the 100 Best from 1998-2005 against the S&P 500. Two strategies were used to measure the performance of the 100 Best. One strategy was a buy and hold portfolio, where the stocks of 100 Best of 1998 were bought and held through 2005. The active portfolio strategy rebalances the portfolio each year

based on the newest issue of the 100 Best. Both strategies were found to outperform the S&P 500 in each of the multi-year periods and seven of eight annual periods. The buy and hold strategy outperformed the active strategy in six of the seven multi-year periods. Furthermore, the median price/book and price/earnings ratios were higher for the 100 Best (Goenner, 2008).

Filbeck and Preece (2003) contributed to this area by not only looking at the aggregate returns, but also by looking at the immediate returns following the announcement of the 100 Best. By analyzing stock prices the days and weeks preceding the announcement, they found there are statistically significant, positive returns to being named 100 Best. Given these results, Filbeck and Preece conclude that firms who are viewed as having strong organizational culture, ones who take care of their employees, is good news for the stock market (Filbeck & Preece, 2003). Edmans (2011), using announcement dates from April 1984 through December 2011, obtained similar results; the 100 Best earned 0.32% higher return on announcement dates than similar companies. This long-term growth is consistent with the view that satisfaction is a long-run investment (Edmans, 2011).

While many studies have looked at financial performance of the 100 Best, Simon and DeVaro (2006) looked to see if the 100 Best companies provide better customer satisfaction. Using the knowledge that the 100 Best have better employee attitudes and relations, they questioned whether this would translate to having higher quality products or better customer service. Higher quality products and better customer service are a direct result of the efforts of the employees that eventually lead to the higher stock performance. DeVaro addressed this relationship to see if it is culture that influences better customer service, which in turn leads to greater financial performance.

A firm's overall customer satisfaction level is measured by the American Customer Satisfaction Index (ACSI), a quarterly survey designed to measure customer satisfaction with the quality of consumer goods and services available in the US. Setting ACSI as the dependent variable, 100 Best as a dummy independent variable, and controlling for other variables such as firm size and past profitability, the regression results are estimated. From 1994-2002, strong evidence is found that the 100 Best earn higher customer satisfaction ratings; the results were higher for the service sector than the manufacturing sector (Simon & DeVaro, 2006). This shows that strong organizational culture enhances what it is the firm is doing. In this example, it enhanced the ability of the employees to offer superior customer service. Increased financial performance is the result of this enhancement.

Using the 100 Best is just one method to identify firms with strong organizational culture. An abundance of other studies also analyzed the relationship between culture and performance using different culture proxies while still obtaining similar results. Denison and Mishra (1995) used case studies and survey data to explore the relationship between organizational culture and effectiveness. Involvement, consistency, adaptability, and mission were used as the four traits to represent organizational culture. Involvement and adaptability, indicators of flexibility, openness, and responsiveness were found to be strong predictors of organizational growth. Consistency and mission, indicators of integration, direction, and vision were better predictors of organizational profitability. Combined, these traits were found to be strong predictors of return on assets (ROA) and sales growth for larger firms (Denison & Mishra, 1995).

These four traits were then used in another study by Momot and Litvinenko (2012) who analyzed six machine-building enterprises in the Ukraine. Translating Denison's Organizational

Culture Survey, which consisted of 60 questions, allowed them to determine the levels of each organizational culture trait in the different enterprises. The qualitative characteristics were measured from top executive input in various areas such as quality improvement and staff satisfaction. The correlation analysis depicted that organizational culture significantly correlated with the enterprises' performance; for this sample, the stronger the culture result, the greater the efficiency (Momot & Litvinenko, 2012). A study by Yilmaz and Ergun (2008) studied manufacturing firms in Turkey. Combined, the four traits significantly influenced firm effectiveness (Yilmaz & Ergun, 2008).

These studies used an alternative method to account for organizational culture, yet they obtained similar results. Organizations with stronger organizational culture, whether that be defined by Denison's method or Great Place to Work Trust Index and Culture Audit, correlate with higher financial performance and outperform the market as well as a matched sample of firms. However, as Filbeck and Preece (2003) stated, they were unable to make claims about the investor's long-term ability to 'beat the market' by investing in these firms. There were not very many publications of the 100 Best during some of the previous studies, which limited the capabilities of the studies. For that reason, the firms on the list may not have been truly representative of firms with strong organizational culture.

Firms with strong organizational culture maintain their culture through economic expansions and contractions. Using only the companies on the list for one year allows the possibility that the company may have had a significantly high performance year, so the employees were much happier when taking the survey. Trying to update the portfolio of companies every year in accordance to the updated list of 100 Best does not account for additional transaction costs of buying and selling stocks. Furthermore, culture should be able to

adapt with changing times. Just because a firm is on the list one year does not guarantee that they will remain on the list in future years. As Filbeck and Preece (2003) established in their study, the strong positive results were primarily in the period leading up to being the 100 Best. My study takes their suggestion to see what implications there are about financial performance after consistently being ranked 100 Best for a longer period.

Comparing the firms who have consistently had strong organizational culture could still be inherent to biases. The S&P 500 encompasses a broad range of firms and industries while picking 20 specific firms narrows down the range of firms. For example, if the technology industry is doing significantly better than the market, then by default, technology firms would outperform the market. This would not be attributed to strong organizational culture, rather just economic impacts.

This current study attempts to address this potential bias by evaluating the performance of the matching industry sectors. By comparing the performance of the matching industry sectors to the S&P 500, this demonstrates whether those sectors are outperforming the market. Then, by comparing the 100 Best to both the industry sectors and the market, this removes the bias. It shows the average performance of the relevant industry sectors and thus gives more meaning to the average performance of the 100 Best. If the 100 Best significantly outperform the market, but are at the same performance level as the industry sectors, then one could conclude the greater financial performance was because of the bias. However, if they outperform the matching industry sectors as well, then this shows that the high financial performance is not due to a biased industry performance.

Data

To continue the study on the relationship between organizational culture and financial performance, the 100 Best from 2017 were used as the starting place. From 1998 to 2017, *Fortune* released 20 issues of the 100 Best. Less than half of the companies on the 2017 issue are publicly traded, which narrowed down the list. Organizational culture is not developed overnight; it can take months and years for firm values to be embodied in an organization. For this reason, the 100 Best in 2017 also had to be included at least 9 previous times; this narrowed the list to 22 companies. Stock growth was analyzed from March 2007 to February 2017, a 10-year period, to coincide with the minimum number of years the companies have been on the list. Lastly, the companies had to have been publicly traded during this 10-year period, which brought the final number of companies down to 20. This criterion ensures that the remaining 20 firms have a history of strong organizational culture, making the data more meaningful, and ensuring data is available for comparison.

This study looked at financial performance in the form of stock growth from March 2007 to February 2017. As per the other studies, the S&P 500 was used as a benchmark of market performance. By aggregating the average growth of the 20 companies in the 10-year period, this can be compared to the overall market growth. Another element that was included in many of the previous studies was having a matching firm for each of the 100 Best. With many similar firms present today, a sense of subjectivity could enter when trying to pick matching firms. Instead, I compared each firm to its respective industry sector growth. Looking at the aggregate growth of the industry sectors gives a good idea of how the firms are performing compared to other similar firms.

Fidelity.com provided the individual firm, industry sector, and market data. Fidelity is a multinational financial services corporation; it is the fourth largest mutual fund and financial services group in the world. With over 25 million customers, as well as over five trillion dollars in customer assets, the tools available through Fidelity offer accurate stock market information (Fidelity Investments, n.d.). One tool, the Snapshot, gives an overview of each stock and assigns it to its industry and sector.

Table 1 below identifies each 100 Best company, its stock name, the 10-year growth as shown on the Performance Chart of Fidelity, the corresponding industry sector, and the difference between the stock and industry sector growth. Table 2 identifies each 100 Best company, its stock name, the S&P 500 10-year growth, and the difference between the stock and S&P 500 growth. Fidelity also calculates a 1 year annualized beta for each stock and matching industry, which is shown in table 3. The betas are used to calculate the Treynor ratio and Jenson's alpha, which are shown in table 4. Lastly, table 5 shows hypothetical returns of a $10,000 investment in 2007.

Table 1. 100 Best Growth Compared to Industry Sector Growth.

Fortune "100 Best Companies to Work For"	Stock Name	10 Year 100 Best Growth (March 2007 - February 2017)	Industry Sector Comparison	10 Year Industry Growth (March 2007 - February 2017)	Over/Under Perform Industry Growth
Google	GOOGL	275.62	Internet Software and Services	234.18	41.44
Salesforce	CRM	652.54	Software	143.76	508.78
Intuit	INTU	325.08	Software	143.76	181.32
Adobe Systems	ADBE	201.5	Software	143.76	57.74
Cisco	CSCO	31.77	Communications Equipment	30.8	0.97
Autodesk	ADSK	109.72	Software	143.76	-34.04
Capital One	COF	21.85	Consumer Finance	40.47	-18.62
Goldman Sachs	GS	22.95	Capital Markets	18.78	4.17
American Express	AXP	40.78	Consumer Finance	40.47	0.31
Aflac	AFL	53.15	Insurance	-4.33	57.48
NuStar Energy	NS	-17.08	Oil, Gas, & Consumable Fuels	22.17	-39.25
FedEx	FDX	68.94	Air Freight & Logistics	55.57	13.37
Whole Foods Market	WFM	28.41	Food & Staples Retailing	93.18	-64.77
Nordstrom	JWN	-11.93	Multiline Retail	-11.32	-0.61
Build-A-Bear Workshop	BBW	-65.94	Specialty Retail	139.21	-205.15
CarMax	KMX	144.93	Specialty Retail	139.21	5.72
Marriott International	MAR	92.63	Hotels, Restaurants, & Leisure	144.31	-51.68
Camden Property Trust	CPT	17.6	Equity Real Estate Investment Trusts	-0.23	17.83
Novo Nordisk	NVO	313.17	Pharmaceuticals	86.04	227.13
Accenture	ACN	242.37	IT Services	112.83	129.54
Average:		127.40		85.82	41.58

Table 2. 100 Best Growth Compared to S&P 500 Growth.

Fortune "100 Best Companies to Work For"	Stock Name	10 Year 100 Best Growth (March 2007 - February 2017)	S&P 500 Growth (March 2007 - February 2017)	Over/Under Perform Industry Growth
Google	GOOGL	275.62	68.01	207.61
Salesforce	CRM	652.54	68.01	584.53
Intuit	INTU	325.08	68.01	257.07
Adobe Systems	ADBE	201.5	68.01	133.49
Cisco	CSCO	31.77	68.01	-36.24
Autodesk	ADSK	109.72	68.01	41.71
Capital One	COF	21.85	68.01	-46.16
Goldman Sachs	GS	22.95	68.01	-45.06
American Express	AXP	40.78	68.01	-27.23
Aflac	AFL	53.15	68.01	-14.86
NuStar Energy	NS	-17.08	68.01	-85.09
FedEx	FDX	68.94	68.01	0.93
Whole Foods Market	WFM	28.41	68.01	-39.6
Nordstrom	JWN	-11.93	68.01	-79.94
Build-A-Bear Workshop	BBW	-65.94	68.01	-133.95
CarMax	KMX	144.93	68.01	76.92
Marriott International	MAR	92.63	68.01	24.62
Camden Property Trust	CPT	17.6	68.01	-50.41
Novo Nordisk	NVO	313.17	68.01	245.16
Accenture	ACN	242.37	68.01	174.36
Average:		127.40	68.01	59.39

Table 3. 100 Best Beta Compared to Industry Sector Beta.

Fortune "100 Best Companies to Work For"	Stock Name	Beta (1 Year Annualized)	Industry Sector Comparison	Beta (1 Year Annualized)	S&P 500 Beta
Google	GOOGL	1.09	Internet Software and Services	1.27	1.0
Salesforce	CRM	0.75	Software	1.1	1.0
Intuit	INTU	1.3	Software	1.1	1.0
Adobe Systems	ADBE	1.04	Software	1.1	1.0
Cisco	CSCO	1.21	Communications Equipment	1.3	1.0
Autodesk	ADSK	1.9	Software	1.1	1.0
Capital One	COF	1.81	Consumer Finance	1.25	1.0
Goldman Sachs	GS	1.87	Capital Markets	1.38	1.0
American Express	AXP	1.39	Consumer Finance	1.25	1.0
Aflac	AFL	0.89	Insurance	2.36	1.0
NuStar Energy	NS	1.05	Oil, Gas, & Consumable Fuels	0.56	1.0
FedEx	FDX	1.34	Air Freight & Logistics	0.99	1.0
Whole Foods Market	WFM	1.18	Food & Staples Retailing	0.67	1.0
Nordstrom	JWN	2.1	Multiline Retail	0.72	1.0
Build-A-Bear Workshop	BBW	0.53	Specialty Retail	1.01	1.0
CarMax	KMX	2.02	Specialty Retail	1.01	1.0
Marriott International	MAR	1.06	Hotels, Restaurants, & Leisure	0.98	1.0
Camden Property Trust	CPT	0.35	Equity Real Estate Investment Trusts	9.02	1.0
Novo Nordisk	NVO	1.27	Pharmaceuticals	0.88	1.0
Accenture	ACN	0.87	IT Services	1.03	1.0
Average:		1.25		1.50	1.0

Table 4. Portfolio Performance Adjusted for Risk

	Fortune "100 Best Companies to Work For"	Industry Sector Comparison	S&P 500
Alpha	42.98	-15	
Treynor	100.02	55.63	65.63

Table 5. Sample Stock Market Returns.

	Fortune "100 Best Companies to Work For"	**Industry Sectors**	**S&P 500**
Initial Investment	$ 10,000	$ 10,000	$ 10,000
10 Year Stock Growth	127.40%	85.82%	68.01%
Added Value	$ 12,740	$ 8,582	$ 6,801
Total Stock Value After 10 Years	**$ 22,740**	**$ 18,582**	**$ 16,801**

Results

When comparing the 100 Best growth to the industry growth, the aggregate growth of the 100 Best is 127.40%, where the industry sector growth is only 68.01%. The 100 Best outperformed the industry sectors by 41.58%; this corresponds to the 100 Best earning a greater return by 48.45%. The second chart, table 2, comparing 100 Best to the S&P 500 had similar results. As this is solely looking at the 10-year growth, the same value is given for S&P 500 in each row, which is the same as the average. Comparing the 100 Best average to the S&P 500 average, the results are 127.40% growth to 68.1% growth. The 100 Best outperformed the S&P 500 by 59.39%; this corresponds to the 100 Best earning a greater return by 87.33%.

From the data, we can see there is a bias in the industry sector performance because they outperformed the market with their growth of 85.82% compared to 68.01% growth for the S&P 500. This means that, by default, we would expect firms in those industry sectors to outperform the stock market by 17.81%. In other words, when comparing the 100 Best to the market, their growth rate is biased upwards by 17.81%. Now, when we bring in the growth of the 100 Best, 127.40%, it is evident that the significant difference is not due solely to the bias. If we were to subtract the 17.81% bias, the 100 Best would still outperform the market by 41.58%. This significantly higher growth shows that it is not due to the bias that the 100 Best outperform the market.

Table 3 compares the volatility of the three groups. Because the S&P 500 is a representation of the market that serves as an index of comparison for the other two groups, the beta is 1. The closer the other groups are to 1, the closer their stock prices move similar to that of the overall market. The average beta for the 100 Best was 1.25; the beta for the matched industry sectors was 1.50. These values were used in the formulas for calculating the Treynor ratio and Jensen's alpha. The risk-free rate used to calculate Jensen's alpha is the 10-year US Treasury Rate, which was 2.38% as of March 29, 2017. Lastly, the returns used for calculations are present in tables 1 and 2. The 100 Best and industry sectors were each compared to the S&P 500 when calculating Jensen's alpha. If the 100 Best were compared to the industry sectors, alpha would have been 20.72.

Looking at the alpha values in the table 4, the 100 Best have a value of 42.98%. This means the 10-year investment more than compensated the inherent risk; an investor would beat the market and be rewarded significantly for the risk. The alpha value for the industry sectors was -15.00%, which means an investor was not properly compensated for the risk. The beta of

1.50 for the industry sectors demonstrates a higher risk, but the returns were not adequate for that high of a risk. The beta of the 100 Best was 1.25, signifying a 25% less risk than their matching industry sectors. This is an interesting observation that could use further research because it begs the question whether having strong organizational culture contributes to a firm being less risky.

The Treynor ratio can be used to rank different portfolios according to their risk. Table 3 shows the 100 Best had a ratio of 100.02, the industry sectors had a ratio of 55.63, and the S&P 500 had a ratio of 65.63. Consistent with the results of Jensen's alpha, the 100 Best had the greatest compensation for its level of risk. It outperformed the industry sectors and the S&P 500. The higher the ratio, the greater the compensation. The industry sectors underperformed the market again because the high risk was not sufficiently compensated. Combined, these two measures show that when taking risk into consideration, the 100 Best still outperform the industry sectors and the market.

Table 5 examines three potential investment opportunities. In March 2007, the start period of the stock performance for the study, a hypothetical $10,000 investment is made in each of the groups: the 100 Best, industry sectors, and S&P 500. If the stocks were held for a 10-year period, the chart depicts the dollar returns for each of the groups, which corresponds to their overall growth percentage in that period. The 100 Best, with the highest growth of 127.40%, had a capital gain of $12,740. If the stocks are sold at the end of February 2017, the investor would have $22, 740. Industry sectors had the second highest growth with $18,582 and the S&P 500 had the smallest growth with $16,801.

Conclusion

Given the results of the analysis, several conclusions can be drawn. In the scenarios, the 100 Best outperformed the industry sectors and the market. On an aggregate level, organizational culture significantly correlates to higher financial performance in the form of stock returns. Another implication can be drawn from comparing the average industry sector growth and S&P 500 growth. By accounting for industry sector growth, this showed that the 100 Best are not outperforming the market just because their respective industries are doing well and thus biasing the returns upwards. The data showed that the industry sectors are outperforming the market, but furthermore, that the 100 Best are outperforming the industry sectors as well.

This data shows the aggregate returns from investing in 20 companies who have been a 100 Best at least 10 times in the last two decades are greater than their corresponding industries and the overall market. There is strong correlation with higher financial performance, but correlation does not imply causation. This data does not prove that strong organizational culture causes greater returns, rather just that there is a significant relationship between organizational culture and financial performance.

Adjusting the returns for risk, Jensen's alpha and the Treynor ratio both show that the 100 Best still significantly outperform the market in a 10-year period and that this investment would be sufficiently compensated. The industry sectors, however, do not receive sufficiently high returns to justify the higher level of risk. One key point to remember is that past performance does not guarantee future performance. Stock volatility and growth can change year to year, which is something these methods are unable to take into account.

With the addition of this study, we see that the long-term ability to 'beat-the-market' is prevalent by investing in the 100 Best. By using the 100 Best and controlling for firms who have been a 100 Best at least ten times created assurance that the stock performance was due to consistent strong organizational culture. Comparing the 10-year stock market value growth of the 100 Best to their respective industry sector growth and to the S&P 500 growth, the data shows there is significant correlation between organizational culture and financial performance in the long-run. The 100 Best outperform the industry sectors by 48.45% and the S&P 500 by 87.33%.

Even in this smaller sample, there is great firm and industry sector variation. On the aggregate level of the 100 Best, strong correlation is prevalent. However, the sample was small with only 20 companies, so the results may not be completely representative. Future studies could take a micro approach, using additional data, to see if organizational culture has greater correlation to financial performance in some industries more than others and whether causation can be applied. Now, we can deduct that organizational culture and financial performance are strongly correlated in the long-run and that this holds when performance is adjusted for risk.

Is organizational culture the key to financial success? Not necessarily, but this study does suggest it may be an important factor. The significance of this study has implications for the business world because it shows organizational culture is not just an intangible asset; it can have long-term financial gains for firms as well. If the culture is there, then this enhances the firm's ability to do what it is in the business of doing and makes it more profitable in the process. There are many methods to directly influence financial performance. Then, there are also indirect methods, such as having a strong organizational culture, that can lead to business growth. The aggregate impact of organizational culture on firm performance is indeed positive.

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