

**THE EMPLOYEE IS ALWAYS RIGHT:
EMPLOYEE SATISFACTION AND CORPORATE
PERFORMANCE IN BRAZIL**

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Working Paper

PRELIMINARY VERSION

FEBRUARY 12th, 2019

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THE EMPLOYEE IS ALWAYS RIGHT: EMPLOYEE SATISFACTION AND CORPORATE PERFORMANCE IN BRAZIL

Abstract

I investigate the effect of employee satisfaction on corporate performance based on an extensive dataset of 114,004 online reviews of Brazil's 1,000 largest listed and unlisted firms from 2013 to 2018 posted at a local subsidiary of Glassdoor. I find that overall employee satisfaction is positively associated with firm performance and that this relationship is likely to be economically relevant. Among the four dimensions of employee well-being, the link with performance is most evident for the dimension on culture, followed by career opportunities. On the other hand, the dimension on compensation and benefits was the least connected with firm performance. Taken together, these results support the view that intrinsic motivators are more relevant for superior performance than extrinsic ones popularized by the "carrot and stick" approach to management. I also find that the influence of employee satisfaction on performance is likely to be asymmetrical, in the sense that workplaces characterized by low satisfaction among workers are more likely to lead to poor performance than best-in-class companies are likely to produce superior performance. To my knowledge, this is the first paper to document a positive link between firm value and employee satisfaction in an emerging economy using online reviews. Because employee well-being is typically one aspect considered in ESG assessments carried out by institutional investors for capital allocation decisions, this paper further contributes to the link between ESG standards and performance by showing that employees' reviews are a value relevant source of information for investors.

Key-words: employee satisfaction, human capital, corporate culture, intangible assets, online reviews, firm performance.

JEL classification codes: G30, G32, L20, J28, M14, M54.

**The Employee is Always Right:
Employee Satisfaction and Corporate Performance in Brazil**

1. Introduction

How important is employee satisfaction for the performance of firms? Although this is a critical issue for the way companies are managed and governed, empirical research in corporate finance to investigate this question has been surprisingly scarce so far. In addition to the classical view in economics that employees are a sort of expendable commodity like any other production input, the lack of reliable data on employee satisfaction is also partially to blame for the dearth of studies on this field. In the past few years, though, the emergence of career community websites that provide crowd-sourced reviews of companies by thousands of employees has allowed more accurate assessments of workers' satisfaction. As a result, a literature aiming to assess the value relevance of human capital based on these sources of information has flourished in the past few years (Grennan, 2013; Huang et al., 2015; Ji et al., 2017; Symitsi et al., 2018a, 2018b; Chang et al., 2018).

This paper fits into this emerging literature. Specifically, I investigate the effect of employee satisfaction on corporate performance in Brazil based on an extensive dataset of 114,004 online reviews of its 1,000 largest listed and unlisted firms from 2013 to 2018. The assessments were posted at Love Mondays, a local subsidiary of US-based Glassdoor where employees and former employees anonymously review their companies.

Overall, I find empirical support for human-resources theories of the firm that see employees as key corporate assets through five main results.

First, in line with previous research in this strand that make use of online reviews (Huang et al., 2015; Ji et al., 2017; Symitsi et al., 2018a, 2018b; Chang et al. 2018), I find that overall employee satisfaction is positively associated with firm performance after controlling for firm characteristics, industry, and time fixed-effects in System-GMM regressions. Among the four alternative performance indicators used for

robustness purposes, the results are particularly consistent for return on equity (ROE) and growth in the ranking position in the prior two years (Growth). The magnitude of the coefficients also suggests that the link between employee satisfaction and performance is likely to be economically relevant. In the case of ROE, for instance, regression coefficients suggest that, *ceteris paribus*, a company moving from the 10th percentile in terms of employee satisfaction (company rating = 2.70) to the 90th percentile (company rating = 3.86) would be associated with an increase in ROE by 6.4% per year. For a company whose profitability is equal to the sample's mean of 8.2%, this would represent a substantial increase of about 78% in its ROE.

Second, among Love Mondays' four dimensions of employee satisfaction – “Culture”, “Compensation and Benefits”, “Career Opportunities”, and “Work/Life Balance” – the positive relationship with performance is most evident for the Culture dimension, followed by Career Opportunities. For example, companies from the top quartile in culture ratings exhibit an average ROE of 9.9%, about two and half times the average ROE of 4.4% from the bottom quartile. In addition, companies with better culture ratings advance an average of 4.3 positions in the ranking of the largest 1,000 firms compared to two years before, while culture laggards decline an average of 7.1 positions over the same period. This difference in performance is supported in all econometric procedures with ROE as dependent variable. In one estimate, for instance, a company moving from the 10th percentile in terms of culture to the 90th percentile would be associated with an increase in ROE by 10.4% per year, other things held constant. The third main result is that, on the other hand, the dimension on Compensation and Benefits was the least relevant for firm performance. Actually, this variable produced contradictory results, with negative coefficients in almost half of the regressions.

Fourth, taken together, the results for the four dimensions of employee satisfaction support the view that intrinsic motivators – represented by culture and career opportunities – are more relevant for superior performance than extrinsic ones expressed by compensation and benefits. This, in turn, suggests that

focusing on extrinsic motivators popularized by the “carrot and stick” approach to management is the least effective way to improve firm performance through superior employee engagement.

The fifth result comes from an analysis in which companies have been segregated in quartiles based on their employee ratings. In this case, the regressions suggest that workplaces characterized by low levels of employee satisfaction destroy significant firm value, while the opposite is not necessarily true in the case of companies that positively stand out in satisfying their employees. These results suggest, therefore, that the influence of employee satisfaction on performance is likely to be asymmetrical, in the sense that employee dissatisfaction is likely to have a clearer impact on performance than employee above-the-average satisfaction.

These findings provide two main contributions to the literature on employee satisfaction, human capital, and the relevance of assessing intangibles in general.

The first is that, to my knowledge, this is the first paper to document a positive link between firm value and employee satisfaction in an emerging economy using online reviews to assess employee satisfaction.

This conclusion suggests that putting the human factor at the center of managerial focus is appropriate not only in developed countries such as the US and the UK where most empirical research has been carried out, but also in emerging economies as well. It is also interesting to note that the 2013-2018 period was a particularly turbulent one for the Brazilian economy, with Brazil suffering the greatest recession in its history from 2014 to 2016 (a contraction of about 8% in the country’s GDP). Thus, the results suggest that employee satisfaction may be a particularly significant source of competitive advantage for companies in times of economic distress.

The second contribution is that this is one of the first papers to document an asymmetrical impact of employee satisfaction on performance. Specifically, the results suggest that workplaces characterized by low employee satisfaction are more likely to lead to poor performance than best-in-class companies in terms of employee well-being are likely to produce superior performance.

Because employee welfare is typically one aspect considered in ESG (Environmental, Social, and Corporate Governance) assessments conducted by institutional investors for capital allocation decisions, this paper further contributes to the link between ESG standards and firm performance by showing that employees' online reviews are a value relevant source of information for investors.

This paper is organized as follows. In section 2, I provide the conceptual background and review the empirical literature. In section 3, I describe the sample, data sources, and research model, as well as the operational definition of the variables. I present and discuss the results in section 5, with robustness tests being described in section 6. Section 7, in turn, concludes.

2. Literature Review

The argument that the human factor – including employee satisfaction – is relevant for the performance of human organizations such as business enterprises can be seen as almost tautological. Existing theories, though, provide conflicting predictions on the relevance of employee well-being for firm value.

On the one hand, there are traditional ideas from the so-called “scientific management theory” formulated by Frederic Winslow Taylor in the beginning of the 20th century (Taylor, 1911; 1914) whose roots trace back to Adam Smith's XVIII century pin factory example (2007, Chapter I). This traditional view, created in the context of capital-intense firms typical of the industrial revolution, argues that workers are a sort of expendable commodity just like any other production input. As a result, managers should focus on breaking the work into simple, measurable, and specialized tasks, so they are able to extract the maximum output out of employees while minimizing their costs.

This mindset is based on extrinsic motivators popularized as the “carrot and stick” approach to management: workers whose production exceeds some predetermined standards receive financial rewards and those who don't meet them are threatened with punishments. Under this view, employee

contentment would solely derive from their compensation as well as from the likelihood of being punished for shirking work. In Taylor's words (1911: 94), "The average workman must be able to measure what he has accomplished and clearly see his reward at the end of each day if he is to do his best". Thus, employee satisfaction under the scientific management paradigm only arises if workers are overpaid or underworked, both of which reduce firm value (Edmans, 2011: 622).

Principal-agent theory, the basis for most research on corporate governance, is built upon this view (Jensen and Meckling, 1976). Specifically, it argues that managers' role is to maximize firm value by holding employees to the lowest wage rate at which they would be willing to accept a particular job (a concept known as the reservation wage in labor economics). If, for any reason, managers opt to pay above market rates or accept employees to engage in excessive slack time, then they would be incurring into agency costs borne by shareholders.

On the other hand, there are management behavioral theories with different views on labor relations (Follet, 1924; Mayo, 1933; Barnard, 1938; Maslow, 1943; Herzberg, 1959; McGregor, 1960; Ryan and Deci, 2000). They argue that employee satisfaction – primarily based on intrinsic motivators such as a sound organizational culture, a sense of purpose, and the perspective of developing oneself professionally – is a critical factor for workers' productivity and, consequently, for firm performance to the benefit of shareholders.

These theories point out that seeing employees as a key organization asset is particularly true in modern workplaces, in which employees are involved in complex tasks such as decision-making, relationship-building, critical thinking, innovation, and problem-solving. Thus, because the current workplace chiefly requires cognitive and emotional abilities instead of physical ones, human capital has replaced physical capital as the main source of sustainable competitive advantage for companies.

In spite of the relevance of this debate for the way companies are managed and governed, empirical research to investigate the proposition that the traditional view of the firm should give place to a human-centered one has only taken off in the past few years.

One of the first studies was carried out by Filbeck and Preece (2003). They analyzed the stock price impact of a firm's inclusion in the "100 Best Places to Work for in America" list compiled annually by the Great Place to Work Institute. By means of event study tests, they found a significant positive market reaction on the day of the announcement. This led them to conclude that "...the marketplace believes that satisfied employees may lead to satisfied shareholders" (p. 791).

Edmans (2011) carried out a subsequent study on this field. He analyzed the relationship between employee satisfaction and long-run stock returns by using a value-weighted portfolio of the "100 Best Companies to Work for in America". He found that such portfolio earned an annual four-factor alpha of 3.5% from 1984 to 2009, or 2.1% above industry benchmarks. He also observed that Best Companies for employees exhibited significantly more positive earnings surprises and announcement returns. His conclusion, therefore, is that firms with high levels of employee satisfaction generate superior long-horizon returns. Using a different methodology in a related paper, Edmans (2012) also found that companies listed in the U.S. "100 Best Companies to Work For" generated 2.3% to 3.8% higher stock returns per year than their industry peers from 1984 through 2011.

Guiso et al. (2015) also contributed significantly to this literature. They analyzed data from 1,000 American companies between 2007 and 2011 that are part of the "Best Places to Work For" list. About 400,000 employees evaluated their own companies through 58 statements related to different aspects of their workplace. Their key conclusion was that the level of employee agreement with two statements related to the integrity of their leaders proved to be strong predictors of corporate performance in terms of higher productivity, profitability, better industrial relations, and even higher level of attractiveness to prospective job applicants.

Up to this point, most papers in this field measured employee satisfaction by third-party reports such as the “Best Places to Work For” lists. However, as detailed in the next section, these data sources have relevant drawbacks, such as its perverse incentive for firms to manipulate the responses of their employees so they could be included in these publications. This research approach changed with the emergence of career community websites such as Glassdoor and Indeed. These websites provided crowd-sourced reviews of companies by thousands of current and former workers, thus likely leading to more accurate assessments of employee satisfaction (the next section details this argument).

One of the pioneer studies in this field using career community databases was Grennan (2013). After constructing measures of corporate culture based on employee reviews at Glassdoor, she concludes that organizational culture is an important channel through which shareholder governance affects firm value. Specifically, she shows that stronger shareholder governance changes aspects of culture by leading to a greater results-orientation but less customer-focus, integrity, and collaboration. This augmented results-orientation leads managers to concentrate on easy-to-observe benchmarks which, in turn, allows shareholders to initially realize financial gains through increases in sales, profitability, and payouts. Over time, though, this change in culture leads managers to overlook harder-to-measure intangibles, impairing important drivers of long-term value such as customer satisfaction and employee integrity. Overall, she finds that initial gains created by shareholder governance are reversed and that firm value declines 1.4% through this corporate culture channel.

Huang et al. (2015) also resort to online reviews to investigate the role of culture in family firms and its implications for firm value. They use more than 100,000 surveys collected by Glassdoor between 2008 and 2012 and find that employees who work for firms with active founders rate their companies higher than employees in nonfamily firms, particularly if the founder runs the company. They also find that employee assessments are positively associated with subsequent firm performance measured by

Tobin's q and return on assets (ROA). Thus, their findings provide evidence that family firms exhibit a human-capital-enhancing culture that leads to superior corporate performance.

Corroborating the idea that this line of research has taken off in the past few years due to the emergence of websites where employees can anonymously review their companies, most papers in this strand have been published in the biennium 2017-2018.

Symitsi et al. (2018a) performed a portfolio analysis using online reviews on Glassdoor from 2009 to 2016 to decide which U.S. stocks to include in a value-weighted portfolio of companies characterized by high employee satisfaction. Subsequently, they found that this portfolio generated a positive and significant monthly four-factor alpha of 1.35% over an eight-year period as well as resulted in superior profitability (ROA) and firm value (Tobin's Q). Thus, they conclude that employee satisfaction positively impacts corporate performance and that this valuable intangible is not fully priced in the stock market. In a related paper based on 35,231 reviews for 164 public and private British firms, Symitsi et al. (2018b) finds that employee satisfaction also produces positive impacts on firm profitability in the UK, and that this is still not fully recognized by equity investors.

Ji et al. (2017) explored the impacts of employee satisfaction from a different angle. They covered Glassdoor's 1,112,476 employee ratings of 14,282 public firms over the 2008-2015 period to investigate whether financial reporting risk is associated with job satisfaction and company culture. They find that firms with lower levels of job satisfaction and lower levels of "culture and values" are more likely to be subjected to SEC fraud enforcement actions and securities class action lawsuits. In addition, they notice that a lower rated culture is associated with an increased likelihood of narrowly meeting or beating market earnings expectations. Thus, they find strong evidence that the work environment, as perceived by employees, appears to play a critical role in financial reporting risk and corporate fraud.¹

¹ They interpret their results in two alternative ways: 1) an inferior competitive corporate culture can be a breeding ground for aggressive accounting and fraud; or, 2) their measure of corporate culture captures employee dissatisfaction, which increases the probability of whistleblowing.

Chang et al. (2018) also investigate the impacts of employee satisfaction from a different perspective, this time focusing the creation of shareholder value around mergers. By using over a million reviews of S&P 1,500 firms posted between 2008 and 2017 on Glassdoor, they find that acquirers with high employee satisfaction experience stronger announcement returns and improvements in operating performance. Conversely, they find that acquirers with low employee satisfaction are more likely to encounter disruptive events like employment-related lawsuits or changes to management following merger announcements. Among the five Glassdoor sub-categories, they observe that employee perceptions of career opportunities have the most reliable effect on post-merger performance. In aggregate, their results suggest that the positive implications of employee satisfaction on post-merger performance are even more pronounced when employees' career concerns are well taken care of.

To conclude, Edmans et al. (2018) carried out the first cross-country study on this field. Using lists of the "Best Companies to Work For" from 14 countries, they show that employee satisfaction is associated with positive abnormal returns in countries with high labor market flexibility, such as the US and UK, but not in countries with low labor market flexibility, such as Germany. In their view, their results are consistent with high employee satisfaction being a valuable tool for recruitment, retention, and motivation in flexible labor markets, where firms face fewer constraints on hiring and firing. In regulated labor markets, though, legislation is more likely to provide minimum standards for workers' welfare, which may lead to lower marginal benefits of expenditure on employee welfare. Thus, there may be relevant nuances in the employee satisfaction-stock market performance across countries.

3. Methodology

3.1. Sample and data sources

My sample results from the merger of two databases. The first comes from the Valor 1,000 ranking published on an annual basis by Valor Economico, Brazil's main business newspaper. This list

identifies the 1,000 largest Brazilian companies by revenues, both listed and unlisted. It also provides some corporate and financial data for these firms. As the vast majority of Brazil's largest companies are unlisted, no stock market indicators are available for this sample. My analysis covers six years from 2013 to 2018, which results in a database with 6,000 firm-year observations from 1,939 different firms. The second database comes from Love Mondays, the most popular career community website in Brazil (www.lovemondays.com.br). Love Mondays is a subsidiary of US-based Glassdoor, the world's largest job and recruiting website. As described in the previous section, Glassdoor database has been used by many papers in this field such as Grennan (2013), Huang et al. (2015), Ji et al. (2017), Symitsi et al. (2018a, 2018b), and Chang et al. (2018).

Similar to its parent company, Love Mondays asks employees to anonymously comment and report their satisfaction about their firms using a 5-point Likert scale where 1 corresponds to the worst reviews and 5 to the best ones. Companies are rated along four dimensions: Culture, Compensation & Benefits, Career Opportunities, and Work/Life Balance. In addition, employees are required to indicate their overall satisfaction with their companies as well as if they recommend them to friends.

Although all employee assessments are made publicly-available at Love Monday's website for all registered users, the website denied our request to send its full database for the purpose of this research on allegations that this was not allowed by its internal policies. As a result, an algorithm was created in order to automate data extraction from the website.

I retrieved all 307,242 employee reviews posted at Love Mondays from 2013 to 2018 for 5,814 firms. About two-thirds (67.8% or 208,282) of the reviews were posted by current employees, while around one-third (32.2% or 98,960) were posted by former employees.

By merging Valor 1,000 and Love Mondays databases, I ended up with a final sample of 3,116 firm-year observations for 1,031 different firms based on the reviews of 114,004 employees. Each firm received an average of 110.5 employee reviews over this period (36.6 number of reviews per firm-year

on average). For each given year, I aggregated all ratings to create a firm-year measure of employee satisfaction.

The use of online employee reviews from career community websites such as Love Mondays has many advantages over the use of corporate social reports or external surveys such as Great Places to Work best workplaces list, the two traditional data sources for research on this field.

To begin with, corporate social reports are typically voluntary. This may lead to sample bias, as some firms are more likely than others to disclose it. As an example, firms with worst human relations record may be more likely to publish such reports (sometimes with not so realistic figures) in order to use them as a public relations tool. Alternatively, firms under financial constraints may be less likely to disclose these reports due to lack of resources.

External surveys, in turn, also suffer from other relevant drawbacks. In many cases, such as the “Best Places to Work For” lists, companies must pay to be part of such surveys. As explained by Grennan (2013), this obviously creates perverse incentives for companies to manipulate the responses of its employees in order to receive better assessments. In addition, external surveys are infrequent (usually published once a year) and very limited in the number of covered firms.

Using crowd-sourced online reviews that reflect perceptions of thousands of different employees on their firms do not have any of these handicaps. On the contrary. Empirical evidence shows that employee perceptions matter significantly more to firm value than firms’ stated values (Guiso et al., 2015). Thus, having direct access to employee opinions is likely to uncover the “collective wisdom” about how workers truly feel about their workplaces, which would lead to better constructs of employee satisfaction than corporate reports.

In this research, for instance, my indicators of employee satisfaction are based on more than 100,000 different assessments from a relatively high number of firms over a significant time window. This has allowed, in turn, the creation of a panel dataset with substantial cross-sectional and time-series variation.

On the other hand, it is important to recognize that data from social media may also be subject to sample bias. One of the commonly cited limitations comes from the argument that unhappy employees, particularly former ones, may have a greater incentive to post negative comments.

Love Mondays' policies aims to alleviate such concern. Firstly, the website uses a "give-to-get" model that requires all users to post a full company review and salary report in order to get unlimited access. This allows it to expand its user base and reduce the weight of unrepresentative reviews from dissatisfied employees.

The website also claims to take a series of measures to validate users' identities and relationships with their companies.² For users who sign up by Facebook or LinkedIn, for instance, the website administrators usually check the companies they currently work or worked for through their profile information. For users who sign up by email, they also confirm if they are in fact the owners of the registered email. Reviewers are also required comment on both the "pros" and "cons" of their companies in order to ensure balanced reviews.

In addition, for the sake of ensuring the publication of honest, authentic and balanced assessments in compliance with strict community guidelines, all reviews are read by Love Mondays moderation team before being posted (in the case of Glassdoor, its parent company, approximately 15% of reviews are rejected by website editors because they fail to meet its guidelines. It is expected that a figure of similar magnitude may also be rejected at Love Mondays). The website also states in its community guidelines to never suppress, edit, or delete content because of its rating. It also claims to do not allow companies who may buy its services to modify or suppress any review.³

Finally, an inspection of the diversity of profiles in terms of job titles, ranks in the hierarchy, salaries and geographical location show that reviewers tend to be fairly distributed across these categories. In my sample, for example, reviews come from employees holding a total of 17,925 different titles. This

² For more on this, see <https://www.lovemondays.com.br/faq>

³ For more on this, see <https://www.lovemondays.com.br/perguntas-juridicas>

suggests that a wide range of employees are reporting their views, reinforcing the idea that Love Mondays' assessments are representative of the average employee's perception of a firm.

3.2. Operational definition of the main variables

Dependent variables on corporate performance

Corporate performance can be defined in many ways. In this study, I use four alternative measures for robustness purposes:

- Return on equity (ROE): net income divided by shareholders' equity;
- Return on assets (ROA): operating income divided by total assets;
- Ebitda margin (Ebitda): earnings before interest, tax, depreciation, and amortization divided by net revenues; and,
- Growth in the ranking of 1,000 largest Brazilian companies in the prior two years (Growth): ranking position in the Valor 1,000 list two years before minus its current position.

Explanatory variables on employee satisfaction

As detailed in the previous section, employee satisfaction is measured by the average rating on a scale of 1 to 5 of:

- Overall Employee Satisfaction (OV_SATISFCT): average score of employees when asked about their overall satisfaction with their firms;
- Company recommendation for others (RECOMMEND): percentage of employees who recommend their companies to others;
- Culture, Compensation and Benefits, Career Opportunities, and Work/Life Balance (CULTURE, COMP_BEN, CAREER_OP, and Q_LIFE): average score of employees for the

dimensions “Culture”, “Compensation and Benefits”, “Career Opportunities”, and “Work/Life Balance”, respectively.

Control variables

The Valor 1,000 ranking is composed of a majority of unlisted and closely-held firms. As a result, public information about these companies is very limited and it is possible to use of an ideal set of controls. In any case, I carried out best efforts in order to control for the following attributes that might simultaneously influence the main variables of interest:

- Firm size (SIZE): natural logarithm of total assets;
- Financial leverage (DEBT_LEV): short term debt and current portion of long-term debt plus long-term debt divided by total assets;
- Country source of the company’s capital (COUNTRY): dummy variable taking the value of “1” for with Brazilian capital, and “0” for companies with foreign capital;
- Geographical location of the company’s headquarters (SOUTHEAST_ REGION): dummy variable taking the value of “1” if the firm’s headquarters is located in Brazil’s Southeast region (the most developed of the country, accounting for about 60% of Brazil’s GDP), and “0” otherwise;
- Industry controls: Twenty-seven industry dummy variables based on the Valor 1,000 newspaper classification; and,
- Time controls: Yearly dummies from 2013 to 2018.

All variable definitions are provided in Table 1. To reduce the influence of extreme values, I winsorized distributions of continuous variables at the 1st and 99th percentiles.⁴

⁴ Winsorization is the transformation of statistics by limiting extreme values in the statistical data to reduce the effect of possibly spurious outliers. In my case, I set all outliers to a 99th percentile of the data, so that all data below the 1st percentile was set to the 1st percentile and the data above the 99th percentile was set to the 99th percentile.

3.3. Research model and data analysis

The baseline model to analyze the influence of employee satisfaction on corporate performance comes from the following linear specification:

$$Performance_{it} = \alpha + \beta_1 \times \overline{Company_Rating}_{it} + \beta_2 \times Performance_{it-1} + \sum_{j=3}^n \beta_j \times CV_{jit} + \sum_{k=1}^n \delta_k \times IND_{ki} + \sum_{l=1}^n \gamma_l \times YEAR_{li} + n_i + u_{it}$$

Where:

$Performance_{it}$ = measure of performance of the i^{th} firm at time t . Alternative indicators: return on equity, return on assets, Ebitda margin, or growth in ranking position of the largest 1,000 companies in the previous two years;

$\overline{Company_Rating}_{it}$ = average company rating by employees of the i^{th} firm at time t on a scale of 1 to 5. Alternative indicators: overall employee satisfaction, percentage of company recommendation for others, culture, compensation and benefits, career opportunities, and work/life balance dimensions;

$Performance_{it-1}$ = measure of performance of the i^{th} firm at time $t-1$;

CV_{ji} = set of control variables with firm-specific characteristics of the i^{th} firm at time t : firm size; financial leverage; country source of the company's capital; and geographical location of the company's headquarters;

IND_{ki} = set of industry dummy variables to control for industry heterogeneity;

$YEAR_{mi}$ = set of year dummy variables to control for the heterogeneity across time;

n_i = firm specific and time-invariant effect of the i^{th} firm (non-observable fixed effect); and,

u_{it} = random error term of the i^{th} firm at time t .

The baseline model raises several endogeneity concerns, which I endeavor the best efforts to address. Firstly, a better company performance may lead employees to deliberately or unconsciously assign better ratings to their firms. Thus, reverse causality may take place. In addition, the database mostly composed of closely-held firms has relevant data limitations on firm-level attributes that are usually important for research on this field. Thus, omitted variables affecting both corporate performance and employee satisfaction may also take place.

I try to mitigate these endogeneity concerns by using alternative operational definitions for performance and employee satisfaction, as well as by estimating the relationship between the main variables of interest using four different econometric approaches in increasing order of complexity: pooled OLS regressions, dynamic OLS regressions (controlling for past performance), fixed-effects models, and System-GMM (generalized method of moments). Among these, dynamic GMM regressions constitute the most reliable procedure employed in my analysis to mitigate for endogeneity concerns.

In all regressions, I test for the significance of the coefficients using standard errors robust to heteroskedasticity clustered by firm. I also restrict the analysis to companies with a minimum of 5 employee reviews per year in order to reduce potential biases in the assessments and test alternative minimums in robustness checks.

Despite these efforts to mitigate endogeneity concerns, there may be still certain endogeneity issues that have not been properly addressed. As a result, it is not possible to rule out that some results may be driven by spurious correlation nor claim causality.

4. Results

4.1. Descriptive and quartile analysis

Table 2 provides descriptive statistics on the research variables. In terms of performance, the median firm-year observation of our sample exhibits a ROE of 10.4% and a ROA of 5.7%. The position

in the ranking of the 1,000 largest companies tend to be relatively stable for most firms, as the median company advances a single place compared to its ranking position two years before.

Employee overall satisfaction has a mean value of 3.29 on a 1-5 scale throughout the research period, with the company at the 25th(75th) percentile exhibiting a value of 3.00 (3.60). An average of 82.3 employees recommend their companies to others, ranging from 17% for the worst assessed firm to 100% for the better rated ones. The average scores for the dimensions “Culture”, “Compensation & Benefits”, and “Work/Life Balance” are relatively similar, ranging from 3.35 to 3.46. The exception comes from the dimension “Career Opportunities”, which shows a significantly lower mean value of 2.96.

Companies from the sample exhibit median (mean) total assets of BRL 980 million (BRL 5.0 billion), around USD 250 million (USD 1.4 billion). Around 77% of the companies are financed by Brazilian capital, while the remaining is controlled by foreigners. In line with the country GDP, around 64% of the companies are based in the richest Southeast region, while the rest is based in the other four regions of the country.

[Table 2]

I also added two charts for illustration purposes. The first shows the variation of overall employee satisfaction across industries. There is a noticeable variation, with average scores ranging from 2.86 (environmental services) to 3.49 (pulp & paper). Besides pulp & paper, the oil & gas, plastics & rubber, and engineering & construction industries also stand out in terms of better employee satisfaction. Curiously, industries highly dependent on human capital, such as IT and Education, fare relatively bad in terms of employee satisfaction, being positioned in the bottom-half of the chart.

[Chart 1]

The second chart depicts the evolution of employee satisfaction over the years. The ratings are fairly stable, with overall satisfaction ranging between 3.23 to 3.33 throughout the six-year period. Among the four Love Mondays’ dimensions, it is possible to note a slight improvement on the Compensation &

Benefits category over the six-year period (from 3.33 in 2013 to 3.58 in 2018), countered by a slight decrease in the Career Opportunity dimension (from 3.06 to 2.95).

[Chart 2]

This initial inspection of the data concludes with correlations and quartile analysis. Correlations between our variables of interest and the other research variables are presented in two matrices. The first shows the relationship between employee satisfaction and corporate performance.

[Table 3]

As shown in Table 3, there is a significant positive correlation at the 1% level between overall employee satisfaction and ROE, as well as a positive correlation at the 5% with Ebitda. On the other hand, the correlations with ROA and Growth in ranking position, although positive, are not statistically significant. Concerning the four dimensions of employee satisfaction, two stand out in terms of strongest positive correlations with performance: Culture and Career Opportunities. In both cases, there is a positive correlation at least at the 5% level with all measures of firm performance. On the other, it is worth noticing that the dimension on Compensation & Benefits is the only one without significant positive correlations with performance. Taken together, these results highlight the relevance of investing in intrinsic motivators represented by culture and career opportunities compared to investments in extrinsic motivators represented by compensation and benefits.

Table 4, in turn, exhibits the correlations between employee satisfaction and the other research variables. It shows that larger firms with lower debt levels and foreign capital receive, on average, better employee scores (there is no clear correlation with the geographical location of the companies). It is interesting to observe, therefore, that companies controlled by Brazilians exhibit, on average, lower levels of employee satisfaction than those with foreign capital.

[Table 4]

We also carried out a quartile analysis to have a deeper understanding on the correlations between employee satisfaction and firm performance. In this case, for each indicator of employee satisfaction, I segregate firms into four groups based on their ratings (Q1 for the first quartile with lower ratings, Q2, Q3, and Q4 for the fourth quartile with highest ratings). After segregating companies in quartiles, I then compared the performance of the groups through two-sample difference of means tests. Table 5 to Table 10 show the results (for illustration purposes, they are also shown in Chart 3 to Chart 8).

[Table 5]

[Chart 3]

[Table 6]

[Chart 4]

[Table 7]

[Chart 5]

[Table 8]

[Chart 6]

[Table 9]

[Chart 7]

[Table 10]

[Chart 8]

For space reasons, I focus on the analysis of the “Overall Satisfaction” variable. In this case (see Table 5), the results are quite clear: for all performance variables, companies from the top quartile in terms of overall employee satisfaction outperform those from the other quartiles, particularly those from the first quartile composed of the companies with lower scores. Let’s take the example of ROE. Companies from Q4 (mean overall satisfaction of 3.88) exhibit an average return on equity of 8.5%, about twice as much as those belonging to Q1 (mean overall satisfaction of 2.67; average ROE = 4.4%). This difference in

performance is statistically significant at the 1% level and the same is true for the three alternative performance indicators (ROA, Ebitda, and Growth). It is also possible to observe that, as employee satisfaction increases across the quartiles, firm performance also improves accordingly. In the case of ROE, for example, Q2 average return on equity is 6.4%, significantly lower than Q3 average ROE of 7.6%. This systematic improvement in performance concomitant with enhanced employee satisfaction is clearly viewed in Chart 3.

This pattern is the same for the alternative variable on overall employee satisfaction related to the percentage of workers recommending the firm to others. It is also alike for the dimensions on “Culture”, “Career Opportunities”, and “Work/Life Balance”. Among these dimensions, the difference in performance among quartiles is most evident for Culture. In this case, companies from the top quartile in Culture exhibit an average ROE of 9.9%, about two and half times the average ROE of 4.4% from the bottom quartile. In addition, companies with better culture reviews advanced on average 4.3 positions in the ranking of the largest 1,000 Brazilian firms compared to two years before, while the laggards in terms of culture ratings declined an average of 7.1 positions over the same period. Once again, the notable exception comes from the dimension on “Compensation and Benefits”. In this instance, there was not a clear pattern between employee ratings and performance indicators (the relationship was positive for Ebitda, but not significant for the other variables). Thus, the results from this descriptive section suggest that focusing on extrinsic motivators is the least effective way to improve firm performance through superior employee engagement.

4.2. Regression analysis

Table 11 reports the results of different regression models aiming to analyze the effect of employee satisfaction on firm performance. The dependent variables are ROE (models 1-4), ROA (models 5-8), and the Growth in the ranking of the largest 1,000 Brazilian companies in the prior two

years (models 9-12). The explanatory variable of interest is the overall company rating on a 1-5 scale at Love Mondays. Other independent variables are used as controls. As described in the previous section, I estimate the relationship between the main variables of interest through four econometric approaches in increasing order of complexity. Models 1, 5, and 9 report estimates from OLS regressions with robust White-corrected standard errors. Models 2, 6, and 10 report estimates from dynamic OLS regressions with lagged performance variables. Models 3, 7, and 11 show estimates from Fixed Effects regressions. Models 4, 8, and 11 are dynamic panel data models estimated through System-GMM regressions. In the GMM regressions, I use variables lagged two to four years as instruments for the endogenous variables and assume that all explanatory variables except geographic location, country source of the company's capital, industry, and year dummies are endogenous.

[Table 11]

The results for pooled OLS, dynamic OLS and fixed-effects models show that the average rating of employee satisfaction is positively associated with corporate performance measured by ROE, ROA, and Growth in ranking position (the only exception comes for ROA in the fixed-effects regression, in which case the coefficient is not statistically significant). The first column shows, for instance, that the coefficient of overall employee satisfaction on ROE is 0.055 and significant at the 1% level. This suggests that, *ceteris paribus*, a company moving from the 10th percentile in terms of employee satisfaction (company rating = 2.70) to the 90th percentile (company rating = 3.86) would be associated with an increase in ROE by 6.4% per year. If the company's ROE would be equal to the sample's mean of 8.2%, then a substantial increase of about 78% on its ROE would be expected. Alternatively, the coefficient suggests that a one-standard-deviation increase in company rating is associated with an increase in annual ROE by 2.7%.

The more important results, though, come from the more robust System-GMM regressions. Here, the coefficients for overall employee satisfaction remain positive and significant for both ROE and Growth

at the 5% level. The exception once again comes from ROA, for which the coefficient is also positive but not statistically significant. In the case of ROE, for example, the Hansen test has a p-value of 0.131, while the difference-in-Hansen test p-value is 0.610. These tests suggest that it is not possible to reject the null hypothesis that the lagged instruments are valid. The coefficients of overall employee satisfaction for ROE also remain large (0.105, about double the size of the OLS coefficient), corroborating the idea of a relevant economic impact in the case of this performance indicator.

I also run regressions using the four dimensions of employee satisfaction as explanatory variables of interest to investigate their effect on firm performance. Table 12 exhibits these results.

[Table 12]

As detailed in Table 12, the dimension on “Culture” is the most relevant in explaining improved corporate performance as proxied by ROE. In this case, the coefficients are positive and significant at least at the 5% level in all econometric procedures, including the System-GMM regression. Its coefficients are also relevant. In the OLS estimate, for instance, a company moving from the 10th percentile in terms of culture (rating = 2.59) to the 90th percentile (rating = 4.09) would be associated with an increase in ROE by 10.4% per year, other things held constant. For a company with a ROE equal to the sample’s mean of 8.2%, this would mean a very large increase of about 127% on its ROE. It is important to note, though, that the coefficients for the culture dimension are not statistically significant in the GMM-Sys regressions for the two other performance variables.

Career opportunities is the other dimension that showing a clearer relationship with firm performance. For this variable, positive coefficients are observed in all regressions, although they are statistically significant in only about half of them. In particular, it is important to note that this variable exhibits a positive and significant coefficient at the 5% level in the GMM-Sys regression using Growth in ranking position as the dependent variable (the same is true for the work-life balance dimension). On the other

hand, the dimension on compensation & benefits exhibited the more contradictory results with firm performance, with negative coefficients in almost half of them.

Taken together, these results indicate that, among the four dimensions of employee satisfaction, those related with intrinsic motivators such as culture and career opportunities are most positively associated with different measures of performance, while the dimension most closely related to extrinsic motivators (compensation & benefits) is not associated with better performance.

4.3. Robustness checks

As discussed in the methodology section, the research model raises relevant endogeneity concerns such as reverse causality and omitted variables. In addition to resorting to different econometric procedures and making use of alternative operational definitions for firm performance, this section provides additional robustness checks.

I start by creating alternative variables for employee satisfaction. For overall satisfaction, I create two dummy variables named “High employee satisfaction” and “Low employee satisfaction” which correspond to the top and bottom quartiles of average company ratings, respectively. I then rerun all regressions using these variables in place of the original variable of overall employee satisfaction. Table 11 presents the results.

[Table 11]

The results presented in Table 11 can be viewed as complementary to the previous regressions. In all specifications, including GMM-Sys regressions, companies belonging to the lower quartile in terms of overall employee satisfaction are associated with worst performance. On the other hand, though, the coefficient of the high satisfaction variable is positive and significant only for ROE in the GMM-Sys regression. The results suggest, therefore, that workplaces characterized by low levels of employee

satisfaction destroy firm value, while the opposite is not necessarily true in the case of companies that positively stand out in terms of employee satisfaction.

I repeated the same procedure for each of the four dimensions on employee satisfaction and present the results in Table 12.

[Table 12]

Once again, the dimension on Culture is the most strongly one related to firm performance as companies from the top quartile in culture exhibit a superior ROE. Moreover, companies from the bottom quartile lose more positions in the ranking of 1,000 largest Brazilian firms compared to two years before. For the other dimensions, the coefficients of the dummy variables associated with the lower quartiles on employee satisfaction are significantly negative in virtually all specifications, while the coefficients of the variables related to higher satisfaction are not significant. The conclusion, therefore, is the same as for the variable on overall employee satisfaction: companies from the bottom quartile in terms of culture, compensation & benefits, career opportunities, and work/life balance destroy value, while those at the top quartiles on these issues do not necessarily outperform others.

In addition to this set of regressions, I also conducted the following robustness checks whose results, omitted due to space reasons, are available upon request. First, instead of restricting the analysis to companies with a minimum of 5 employee reviews per year, I run regressions using 3, 10, 20, and 50 as alternative minimums of employee reviews per year. Second, I rerun all tests using only reviews posted from current employees so that the results could not be driven by disgruntled former employees. And, third, I run all regressions using Ebitda as a performance variable and “Recommendation of the company to others” as an alternative measure of employee satisfaction. In cases, the results remained qualitatively the same.

5. Conclusion

I provide evidence of a positive and economically significant link between firm value and employee satisfaction in an emerging economy using online reviews posted at a local subsidiary of Glassdoor. The results are obtained after controlling for firm characteristics, industry, and time fixed-effects in System-GMM regressions and hold after robustness checks. This general conclusion is consistent with the findings of a burgeoning literature on this field that use a similar data source to measure employee satisfaction, such as Huang et al. (2015), Ji et al. (2017), Symitsi et al. (2018a, 2018b), and Chang et al. (2018).

I also find interesting nuances in the employee satisfaction-firm performance relationship. Among the four dimensions of workers' well-being, those related to intrinsic motivators such as culture and career opportunities have shown to be more relevant for superior performance than extrinsic ones represented by the dimension on compensation and benefits. In addition, the results suggest that companies with dissatisfied workers are more likely to suffer from poor performance than those with high satisfied employees are likely to produce superior performance.

To my knowledge, this is the first paper to investigate the link between firm value and employee satisfaction in a developing country based on online reviews as a measure of employee satisfaction. In particular, because my analysis covers a very turbulent economic period in Brazil in which the country suffered its greatest recession in history, the results suggest that employee satisfaction may be a particularly significant source of competitive advantage for companies in times of economic distress. In addition, this paper also contributes to the literature on human capital and intangibles in general by exploring the likely asymmetrical impact of employee satisfaction on performance.

Nonetheless, my results should be interpreted with caution because of important limitations. Above all, the research model and the limited amount of public information about the sample companies raise relevant endogeneity concerns such as reverse causality and the influence of omitted variables. Although

I endeavor best efforts from the methodological standpoint to address such concerns, it is not possible to rule out that some results may be driven by spurious correlation nor claim causality running from employee satisfaction to increased firm performance.

This research has implications for academics and investors. For academics, my analysis provides further evidence supporting theories based on a human capital-centered view of the firm in which employees are viewed as key organizational elements for firm value and sustainability. It also provides support to self-determination theory and its emphasis on intrinsic motivators. For investors, this research reinforces the business case that employee welfare should be explicitly accounted for in ESG assessments and that employees' online reviews are of significant value relevance for capital allocation decisions.

References

- BARNARD, C. I. (1938). *The functions of the Executive*. Cambridge (Mass: Harvard University Press).
- CHANG, S. J., OH, J. Y., PARK, K. (2018). Employee Satisfaction, Career Concerns, and Acquirer Performance. KAIST College of Business Working Paper Series No. 2016-013. Available at SSRN: <https://ssrn.com/abstract=2827397>
- EDMANS, A. (2011). Does the Stock Market Fully Value Intangibles: Evidence from Employee Satisfaction and Equity Prices, *Journal of Financial Economics* 101, 621–640.
- EDMANS, A. (2012). The link between job satisfaction and firm value, with implications for corporate social responsibility. *Academy of Management Perspectives*, 26(4), 1-19.
- EDMANS, A., LI, L., & ZHANG, C. (2017). Employee Satisfaction, Labor Market Flexibility, and Stock Returns Around the World European Corporate Governance Institute (ECGI) - Finance Working Paper No. 433/2014. Available at SSRN: <https://ssrn.com/abstract=2461003>
- FILBECK, G., & PREECE, D. (2003). Fortune's best 100 companies to work for in America: Do they work for shareholders? *Journal of Business Finance & Accounting*, 30(5-6), 771-797.
- FOLLETT, M. P. (1924). *Creative experience*. New York: Longmans, Green and Co.
- GRENNAN, J. (2013). A Corporate Culture Channel: How Increased Shareholder Governance Reduces Firm Value. Working Paper available at SSRN: <https://ssrn.com/abstract=2345384>
- GUIISO, L., SAPIENZA, P., & ZINGALES, L. (2015). The value of corporate culture. *Journal of Financial Economics*, 117(1), 60-76.
- HERZBERG, F. (1959). *The motivation to work*. New York: Wiley.
- HUANG, M., LI, P., MESCHKE, F., GUTHRIE, J. P. (2015). Family firms, employee satisfaction, and corporate performance. *Journal of Corporate Finance*, 34, 108-127.
- JENSEN, M. C., & MECKLING, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.
- JI, Y., ROZENBAUM, O., WELCH, K. T. (2017). Corporate culture and financial reporting risk: Looking through the Glassdoor. Working paper available at SSRN: <https://ssrn.com/abstract=2945745>
- MASLOW, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396.
- MAYO, E. (1933). *The human problems of an industrial civilization*. New York: Macmillan Co.
- MCGREGOR, D. (1960). *The human side of enterprise*. New York: McGraw-Hill.
- MONIZ, A. (2017). Inferring employees' social media perceptions of corporate culture and the link to firm value. Working paper available at SSRN: <https://ssrn.com/abstract=2768091>
- O'REILLY III, C. A., CALDWELL, D. F., CHATMAN, J. A., DOERR, B. (2014). The promise and problems of organizational culture: CEO personality, culture, and firm performance. *Group & Organization Management*, 39(6), 595-625.

RYAN, R. M., & DECI, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, 55(1), 68.

SMITH, Adam. (2007). *An Inquiry into the Nature and Causes of the Wealth of Nations*. Edited by S. M. Soares. MetaLibri Digital Library.

SYMITSI, E., STAMOLAMPROS, P., DASKALAKIS, G. (2018a). Employees' online reviews and equity prices. *Economics Letters*, 162, 53-55.

SYMITSI, E., STAMOLAMPROS, P., DASKALAKIS, G., KORFIATIS, N. (2018b). Employee satisfaction and corporate performance in the UK.

TAYLOR, F. W. (1911). *The principles of scientific management*. New York: Harper & Brothers.

TAYLOR, F. W. (1914). Scientific management. *The Sociological Review*, 7(3), 266-269.

Variable	Type	Acronym	Operational definition	Firm-year observations
Return on Equity	Dependent	ROE	Net income / shareholders' equity	5,389
Return on Assets	Dependent	ROA	Operating income / total assets	5,497
Ebitda Margin	Dependent	EBITDA	Earnings before interest, tax, depreciation, and amortization / net revenues	5,448
Growth in the Valor ranking of largest 1,000 companies in the prior two years	Dependent	GROWTH	Position in the ranking of the 1,000 largest companies two years earlier minus its current position	5,056
Overall Employee Satisfaction	Explanatory	OV_SATISFCT	Average score of employees on a 1-5 scale about their overall satisfaction with their firms	3,116
Company recommendation for others	Explanatory	RECOMEND	Percentage of employees who recommend the company to others	3,085
Culture	Explanatory	CULTURE	Average score of employees for the dimension "Culture" on a 1-5 scale	3,116
Compensation and Benefits	Explanatory	COMP_BEN	Average score of employees for the dimension "Compensation and Benefits" on a 1-5 scale	3,116
Career Opportunities	Explanatory	CAREER_OP	Average score of employees for the dimension "Career Opportunities" on a 1-5 scale	3,116
Work/Life Balance	Explanatory	Q_LIFE	Average score of employees for the dimension "Work/Life Balance" on a 1-5 scale	3,116
Firm size	Control	SIZE	Natural logarithm of total assets	5,599
Financial leverage	Control	DEBT_LEV	Gross debt (short term debt and current portion of long-term debt + long term debt) / total assets	5,599
Average salary	Control	AV_SALARY	Average monthly salary paid by the firm according to employees' posts	4,575
Standard-deviation of salary	Control	SDEV_SALARY	Standard-deviation of monthly salary paid by the firm according to employees' posts	4,575
Country source of the company's capital	Control	COUNTRY	"1" for with Brazilian capital; "0", for companies with foreign capital	6,000
Region of the company's headquarters	Control	SOUTHEAST_REGION	"1" if the firm's headquarters is located in Brazil's Southeast region (the most developed accounting for about 60% of Brazil's GDP); "0", otherwise	6,000
Industry	Control	IND_DUMMIES	Twenty-seven industry dummy variables using the Valor 1,000 newspaper classification	6,000
Time	Control	YEAR_DUMMIES	Dummy variables defined as $YEAR(t) = 1$ in the t-th year and $YEAR(t) = 0$ otherwise, with $t = 1, \dots, 6$ (2013, ..., 2018)	6,000

Table 1. Research variables and their operational definitions.

Variable	Acronym	Obs.	Mean	Standard Deviation	Min	P25	Median	P75	Max
Return on Equity	ROE	5,389	8.2%	30.0%	-113.5%	1.5%	10.4%	20.4%	73.4%
Return on Assets	ROA	5,497	7.1%	11.2%	-17.7%	1.0%	5.7%	11.8%	42.0%
Ebtida Margin	EBITDA	5,448	13.4%	14.9%	-14.2%	4.2%	9.8%	18.9%	59.7%
Growth in the two prior years	GROWTH	5,056	0.8	81.7	-494	-25	1	29	628
Overall Employee Satisfaction	OV_SATISFCT	3,116	3.29	0.49	1	3	3.3	3.6	5
Company recommendation	RECOMEND	3,085	82.3%	15.3%	17%	74%	84%	95%	100%
Culture	CULTURE	3,116	3.37	0.63	1	3	3.4	3.77	5
Compensation and Benefits	COMP_BEN	3,116	3.46	0.59	1	3.05	3.5	3.86	5
Career Opportunities	CAREER_OP	3,116	2.96	0.62	1	2.6	3	3.33	5
Work/Life Balance	Q_LIFE	3,116	3.35	0.62	1	3	3.3	3.75	5
Firm Size (Total Assets in BRL Million)	SIZE	5,599	5,020	29,621	2.3	455.2	979.8	2,826.2	900,135
Financial leverage (Gross debt / assets)	DEBT_LEV	5,599	0.44	0.85	0	0.03	0.13	0.39	4.27
Average salary (BRL/month)	AV_SALARY	4,575	4,347	1,561	1,294.4	3,175.6	4,127.0	5,283.6	12,055.1
Standard-dev of salary (BRL/ month)	SDEV_SALARY	4,575	3,589	1,651	328.55	2,490.0	3,447.2	4,425.9	18,514.4
Source of the capital (Brazil = 1)	COUNTRY	6,000	0.77	0.42	0	1	1	1	1
Region of headquarters (Southeast = 1)	REGION	6,000	0.64	0.48	0	0	1	1	1

Table 2. Descriptive statistics on research variables.

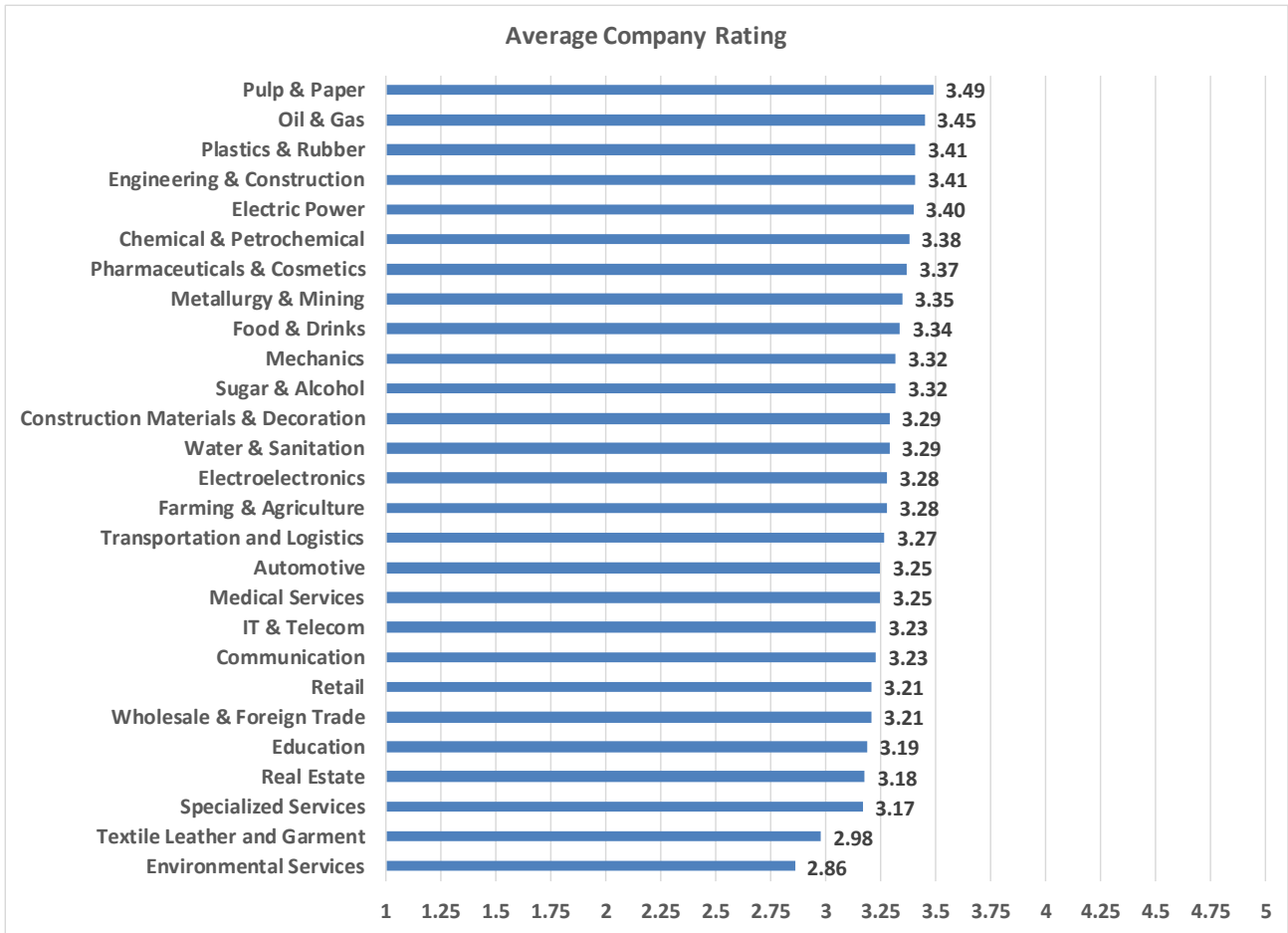


Chart 1. Overall employee satisfaction by industry.

Employee satisfaction on culture, compensation&benefits, career opportunities, work/life balance, and overall satisfaction by year

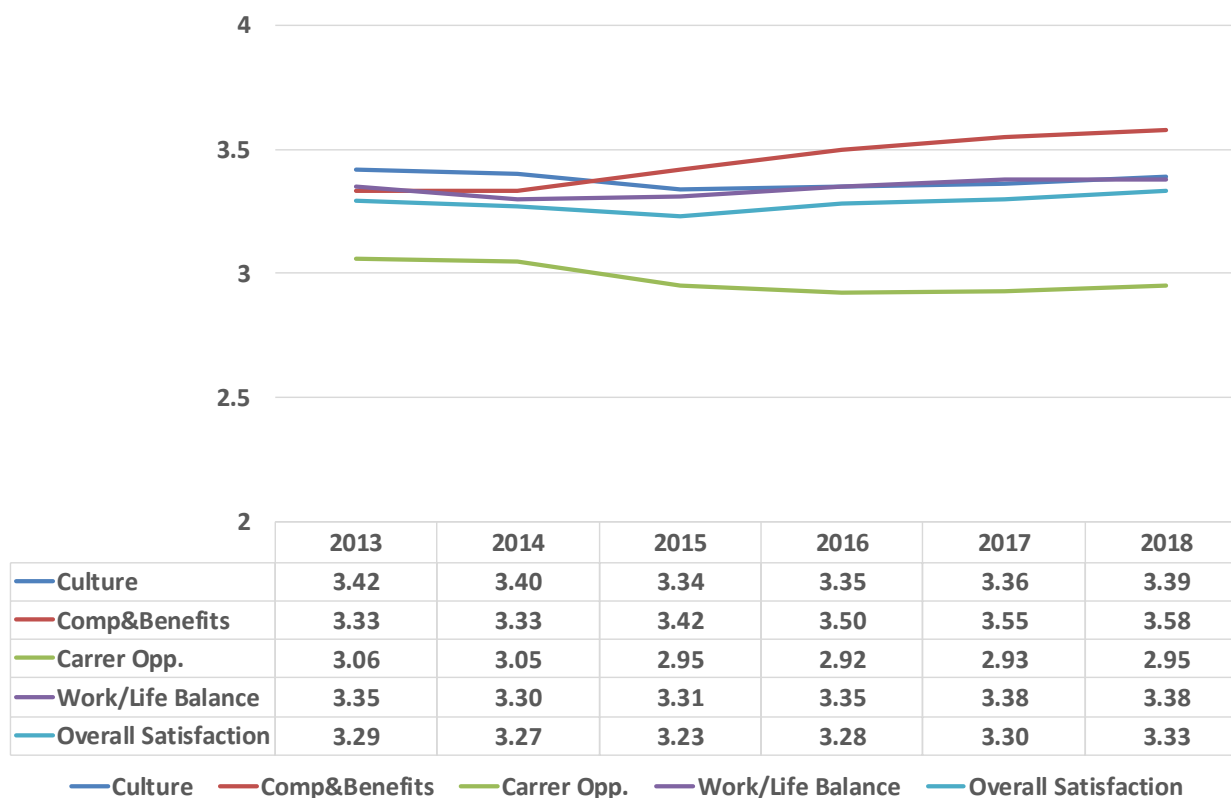


Chart 2. Employee satisfaction by year.

	OV_SATISFCT	RECOMEND	CULTURE	COMP_BEN	CAREER_OP	Q_LIFE
ROE	0.0638***	0.0290*	0.0886***	-0.0001	0.0719***	0.0432**
ROA	0.0326	0.0392**	0.0595***	-0.0402*	0.0788***	0.0043
EBITDA	0.049**	0.0537***	0.0530**	0.0253	0.0511**	0.0146
GROWTH	0.0290	-0.0021	0.0510**	-0.0071	0.0626***	0.0250

Table 3. Correlation matrix: employee satisfaction and corporate performance.

The table exhibits Pearson correlation coefficients. Table 1 details the operational definitions of all variables. We restrict our analysis for firms with at least five reviews in a certain year. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.

	OV_SATISFCT	RECOMEND	CULTURE	COMP_BEN	CAREER_OP	Q_LIFE
SIZE	0.1566***	0.0978***	0.1474***	0.1635***	0.1223***	0.0708***
DEBT_LEV	-0.0998***	-0.0744***	-0.0996***	-0.0689***	-0.0609***	-0.0910***
AV_SALARY	0.3306***	0.2243***	0.2090***	0.4585***	0.0723***	0.3270***
COUNTRY_BRAZIL	-0.1239***	-0.0721***	-0.1259***	-0.1235***	-0.0787***	-0.0696***
REGION_SOUTHEAST	-0.0092	-0.0279	-0.0036	0.0404**	-0.0230	-0.0429**

Table 4. Correlation matrix: employee satisfaction and other corporate attributes.

The table exhibits Pearson correlation coefficients. Table 1 details the operational definitions of all variables. We restrict our analysis for firms with at least five reviews in a certain year. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.

Performance Variable	Legend	Overall employee satisfaction on a 1-5 scale (OV_SATISFCT)				t-value difference of means (Q4 - Q1)
		BOTTOM OV_SATISFCT Q1 Mean overall satisfaction = 2.67	Q2 Mean overall satisfaction = 3.15	Q3 Mean overall satisfaction = 3.44	TOP OV_SATISFCT Q4 Mean overall satisfaction = 3.88	
ROE	Mean	4.4%	6.4%	7.6%	8.5%	2.397***
	SD	(33.8%)	(31.1%)	(29.7%)	(30.4%)	
	n	n=697	n=683	n=674	n=703	
ROA	Mean	5.4%	7.1%	6.7%	7.0%	2.845***
	SD	(11.2%)	(11.4%)	(11.1%)	(10.5%)	
	n	n=726	n=687	n=682	n=699	
EBITDA	Mean	11.7%	14.0%	14.0%	15.0%	4.130***
	SD	(13.8%)	(14.6%)	(14.9%)	(15.9%)	
	n	n=720	n=696	n=682	n=703	
GROWTH	Mean	-8.9	-0.6	0.8	1.6	2.638***
	SD	(78.1)	(61.8)	(63.9)	(70.4)	
	n	n=684	n=702	n=703	n=705	

Table 5. Subgroup analysis: Overall employee satisfaction and financial performance.

The table exhibits mean-comparison tests between financial performance variables (two-sample *t* tests with unequal variances) of two groups: TOP OV_SATISFCT refers to the group composed of the top quartile firms in terms of overall employee satisfaction from 2013 to 2018; BOTTOM OV_SATISFCT refers to the group composed of the bottom quartile firms in terms of overall employee satisfaction over the same period. We restrict our analysis for firms with at least five reviews in a certain year. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.

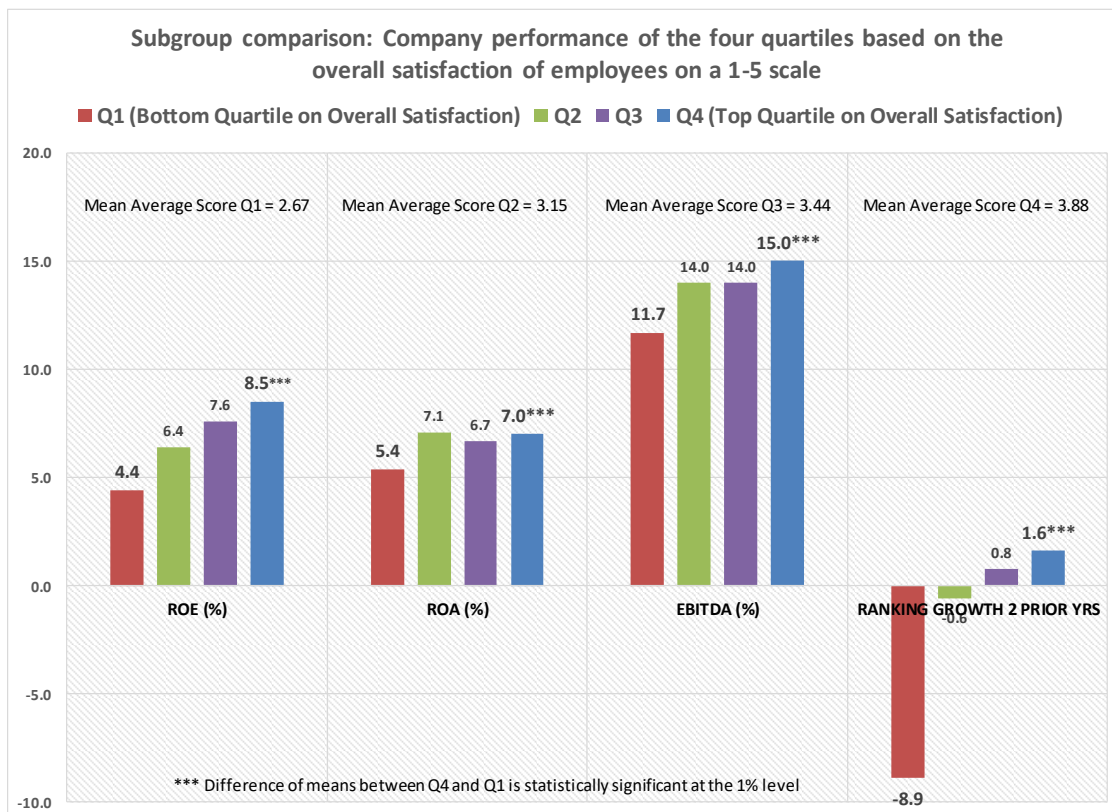


Chart 3. Subgroup analysis: Average score of employees for all dimensions and financial performance.

Performance Variable	Legend	Average of employees recommending the company for others (RECOMMEND)				t-value difference of means (Q4 - Q1)
		BOTTOM RECOMMEND Q1 Mean recommendation = 61.7%	Q2 Mean recommendation = 79.4%	Q3 Mean recommendation = 89.3%	TOP RECOMMEND Q4 Mean recommendation = 99.8%	
ROE	Mean	3.9%	7.1%	6.8%	9.0%	2.968***
	SD	(35.3%)	(28.6%)	(32.6%)	(27.8%)	
	n	n=699	n=658	n=688	n=685	
ROA	Mean	6.3%	6.2%	6.8%	7.0%	1.175
	SD	(11.3%)	(11.2%)	(10.8%)	(11.0%)	
	n	n=715	n=665	n=684	n=700	
EBITDA	Mean	12.7%	13.8%	14.3%	14.1%	1.724**
	SD	(14.0%)	(14.9%)	(15.0%)	(15.6%)	
	n	n=714	n=674	n=692	n=690	
GROWTH	Mean	-6.3	1.5	-3.6	3.2	2.463***
	SD	(71.2)	(68.2)	(64.0)	(71.4)	
	n	n=707	n=668	n=724	n=669	

Table 6. Subgroup analysis: Employees' recommendation for others and corporate performance.

The table exhibits mean-comparison tests between financial performance variables (two-sample *t* tests with unequal variances) of two groups: TOP RECOMMEND refers to the group composed of the top quartile firms in terms of the average of employees recommending the company for others from 2013 to 2018; BOTTOM RECOMMEND refers to the group composed of the bottom quartile firms in terms of the average of employees recommending the company for others over the same period. We restrict our analysis for firms with at least five reviews in a certain year. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.

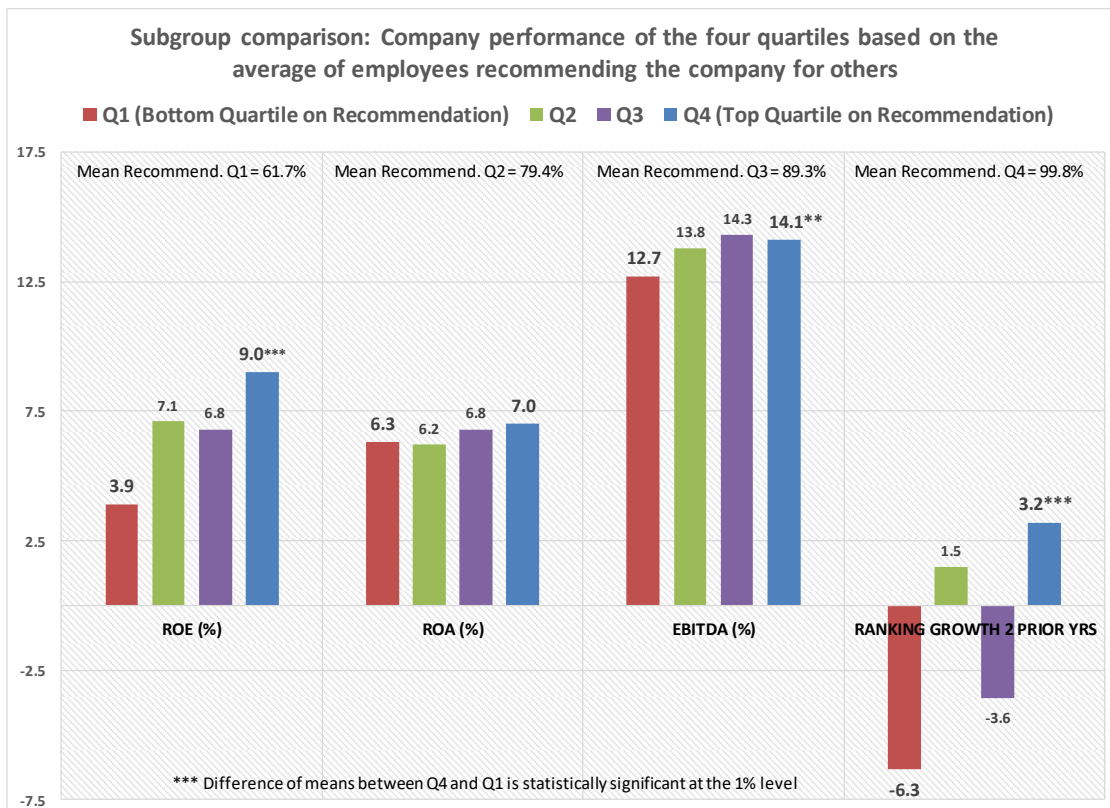


Chart 4. Subgroup analysis: Employees recommending the company for others and financial performance.

Performance Variable	Legend	Average score of employees for the dimension "Culture" on a 1-5 scale (CULTURE)				
		BOTTOM CULTURE Q1 Mean culture score = 2.63	Q2 Mean culture score = 3.24	Q3 Mean culture score = 3.59	TOP CULTURE Q4 Mean culture score = 4.13	t-value difference of means (Q4 - Q1)
ROE	Mean	4.0%	6.5%	7.0%	9.9%	3.740***
	SD	(33.9%)	(30.3%)	(32.2%)	(27.7%)	
	n	n=809	n=589	n=665	n=694	
ROA	Mean	5.5%	6.7%	6.9%	7.2%	3.020***
	SD	(11.4%)	(11.2%)	(11.0%)	(10.6%)	
	n	n=841	n=586	n=675	n=692	
EBITDA	Mean	12.0%	13.6%	14.2%	15.1%	3.906***
	SD	(14.7%)	(13.8%)	(14.8%)	(15.7%)	
	n	n=830	n=597	n=678	n=696	
GROWTH	Mean	-7.1	-1.5	-1.9	4.3	3.192***
	SD	(75.9)	(72.1)	(62.3)	(63.2)	
	n	n=801	n=601	n=680	n=712	

Table 7. Subgroup analysis: Culture and financial performance.

The table exhibits mean-comparison tests between financial performance variables (two-sample *t* tests with unequal variances) of two groups: TOP CULTURE refers to the group composed of the top quartile firms in terms of the average score of employees for the dimension "Culture" from 2013 to 2018; BOTTOM CULTURE refers to the group composed of the bottom quartile firms in terms of the average score of employees for the dimension "Culture" over the same period. We restrict our analysis for firms with at least five reviews in a certain year. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.

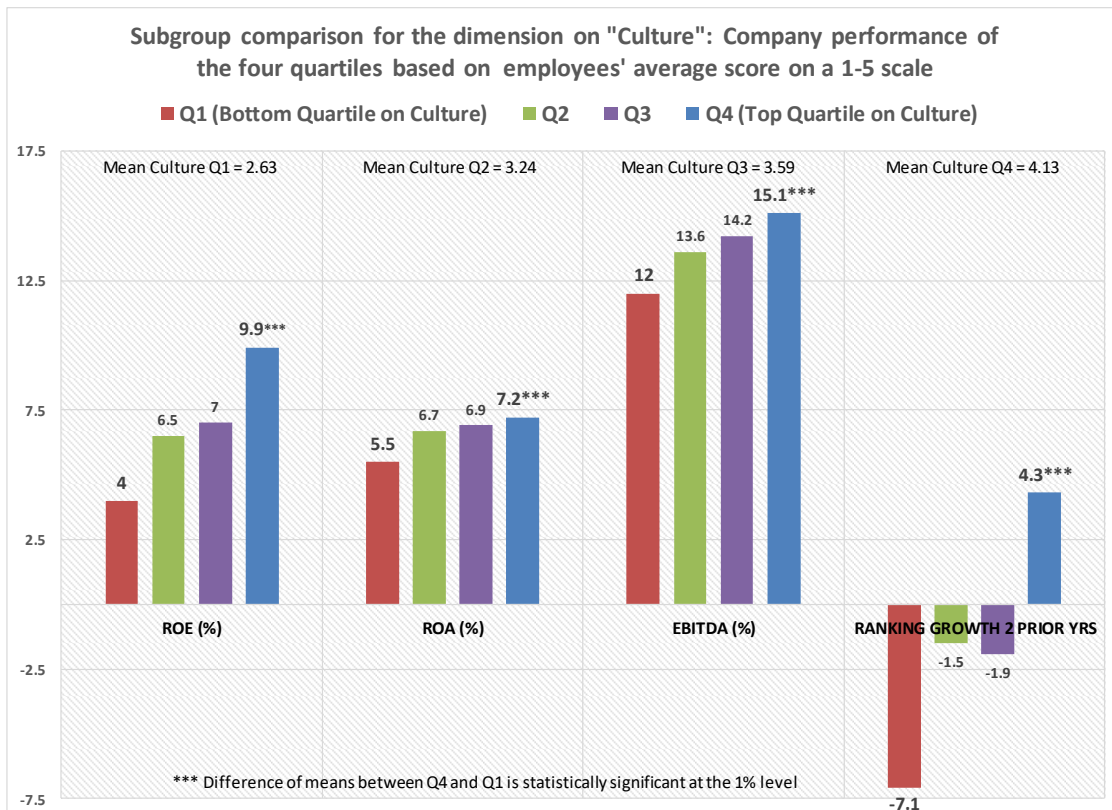


Chart 5. Subgroup analysis: Culture and financial performance.

Performance Variable	Legend	Average score of employees for dimension "Compensation & Benefits" on a 1-5 scale (COMP_BEN)				t-value difference of means (Q4 - Q1)
		BOTTOM COMPENSATION & BENEFITS Q1 Mean comp & benefits score = 2.71	Q2 Mean comp & benefits score = 3.32	Q3 Mean comp & benefits score = 3.68	TOP COMPENSATION & BENEFITS Q4 Mean comp & benefits score = 4.19	
ROE	Mean	5.8%	7.4%	5.5%	7.9%	1.233
	SD	(31.1%)	(30.7%)	(31.5%)	(32.1%)	
	n	n=694	n=786	n=606	n=668	
ROA	Mean	6.1%	7.5%	6.3%	6.1%	0.054
	SD	(11.0%)	(11.2%)	(11.1%)	(10.9%)	
	n	n=715	n=797	n=608	n=674	
EBITDA	Mean	12.5%	13.6%	14.1%	14.5%	2.547***
	SD	(13.6%)	(13.5%)	(15.9%)	(16.6%)	
	n	n=716	n=798	n=615	n=672	
GROWTH	Mean	-2.1	-0.2	-2.4	-2.4	-0.0760
	SD	(72.3)	(65.1)	(60.1)	(76.8)	
	n	n=697	n=792	n=622	n=683	

Table 8. Subgroup analysis: Compensation & benefits and financial performance.

The table exhibits mean-comparison tests between financial performance variables (two-sample *t* tests with unequal variances) of two groups: TOP COMPENSATION & BENEFITS refers to the group composed of the top quartile firms in terms of the average score of employees for the dimension "compensation & benefits" from 2013 to 2018; BOTTOM COMPENSATION & BENEFITS refers to the group composed of the bottom quartile firms in terms of the average score of employees for the dimension "compensation & benefits" over the same period. We restrict our analysis for firms with at least five reviews in a certain year. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.

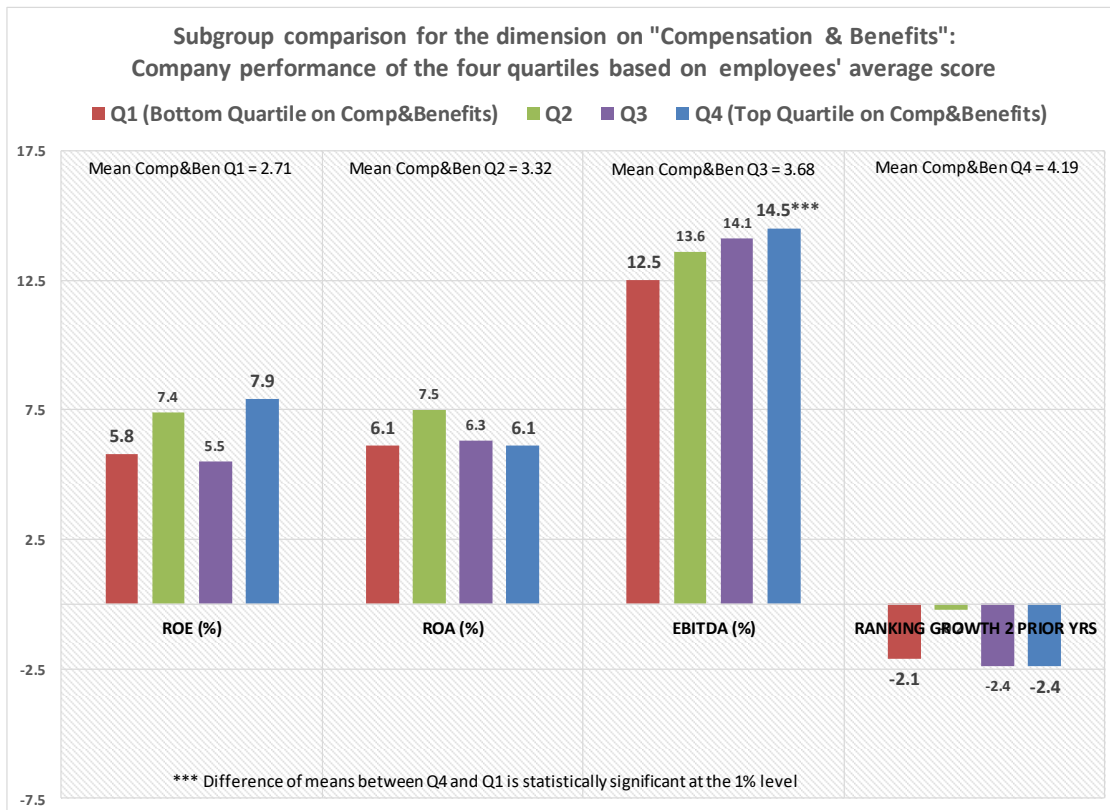


Chart 6. Subgroup analysis: Compensation & benefits and financial performance.

Performance Variable	Legend	Average score of employees for dimension "Career Opportunities" on a 1-5 scale (CAREER_OP)				t-value difference of means (Q4 - Q1)
		BOTTOM CAREER OPPORTUNITIES Q1 Mean career opportunities score = 2.19	Q2 Mean career opportunities = 2.84	Q3 Mean career opportunities = 3.19	TOP CAREER OPPORTUNITIES Q4 Mean career opportunities = 3.72	
ROE	Mean SD n	5.0% (33.4%) n=697	5.2% (31.8%) n=795	6.8% (32.3%) n=559	10.0% (27.5%) n=706	3.052***
ROA	Mean SD n	5.5% (11.7%) n=725	6.4% (10.5%) n=805	6.6% (11.3%) n=568	7.8% (10.7%) n=696	3.891***
EBITDA	Mean SD n	12.3% (14.8%) n=713	13.8% (14.1%) n=811	13.8% (14.7%) n=574	14.9% (15.8%) n=703	3.273***
GROWTH	Mean SD n	-9.1 (77.5) n=705	-1.6 (61.6) n=819	-3.5 (67.8) n=582	7.4 (67.7) n=688	4.215***

Table 9. Subgroup analysis: Career opportunities & benefits and financial performance.

The table exhibits mean-comparison tests between financial performance variables (two-sample *t* tests with unequal variances) of two groups: TOP CAREER OPPORTUNITIES refers to the group composed of the top quartile firms in terms of the average score of employees for the dimension "career opportunities" from 2013 to 2018; BOTTOM CAREER OPPORTUNITIES refers to the group composed of the bottom quartile firms in terms of the average score of employees for the dimension "career opportunities" over the same period. We restrict our analysis for firms with at least five reviews in a certain year. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.

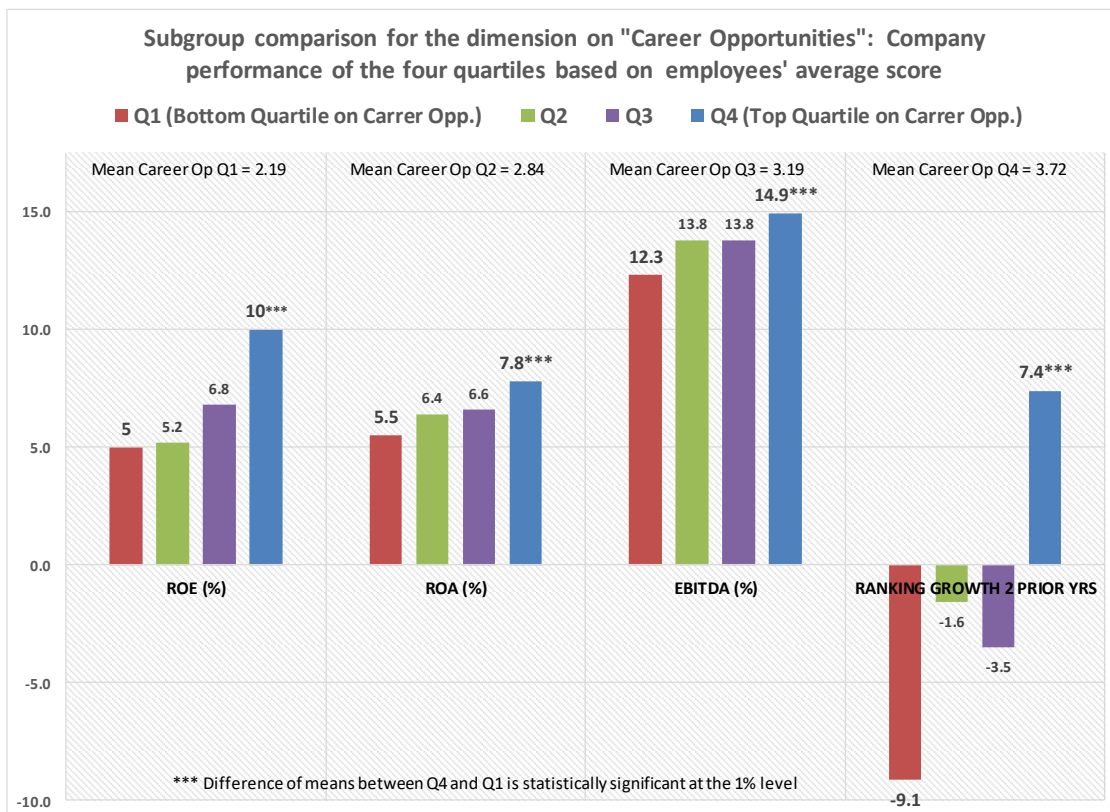


Chart 7. Subgroup analysis: Career opportunities and financial performance.

Performance Variable	Legend	Average score of employees for dimension "Work/Life Balance" on a 1-5 scale (Q_LIFE)				t-value difference of means (Q4 - Q1)
		BOTTOM WORK/LIFE BALANCE Q1 Mean Work/Life Balance score = 2.64	Q2 Mean Work/Life Balance = 3.20	Q3 Mean Work/Life Balance = 3.54	TOP WORK/LIFE BALANCE Q4 Mean Work/Life Balance = 4.11	
ROE	Mean	5.7%	5.9%	6.4%	8.9%	2.047**
	SD	(34.5%)	(32.9%)	(30.1%)	(26.7%)	
	n	n=809	n=565	n=691	n=692	
ROA	Mean	6.6%	6.7%	6.4%	6.6%	0.0169
	SD	(11.3%)	(11.8%)	(11.0%)	(10.3%)	
	n	n=829	n=575	n=696	n=694	
EBITDA	Mean	12.8%	13.9%	14.2%	14.0%	1.470*
	SD	(14.5%)	(15.4%)	(14.6%)	(15.1%)	
	n	n=826	n=582	n=582	n=694	
GROWTH	Mean	-5.8	-3.0	-3.1	5.3	2.987***
	SD	(76.0)	(67.7)	(61.4)	(68.3)	
	n	n=789	n=578	n=714	n=713	

Table 10. Subgroup analysis: Work/life balance and financial performance.

The table exhibits mean-comparison tests between financial performance variables (two-sample *t* tests with unequal variances) of two groups: TOP WORK/LIFE BALANCE refers to the group composed of the top quartile firms in terms of the average score of employees for the dimension "work/life balance" from 2013 to 2018; BOTTOM WORK/LIFE BALANCE refers to the group composed of the bottom quartile firms in terms of the average score of employees for the dimension "work/life balance" over the same period. We restrict our analysis for firms with at least five reviews in a certain year. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.

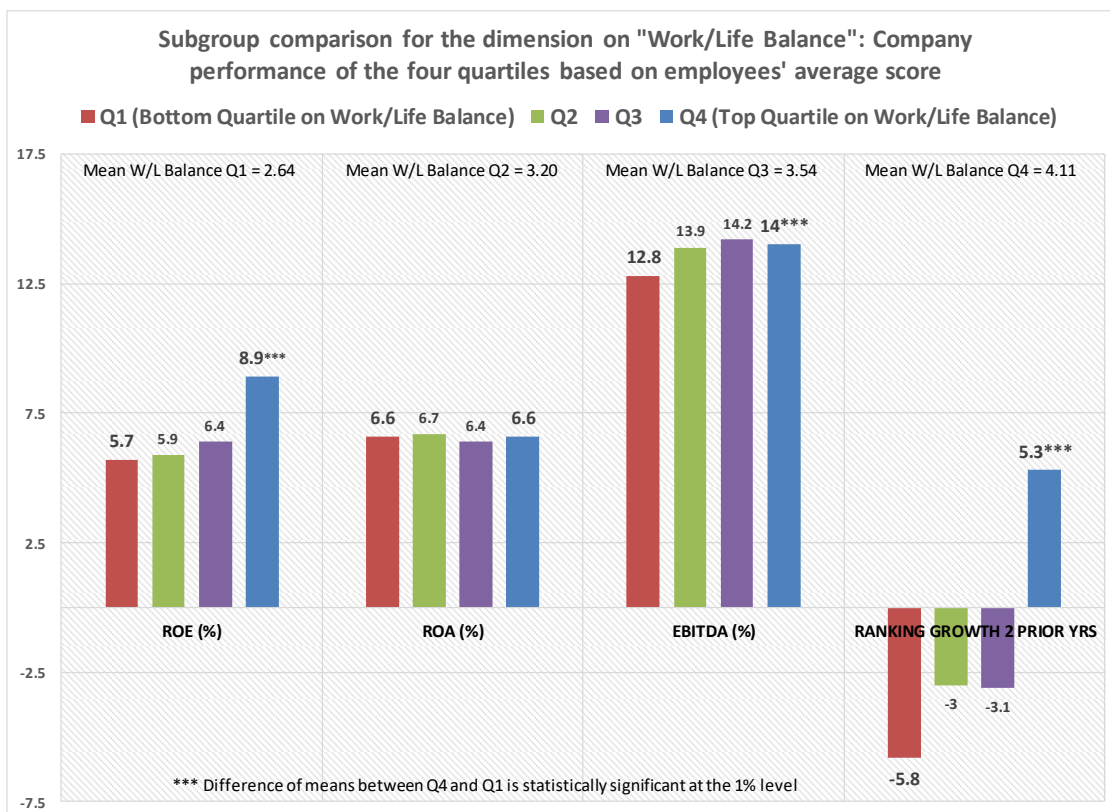


Chart 8. Subgroup analysis: Work/life balance and financial performance.

Dependent Variable	ROE				ROA				GROWTH RANKING PRIOR 2 YEARS			
	OLS	Dynamic OLS	Fixed-Effects	GMM-SYS	OLS	Dynamic OLS	Fixed-Effects	GMM-SYS	OLS	Dynamic OLS	Fixed-Effects	GMM-SYS
Method	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OVERALL EMPLOYEE SATISFACTION	0.055*** (3.41)	0.057*** (3.36)	0.086*** (2.94)	0.105** (2.26)	0.123** (2.14)	0.133** (2.21)	0.007 (0.74)	0.008 (0.48)	6.542* (1.64)	8.039* (1.82)	23.113*** (3.48)	28.009** (2.26)
FIRM SIZE	-0.027*** (-5.54)	-0.026*** (-5.12)	-0.036** (-2.25)	-0.044** (-2.51)	-0.013*** (-7.01)	-0.013*** (-6.75)	-0.046*** (-8.56)	-0.029*** (-4.21)	0.248 (0.23)	-1.076 (-0.90)	10.575*** (2.98)	13.910*** (5.22)
FINANCIAL_LEVERAGE	-0.075*** (-3.41)	-0.075*** (-3.31)	-0.079*** (-4.81)	-0.099** (-2.12)	0.001 (0.11)	0.002 (0.43)	-0.010** (-2.00)	0.001 (0.06)	-4.101 (-1.36)	-5.596 (-1.61)	-3.648 (-0.97)	-9.118* (-1.69)
BRAZILIAN CAPITAL	0.025 (1.53)	0.025 (1.43)	0.010 (0.45)	0.031 (1.29)	-0.012** (-1.97)	-0.013** (2.04)	-0.020*** (-2.73)	-0.014 (-1.48)	2.152 (0.56)	3.349 (0.81)	2.103 (0.42)	9.005* (1.95)
SOUTHEAST REGION	-0.026* (-1.80)	-0.025 (-1.56)	-0.024 (-1.09)	-0.017 (-0.74)	0.001 (0.01)	0.001 (0.04)	-0.002 (-0.25)	0.09 (1.12)	-2.480 (-0.66)	-3.383 (-0.77)	-4.685 (-0.96)	-8.340* (-1.83)
LAGGED PERFORMANCE (ROE _{t-1} or ROA _{t-1})		0.004 (0.19)		0.095** (2.02)		-0.021 (-0.95)		0.045 (1.00)		0.094* (1.97)		0.122 (1.61)
INDUSTRY DUMMIES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES	NO	YES
YEAR DUMMIES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Constant	0.050 (0.69)	0.054 (0.67)	0.150 (0.96)		0.116*** (4.34)	0.118*** (4.03)	0.417*** (7.85)		-26.531 (-1.53)	-4.985 (-0.26)	-147.81*** (4.19)	
Number of observations	2,117	1,893	2,117	1,526	2,193	2,024	2,193	1,608	2,060	1,573	2,060	1,573
Number of groups			808	601			816	612			752	586
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Adjusted R-squared	0.102	0.100	0.048		0.100	0.106	0.022		0.038	0.063	0.002	
AR(1) test p-value				0.000				0.000				0.000
AR(2) test p-value				0.045				0.322				0.027
Hansen test p-value				0.131				0.085				0.018
Diff-in-Hansen tests p-value				0.610				0.117				0.007

Table 11. The effect of overall employee satisfaction on company performance.

This table exhibits the outcomes of different regression models aiming at analyzing the effect of employee satisfaction on corporate performance. The dependent variables are ROE (models 1-4), ROA (models 5-8), and the Growth in the ranking of the largest 1,000 Brazilian companies in the prior two years (models 9-12). The explanatory variable of interest is OVERALL EMPLOYEE SATISFACTION, the average company rating on a 1-5 scale of employee satisfaction available for online review at LoveMondays.com.br (a Brazilian subsidiary of Glassdoor). Control variables are: FIRM SIZE, the natural logarithm of firm's total assets; FINANCIAL LEVERAGE, total liabilities over total assets; BRAZILIAN CAPITAL, a dummy variable taking the value of 1 for companies funded by Brazilian capital, and zero for companies with foreign capital; SOUTHEAST REGION, a dummy variable taking the value of 1 for firms based in Brazil's Southeast region (the most developed of the country), and zero otherwise; INDUSTRY DUMMIES, a set of twenty-seven industry dummy variables; and, YEAR DUMMIES, a set of six dummy variables from 2013 to 2018 (the sample period). Table 1 details the operational definitions of all variables. Models 1, 5, and 9 report estimates from OLS regressions with robust White-corrected standard errors. Models 2, 6, and 10 report estimates from dynamic OLS regressions with lagged performance variables. Models 3, 7, and 11 show estimates from Fixed Effects regressions. Models 4, 8, and 11 are estimated through System-GMM regressions (generalized method of moments estimator used to estimate dynamic panel data models). Robust t-statistics are in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.

Dependent Variable	ROE				ROA				GROWTH RANKING PRIOR 2 YEARS			
	Method	OLS	Dynamic OLS	Fixed-Effects	GMM-SYS	OLS	Dynamic OLS	Fixed-Effects	GMM-SYS	OLS	Dynamic OLS	Fixed-Effects
Model	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
CULTURE	0.069*** (3.37)	0.064*** (3.20)	0.094*** (2.85)	0.104** (2.20)	0.019** (2.54)	0.020*** (2.58)	0.003 (0.26)	0.006 (0.37)	2.358 (0.41)	-4.210 (-0.69)	-3.927 (-0.53)	-12.667 (-1.06)
COMPENSATION_& BENEFITS	-0.006 (-0.34)	-0.009 (-0.55)	0.059* (1.88)	0.036 (0.92)	-0.013** (-2.24)	-0.013** (-1.97)	0.017 (1.57)	0.007 (0.49)	-5.647 (-1.28)	-3.233 (-0.64)	4.356 (0.62)	-5.412 (-0.55)
CAREER OPPORTUNITIES	0.007 (0.41)	0.003 (0.19)	0.014 (0.49)	0.002 (0.04)	0.178*** (2.85)	0.172*** (2.65)	0.001 (0.04)	0.003 (0.23)	8.647** (1.96)	8.554* (1.71)	8.711 (1.38)	23.680** (2.29)
WORK-LIFE BALANCE	-0.023 (-1.18)	-0.010 (-0.51)	-0.074** (-2.31)	-0.054 (-1.23)	-0.013* (-1.87)	-0.014* (-1.86)	-0.009 (-0.82)	-0.010 (-0.64)	0.642 (0.11)	7.445 (1.22)	13.659* (1.89)	22.597** (1.96)
FIRM SIZE	-0.027*** (-5.76)	-0.026*** (-5.24)	-0.038** (-2.38)	-0.048*** (-2.90)	-0.014*** (-7.22)	-0.014*** (-6.94)	-0.046*** (-8.49)	-0.030*** (-4.50)	0.218 (0.20)	-0.875 (-0.74)	10.795*** (3.02)	10.451** (2.27)
FINANCIAL LEVERAGE	-0.075*** (-3.38)	-0.074*** (-3.30)	-0.079*** (-4.84)	-0.098** (-2.13)	0.001 (0.11)	0.002 (0.42)	-0.010** (-1.97)	-0.001 (-0.10)	-4.14 (-1.34)	-5.450 (-1.59)	-3.678 (-0.98)	-11.350** (-2.16)
BRAZILIAN CAPITAL	0.030* (1.80)	0.029* (1.65)	0.012 (0.56)	0.038 (1.58)	-0.010 (-1.62)	-0.011* (-1.69)	-0.020*** (-2.69)	-0.014 (-1.44)	2.458 (0.63)	3.000 (0.72)	1.919 (0.39)	6.348 (1.39)
SOUTHEAST REGION	-0.026* (-1.76)	-0.024 (-1.49)	-0.023 (-1.03)	-0.018 (-0.77)	0.001 (0.25)	0.001 (0.29)	-0.002 (-0.21)	0.008 (1.03)	-1.844 (-0.49)	-2.897 (-0.67)	-4.683 (-0.96)	-6.470 (-1.49)
LAGGED PERFORMANCE (ROE _{t-1} or ROA _{t-1})		0.005 (0.22)		0.089* (1.89)		-0.022 (-0.98)		0.051 (1.15)		0.094** (1.96)		0.122 (1.62)
INDUSTRY DUMMIES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES	NO	YES
YEAR DUMMIES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Constant	0.824 (1.13)	0.852 (1.05)	0.132 (0.81)		0.133*** (4.90)	0.135*** (4.54)	0.403*** (7.27)		-22.548 (-1.31)	-6.506 (-0.34)	-146.71*** (-4.01)	-6.506 (-0.34)
Number of observations	2,117	1,893	2,117	1,526	2,193	2,024	2,193	1,608	2,060	1,573	2,060	1,573
Number of groups			808	601			816	612			752	586
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Adjusted R-squared	0.105	0.101	0.047		0.104	0.105	0.021		0.042	0.066	0.001	0.066
AR(1) test p-value				0.000				0.000				0.000
AR(2) test p-value				0.074				0.300				0.037
Hansen test p-value				0.202				0.379				0.022
Diff-in-Hansen tests p-value				0.485				0.184				0.218

Table 12. The effect of different dimensions of employee satisfaction on company performance.

This table exhibits the outcomes of different regression models aiming at analyzing the effect of employee satisfaction on corporate performance. The dependent variables are ROE (models 13-16), ROA (models 17-20), and the Growth in the ranking of the largest 1,000 Brazilian companies in the prior two years (models 21-24). The explanatory variables of interest are CULTURE (employees' average for the dimension "Culture"), COMPENSATION & BENEFITS (employees' average for the dimension "Compensation and Benefits"), CAREER OPPORTUNITIES (employees' average for the dimension "Career Opportunities"), and WORK/LIFE BALANCE (employees' average for the dimension "Work/Life Balance"). Employees' online reviews are made on a 1-5 scale at LoveMondays.com.br (a Brazilian subsidiary of Glassdoor). Control variables are: FIRM SIZE, the natural logarithm of firm's total assets; FINANCIAL LEVERAGE, total liabilities over total assets; BRAZILIAN

CAPITAL, a dummy variable taking the value of 1 for companies funded by Brazilian capital, and zero for companies with foreign capital; SOUTHEAST REGION, a dummy variable taking the value of 1 for firms based in Brazil's Southeast region (the most developed of the country), and zero otherwise; INDUSTRY DUMMIES, a set of twenty-seven industry dummy variables; and, YEAR DUMMIES, a set of six dummy variables from 2013 to 2018 (the sample period). Table 1 details the operational definitions of all variables. Models 13, 17, and 21 report estimates from OLS regressions with robust White-corrected standard errors. Models 14, 18, and 22 report estimates from dynamic OLS regressions with lagged performance variables. Models 15, 19, and 23 show estimates from Fixed Effects regressions. Models 16, 20, and 24 are estimated through System-GMM regressions (generalized method of moments estimator used to estimate dynamic panel data models). Robust t-statistics are in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.

Dependent Variable	ROE				ROA				GROWTH RANKING PRIOR 2 YEARS			
	Method	OLS	Dynamic OLS	Fixed-Effects	GMM-SYS	OLS	Dynamic OLS	Fixed-Effects	GMM-SYS	OLS	Dynamic OLS	Fixed-Effects
Model	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
HIGH_OVERALL_SATISFACTION	0.019 (1.24)	0.024 (1.51)	0.023 (0.97)	0.06** (2.09)	-0.002 (-0.46)	0.001 (0.10)	-0.007 (-0.89)	-0.005 (-0.45)	0.594 (0.16)	2.888 (0.76)	1.666 (0.32)	-1.932 (-0.26)
LOW_OVERALL_SATISFACTION	-0.045*** (-2.63)	-0.040** (-2.24)	-0.044** (-1.95)	-0.073** (-2.19)	-0.019*** (-3.29)	-0.018*** (-3.05)	-0.023*** (-2.96)	-0.028** (-2.46)	-6.691* (-1.69)	-6.766 (-1.55)	-17.710*** (-3.39)	-29.85*** (-3.07)
FIRM SIZE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
FINANCIAL_LEVERAGE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
BRAZILIAN CAPITAL	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
SOUTHEAST REGION	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
LAGGED PERFORMANCE	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
INDUSTRY DUMMIES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES	NO	YES
YEAR DUMMIES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Constant	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of observations	2,117	1,893	2,117	1,526	2,193	2,024	2,193	1,608	2,060	2,024	2,060	1,573
Number of groups			808	613			816	612			752	586
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Adjusted R-squared	0.102	0.098	0.049		0.106	0.105	0.024		0.039	0.105	0.015	
AR(1) test p-value				0.000				0.000				0.000
AR(2) test p-value				0.194				0.161				0.019
Hansen test p-value				0.435				0.160				0.028
Diff-in-Hansen tests p-value				0.763				0.277				0.023

Table 13. Robustness check I: The effect of different dimensions of employee satisfaction on company performance.

This table exhibits the outcomes of different regression models aiming at analyzing the effect of employee satisfaction on corporate performance. The dependent variables are ROE (models 25-28), ROA (models 29-32), and the Growth in the ranking of the largest 1,000 Brazilian companies in the prior two years (models 33-36). The explanatory variables of interest are HIGH OVERALL EMPLOYEE SATISFACTION and LOW OVERALL EMPLOYEE SATISFACTION. These variables correspond to the top and bottom quartiles of the average company rating on a 1-5 scale of employee satisfaction, respectively. Control variables are detailed in Table 1. Models 25, 29, and 33 report estimates from OLS regressions with robust White-corrected standard errors. Models 26, 30, and 34 report estimates from dynamic OLS regressions with lagged performance variables. Models 27, 31, and 35 show estimates from Fixed Effects regressions. Models 28, 32, and 36 are estimated through System-GMM regressions (generalized method of moments estimator used to estimate dynamic panel data models). Robust t-statistics are in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.

Dependent Variable	ROE	GROWTH	ROE	GROWTH	ROE	GROWTH	ROE	GROWTH
Method	GMM-SYS	GMM-SYS	GMM-SYS	GMM-SYS	GMM-SYS	GMM-SYS	GMM-SYS	GMM-SYS
Model	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)
HIGH_CULTURE	0.062** (2.05)	-10.459 (-1.48)						
LOW_CULTURE	-0.060 (-1.51)	-22.807** (-2.43)						
HIGH_COMP_BENEFITS			-0.031 (-0.97)	-8.560 (-1.16)				
LOW_COMP_BENEFITS			-0.092** (-2.40)	-19.505** (-2.40)				
HIGH_CAREER_OPPORTUNITIES					0.026* (0.95)	-6.000 (-0.96)		
LOW_CAREER_OPPORTUNITIES					-0.079** (-2.20)	-29.817*** (-3.13)		
HIGH_WORK-LIFE BALANCE							0.014 (0.54)	7.194 (1.13)
LOW_WORK-LIFE BALANCE							-0.007 (-0.20)	-17.830** (-2.50)
FIRM SIZE, FINANCIAL_LEVERAGE, BRAZILIAN CAPITAL, SOUTHEAST REGION, LAGGED_PERFORMANCE, INDUSTRY DUMMIES, YEAR DUMMIES	YES	YES	YES	YES	YES	YES	YES	YES
Constant	YES	YES	YES	YES	YES	YES	YES	YES
Number of observations	1,526	1,573	1,526	1,573	1,526	1,573	1,526	1,573
Number of groups	601	586	601	586	601	586	601	586
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AR(1) test p-value	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.000
AR(2) test p-value	0.164	0.023	0.139	0.017	0.156	0.027	0.125	0.020
Hansen test p-value	0.455	0.011	0.039	0.037	0.391	0.011	0.257	0.068
Diff-in-Hansen tests p-value	0.850	0.004	0.110	0.147	0.386	0.061	0.731	0.079

Table 14. Robustness check II: The effect of different dimensions of employee satisfaction on company performance.

This table exhibits the outcomes of different regression models aiming at analyzing the effect of employee satisfaction on corporate performance. The dependent variables are ROE (models 25-28), ROA (models 29-32), and the Growth in the ranking of the largest 1,000 Brazilian companies in the prior two years (models 33-36). The explanatory variables of interest are HIGH CULTURE, LOW CULTURE, HIGH COMPENSATION AND BENEFITS, LOW COMPENSATION AND BENEFITS, HIGH CAREER OPPORTUNITIES, LOW CAREER OPPORTUNITIES, HIGH WORK-LIFE BALANCE, WORK-LIFE BALANCE. These variables correspond to the top and bottom quartiles of the average company rating on a 1-5 scale of the four dimensions of employee satisfaction, respectively: Culture, Compensation and Benefits, Career Opportunities, and Work/Life Balance. Control variables are detailed in Table 1. Models 25, 29, and 33 report estimates from OLS regressions with robust White-corrected standard errors. Models 26, 30, and 34 report estimates from dynamic OLS regressions with lagged performance variables. Models 27, 31, and 35 show estimates from Fixed Effects regressions. Models 28, 32, and 36 are estimated through System-GMM regressions (generalized method of moments estimator used to estimate dynamic panel data models). Robust t-statistics are in parentheses. ***, ** and * denote significance at the 1, 5, and 10% levels, respectively.