



2016 – 2017

JUST Capital Ranking Methodology

**Creator of the JUST Seal,
honoring the Most JUST Corporations
in America:**



The JUST Capital Foundation (<http://justcapital.com>) is an independent nonprofit 501(c)(3) that uses the power of the markets to drive positive change on the issues Americans care most about. Chaired and co-founded by Paul Tudor Jones II, JUST Capital ranks how large publicly-traded corporations measure up against the American people's definition of JUST business behavior, and empowers all stakeholders with the data and tools they need to build a more just marketplace. The organization is based in New York City.

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FOREWORD

The JUST Capital Foundation (JUST Capital) is building the definitive source of data, information and rankings on how companies perform on the things people care most about. We believe that by shining a light on how big corporations behave on the issues that matter to us, we can help to incentivize and reward more JUST business behavior and in so doing direct the power of the private sector towards solving the more intractable social, economic, and environmental challenges of our time.

Critically, “JUST” is not defined by us, our funders, our board or anyone else connected to the organization. The American public defines it. Moreover, in evaluating and ranking companies, we have sought to adopt methodologies, policies and procedures that align as closely as possible with our commitment to openness, objectivity and research rigor. Our ranking methodology, and the analysis that underpins it, represent a work in progress: indeed, we view this as a living document that will be continually updated and time-stamped.

It is for these reasons that we publish this methodology so that anyone, regardless of affiliation or perspective, will understand exactly how our rankings are calculated and have the opportunity to help us improve.

We invite and welcome your feedback.

Martin Whittaker, PhD
CEO

Rob Brown
Head of Research

November 2016

EXECUTIVE SUMMARY

Every year, JUST Capital will release rankings that describe, in an unbiased and transparent way, how the corporations we cover measure up against the public's definition of JUST business behavior. In 2016, the rankings will detail the performance, on an industry-relative basis, of the largest 897 publicly-traded companies in the U.S. against the preferences and priorities of the American people. In the future, we will expand our coverage of companies (including geographically), and broaden the range of rankings produced.

To define what JUST corporate behavior actually means, JUST Capital has to date polled over 50,000 members of the American public, as part of a continuous, multiphase series of surveys. These polls, which target a representative sample of the U.S. population, determine the specific *Components* of corporate justness, and their relative importance. JUST Capital has established metrics for each of these *Components* and is collecting and evaluating data from an extensive range of sources in order to measure corporate performance against them.

As a rule, JUST Capital solicits input from both subject matter experts (including academics, investment practitioners, and corporations) and the American public in all areas of the scoring methodology, including the choice of metrics and data points, and the means of transforming and processing raw data for use in the rankings model. This ensures our process remains as informed, objective and accurate as possible.

The result is the first objective corporate ranking system based on the preferences of the public, and which involves the American people and expert stakeholders at every stage of its creation.

Overall, the JUST Capital framework comprises an iterative three-step process.

1. **Survey, Market Research and Polling:** JUST Capital surveys and polls the American Public on a comprehensive and representative basis, in order to understand what issues represent JUST business behavior, how they should be described, and their relative importance.
2. **Company Evaluation:** JUST Capital evaluates, in as fair, unbiased and rigorous a way as possible, how the companies in its coverage universe perform across these issues. At every major methodological step, JUST Capital asks the public for guidance by commissioning a poll or survey.

3. **Data and Rankings:** JUST Capital disseminates the data and rankings that reflect the respective performance of the ranked companies across all the issues people care most about.

Over the course of 2015, JUST Capital completed its inaugural survey of the American public: a multiphase, seven-month market research study to determine how Americans define JUST corporate behavior. At the commencement of the project, JUST Capital had no preconceived notion or expectation of the results the research would yield. JUST Capital followed no agenda other than asking about people's views of corporations today, identifying the public's definition of corporate JUSTness, and assessing the relative importance of components identified as important to JUST behavior. We believe it to be one of the largest sets of surveys of its kind ever done.

The results of this work produced 188 individual characteristics of JUST business behavior, as well as importance weightings for the major thematic categories.

In 2016, JUST Capital has built on this foundation survey work in order to complete its inaugural ranking of the target 897 companies. The rankings will initially be conducted on an industry-by-industry basis across 32 industries. In 2017, a cross-industry, "absolute" ranking of the largest publicly traded companies will be produced.

The 2016 industry rankings have been determined as follows:

- Based on our survey work, JUST Capital has defined a list of 36 *Components of JUST behavior*, which comprise the most important determinants of JUST corporate performance according to the American people.
- For ease of communication, related *Components* are grouped together into 10 categories and are referred to as *Drivers*.
- JUST Capital's 2016 polling has derived weights for each *Component* that reflect its relative importance to the public.
- For each *Component*, a series of *Metrics* were selected, which are the specific ways we measure corporate performance on each *Component*.
- For each *Metric*, we identified appropriate *Data*, which describe the actual performance of each company.

This methodology hierarchy is illustrated in the example below:

DRIVER	<i>Worker Pay & Benefits</i>
COMPONENT	<i>Pays a Fair Wage for the Industry and Job Level</i>
METRIC	<i>Fair Pay Ratio</i>
DATA	<i>Ratio of company wages adjusted by location and job title, compared to national industry averages</i>

To produce the rankings, JUST Capital calculates a series of individual numerical scores at the *Component* level. These Component scores are calculated and normalized across metrics, and the treatment of missing data, outliers, and scaling varies based on the nature of the underlying data for each *Component*. A company's overall score on JUSTness is then determined by calculating the weighted sum of its scores across all *Components*.

Finally, it has been necessary to adopt specific policies that address how the methodology should take into account various issues arising as a result of the inherent realities of such a complex undertaking. The most important of these are:

1. **Missing Data**, which addresses how the rankings cope with corporate performance data that is missing, does not exist, is not reported, and is of varying quality and coverage. In response to feedback, JUST has developed a complete taxonomy of its metrics and identified an appropriate treatment for the handling of missing data for each metric-type. This framework is described in greater detail in Chapter 3.
2. **Scaling**, which affects how JUSTness takes into account the disparate size, reach, and impact of widely differing companies. In response to feedback, JUST has taken a tailored approach to scaling, applying different treatments depending on the type of metric in question. Data are not scaled in most instances and, where they are, it is in response to material company size biases. Our approach to scaling is detailed in Chapter 3.
3. **Rates of Change**, which addresses how important it is to measure not simply the absolute level of a company's performance at a specific point in time, but its direction and rate of change. Our annual ranking captures company performance at a moment in time—in most cases we measure a level of performance for a single year and, where it is appropriate for certain metrics,

over a longer period (typically between two and five years). In some instances, company performance assessments may differ by including a rate of change in the future, although the absence of reliable time-series data limits our capacity to calculate rates-of-change at this time. Further details on this matter are included in Chapter 3.

4. **Management Practices**, which relate to whether and how the rankings should take into account management policies and practices, as well as actual performance data. In response to feedback, JUST has incorporated a range of management metrics that complement performance data, particularly in areas for which performance measurement can be challenging.
5. **Absolute vs. Industry-Relative JUSTness**, which relates to whether and how corporate JUSTness can be compared between companies in different industries. Feedback on this matter revealed significant interest in both absolute and relative information. JUST is committed to measuring both absolute and relative justness, and is releasing its inaugural relative rankings in 2016. We are working towards releasing our inaugural absolute—or cross-industry—ranking in 2017.

The manner in which JUST Capital evaluates corporate performance is continually under review. As we learn more about the American public's views on corporate JUSTness, our methodology may change to more accurately reflect these views. For instance, we continue to evaluate how to reflect the impact of *unique events*, which refer to sudden and/or extreme events that result from company actions or inactions and have the potential to adversely or positively impact a company's score (e.g., a major environmental accident, or a major positive product advance). In addressing unique events, JUST is seeking to balance timeliness and currency with fairness to companies and other stakeholders. In response to feedback, we are currently developing an "outlook" or "watchlist" system within which these unique events and other company performance developments will be tracked in real time as they occur, and until their import can be fully determined. At periodic ratings updates, such events would be incorporated into scoring for the relevant component.

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1 OVERALL APPROACH

1.1 Research Process Design

The purpose of JUST Capital’s research is to develop, execute and maintain a ranking methodology that is credible, robust, fair, transparent, and iterative. We began our work in 2015 with a simple but bold idea: to evaluate and rank companies based on how the American people define just corporate behavior, and to bring this information to all interested parties, including employees, communities, consumers, investors, and corporate leaders themselves. We are committed to objectivity and transparency, and to making company scores, market research, and our process accessible to everyone.

JUST Capital’s Methodology describes a three-step process.

1. JUST Capital surveys and polls the American Public on a comprehensive and representative basis, to understand how Americans define the *Components* of JUST business behavior and their relative importance.
2. JUST Capital evaluates, in a fair, unbiased and rigorous way how the largest publicly-traded companies in the United States perform across these *Components* of JUSTness. At every major methodological step, JUST Capital surveys the American public for their views and insights.
3. JUST Capital constructs and maintains the rankings that reflect how the largest publicly traded U.S. companies compare relative to each other on their performance against the American people’s definition of JUST behavior.

These stages are described in detail throughout this document. For neutrality and transparency, the JUST Capital research team has sought and received extensive input from the organization’s Research Committee, from numerous third party advisors, consultants and experts, as well as from the general public.

1.2 Management

The JUST Capital research team is responsible for implementing the policies and methodologies agreed to by the Board of Directors, as proposed by the Research Committee of the Board. The JUST Capital research team is managed by the Head of Research, who reports to the CEO.

The Research Committee of the Board of Directors reviews the methodology in its entirety on an annual basis and more frequently as deemed necessary and as certain

issues arise. Major methodology changes are implemented by the research team in a timely fashion subsequent to approval from either the Research Committee or the Board of Directors, depending on the changes in question. At no time does the Research Committee or the Board directly focus on the companies being ranked; their input is purely methodological, in order to remain unbiased in the rankings. Neither the Board nor the Research Committee sees the rankings before they are made public. Advisor and third party expert consultation are a necessary component of the review process, as is public survey and polling research. The entire methodology has been reviewed by an expert, independent entity. At all times, the scoring methodology will be disclosed fully and transparently on the JUST Capital website.

2 POLLING AND MARKET RESEARCH

The foundation of JUST Capital's Methodology is the market research it conducts to capture the voice of the public and determine the benchmark against which companies are evaluated. This is achieved via detailed survey and polling work undertaken in partnership with specialized third party organizations identified and retained via competitive commercial processes.

In 2015, JUST Capital worked with Penn Schoen Berland (PSB) as its polling partner to identify the American public's preferences and opinions regarding corporate behavior. PSB undertook a multiphase survey, carried out between February and August 2015, comprised of qualitative and survey work through in-person focus groups, online group discussion, telephone interviews, followed by online quantitative surveys.

JUST Capital's survey partner for 2016 is the National Opinion Research Center (NORC), based at the University of Chicago. NORC runs the AmeriSpeak panel, which is a nationally representative panel of households across the country that provides for scientifically rigorous statistical surveys of the U.S. population.

There are three stages to our market research and polling, as follows:

- STAGE 1. Listening to the public via focus groups, qualitative surveys and other approaches to understand the full range of criteria relevant to corporate JUSTness and give people a voice.
- STAGE 2. Quantitative polling to derive the specific *Components* of corporate JUSTness and their relative *Weights* in order to build the JUST rankings.
- STAGE 3. Ongoing analysis of the American public's attitudes and perceptions of JUSTness in support of our rankings, our data platform and our mission.

2.1 Stage 1: Listening to the American Public

In 2015, JUST Capital worked with PSB to conduct qualitative research to understand the full range of criteria for corporate JUSTness. The process encompassed the following:

1. *Focus Groups*: In January and February of 2015, JUST Capital conducted 22 focus groups in 10 US cities, involving a total of 151 respondents, who were, organized by four self-identified groupings based on ideological orientations (conservative, liberal, moderate and mixed). These groups, which typically

featured six to eight individuals, were targeted to include urban and suburban populations in large and medium-sized cities across the U.S. They were also demographically diverse across income, gender, age, ethnicity and education.

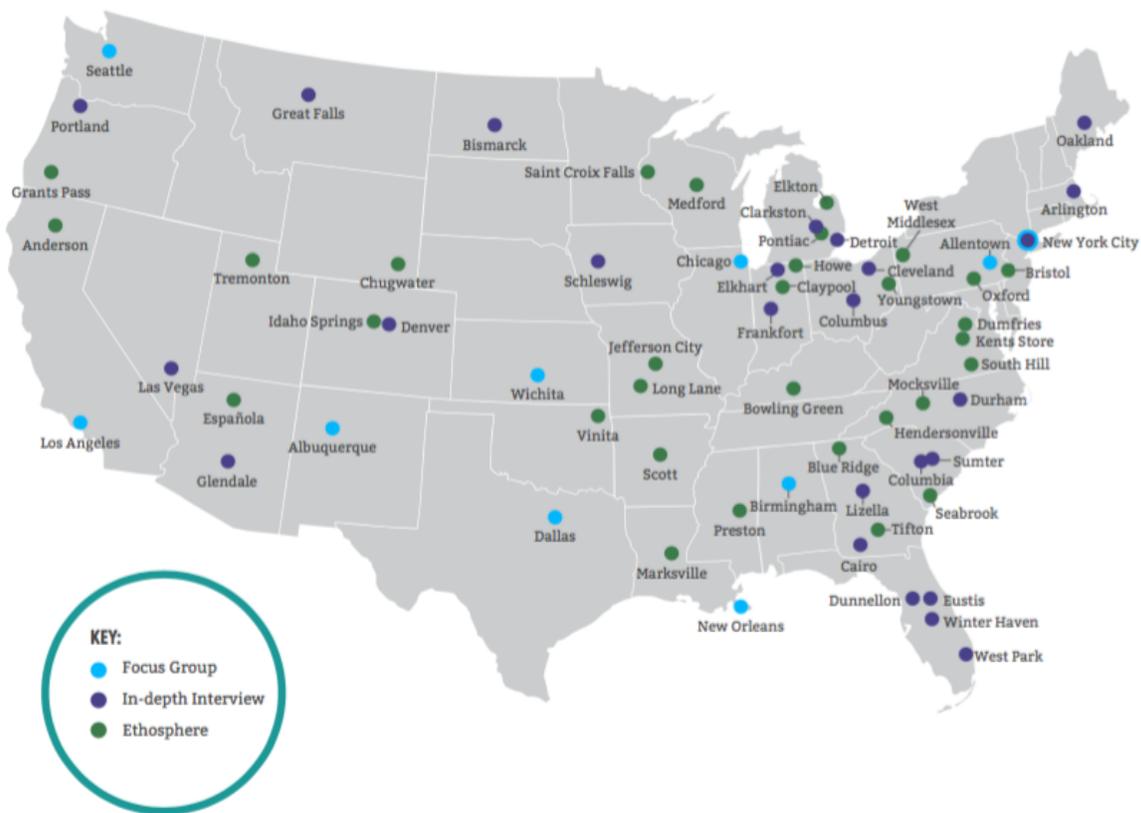


Figure 1: 2015 Focus Groups

To promote consistency, a single trained individual moderated every focus group. This moderator was instructed to lead the discussion in such a way as to allow participants to speak freely and openly about any and all issues surrounding the concept of ‘just’ corporate behavior and attitudes towards big companies. The moderator did not try to guide or lead the responses. These were open-ended discussions, which invited participants to list and discuss without bias or judgment all of the aspects of corporate behavior that they believed related to a just company, whatever that meant to them. All focus groups were watched live by representatives from PSB and/or JUST Capital, and follow-up questions were relayed to the moderator by the on-site team. FocusVision transcribed the focus group conversations, except for those in Allentown, PA due to technological limitations at that facility. All focus group discussions were archived. See **Appendix A** for a listing Focus Groups by location and ideological orientation.

2. Online and Telephone Interviews and Discussion: Following the focus group interviews, JUST Capital targeted rural respondents who were not previously contacted in the focus group population. This online community involved 32 respondents in rural locations (defined as at least 30 miles from a major city), with demographic and regional quotas, and ideological quotas in place to ensure representativeness. An online moderator from PSB monitored all activities and probed key issues as needed. The discussion guide was modeled on that used for the focus groups but adapted to an online format.

PSB's Corporate Research Group conducted 26 in-depth interviews (IDIs) by telephone, the first 20 to target the offline population across the country and an additional six to account for underrepresented regions. An offline population is defined as a group of individuals who do not regularly use computers and never use the Internet. They tend to be elderly, lower-income or visually impaired and needed to be represented in some fashion in the survey work, as they were not accounted for in the focus groups or online community. Respondents were identified by consumer data provider Epsilon. Each interview lasted approximately 30 minutes and followed the focus group discussion guide. These discussions were recorded with respondent permission and transcribed.

At the conclusion of this qualitative research, PSB and JUST Capital reviewed all of the transcripts in order to identify key ideas and themes. In total, this qualitative phase produced a list of 188 separate items, representing the specific and comprehensive characteristics that respondents associated with JUST corporate behavior (see **Appendix B**).

2.2 Stage 2: Quantitative Polling to Build the Benchmark

JUST Capital then did two phases of quantitative market research to transform the issues that matter most to the public into a measurable benchmark, against which companies can be evaluated. The benchmark is made up of the most important issues according to the American public (which we call *Components* of JUSTness) and the relative importance of each of these *Components* (which we call *Weights*). All quantitative studies were balanced by the following demographic traits: region, gender, age, income, ethnicity, education and employment.

2.2.1 Prioritize and Organize (2015)

The purpose of the first phase of quantitative research, which was completed in Q2 of 2015 with PSB, was to organize and prioritize the comprehensive list of 188 items into a list of the most important *Components*. JUST Capital surveyed the American people to confirm or amend what the qualitative respondents had said, based on a

demographically representative online sample of 15,001 people. JUST Capital chose this large sample size in order to allow us to make statistically valid assessments of subgroup opinions. It then followed this survey with a confirmatory poll of 5,002 individuals.

Information JUST Capital gathered on the public’s definitions and priorities in each category was used to consolidate and organize the 188 items into a hierarchy containing the 36 most important *Components* of JUSTness. These *Components* have been grouped into 10 common themes called *Drivers*.

INFORMATION HIERARCHY

<i>Driver</i>	10 <i>Drivers</i>
One or more <i>Components</i> per <i>Driver</i>	36 <i>Components</i>
One or more <i>Metrics</i> per <i>Component</i>	67 <i>Metrics</i>

Figure 2: *Driver, Component and Metric Hierarchy*

These are the specific steps JUST Capital took to build the hierarchy:

1. **Eliminate overlap and group into common themes:** JUST Capital’s research team logically grouped all overlapping items, transforming the exhaustive list of 188 into a list of 10 discrete, non-overlapping categories of behavior, which we call *Drivers*.
2. **Prioritize:** JUST Capital determined the most important *Components* of each *Driver* by conducting a quantitative survey with multiple choice, multiple answer format questions to confirm which items were most relevant to performance in each of the higher-level *Drivers*. The criteria used for selecting which *Components* to include in the survey were as follows:
 - a. At least 75% of the American public selected these *Components* as highly relevant to JUST corporate behavior.
 - b. Each Component captures a separate and distinct behavior from every other Component.
 - c. The Component is measurable and broadly applicable to most companies.
3. **Organize:** JUST Capital then organized these *Drivers* and their associated *Components* into a hierarchy to facilitate measurement and communication

The full list of *Components*, grouped together by *Driver*, is as follows:

DRIVERS	COMPONENTS		
WORKER PAY AND BENEFITS	Sponsors health insurance	Pays a living wage	Provides paid time off
	Pays a fair wage for the industry and job level	Helps workers prepare for retirement	Does not discriminate in pay
	Pays workers fairly compared to CEO		
WORKER TREATMENT	Provides a safe workplace	Promotes work-life balance	Provides education and training
	Does not discriminate in hiring, firing and promotion practices	Handles grievances and layoffs fairly	Respects workers
SUPPLY CHAIN IMPACT	Does not have suppliers with abusive conditions	Does not cause or contribute to conflict abroad	Does not do business with repressive governments
COMMUNITY WELLBEING	Maintains strong relationships with communities	Contributes to charitable causes	
DOMESTIC JOB CREATION	Creates jobs in the US		
PRODUCT ATTRIBUTES	Makes products that are beneficial to health, environment, or society	Makes quality products	
CUSTOMER TREATMENT	Provides fair pricing and sales terms	Maintains strong relationships with customers	Does not discriminate in customer treatment
	Protects customer privacy		
LEADERSHIP & ETHICS	Follows laws and regulations	Has leaders with integrity	Is truthful in advertising and labelling
	Pays fair share of taxes	Minimizes political spending	
ENVIRONMENTAL IMPACT	Minimizes pollution	Has environmentally responsible management	Uses resources efficiently
INVESTOR ALIGNMENT	Is transparent & accurate in financial reporting	Is profitable over the long-term	Provides investor return

Figure 3: Components and Drivers

2.2.2 Weight Relative Importance (2016)

The purpose of the second phase of quantitative research, which was conducted in 2016 with NORC, was to determine the relative importance of each of the 36 *Components*. JUST Capital derives weights for the ranking model from public opinion. This survey encompassed a probability-based online sample of 5,000 respondents.

After careful consideration of alternative techniques, a Maximum Difference (MaxDiff) approach was selected to derive the *Weights* of each *Component*.¹ MaxDiff provides a measure of relative importance of the *Components* being tested by asking respondents to vote for their most and least important out of a defined number of items. In the JUST Methodology, respondents chose between four *Components*, on a repeating basis, in order to promote simplicity, ease of execution, and accuracy. Below is an example of a MaxDiff task:

<div style="border: 2px solid #00AEEF; padding: 5px; width: fit-content; margin: 0 auto 10px auto;"> WHICH BEHAVIOR IS MOST JUST? </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="radio"/> PAYS A LIVING WAGE </div> <div style="width: 45%; text-align: right;"> <input type="radio"/> </div> </div> <hr style="border: 0.5px solid #ccc;"/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="radio"/> MAKES QUALITY PRODUCTS </div> <div style="width: 45%; text-align: right;"> <input type="radio"/> </div> </div> <hr style="border: 0.5px solid #ccc;"/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="radio"/> IS TRUTHFUL IN ADVERTISING & LABELLING </div> <div style="width: 45%; text-align: right;"> <input type="radio"/> </div> </div> <hr style="border: 0.5px solid #ccc;"/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="radio"/> MINIMIZES POLLUTION </div> <div style="width: 45%; text-align: right;"> <input type="radio"/> </div> </div>	<div style="border: 2px solid #00AEEF; padding: 5px; width: fit-content; margin: 0 auto 10px auto;"> WHICH BEHAVIOR IS LEAST JUST? </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"></div> <div style="width: 45%; text-align: right;"> <input type="radio"/> </div> </div> <hr style="border: 0.5px solid #ccc;"/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"></div> <div style="width: 45%; text-align: right;"> <input type="radio"/> </div> </div> <hr style="border: 0.5px solid #ccc;"/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"></div> <div style="width: 45%; text-align: right;"> <input type="radio"/> </div> </div> <hr style="border: 0.5px solid #ccc;"/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"></div> <div style="width: 45%; text-align: right;"> <input type="radio"/> </div> </div>
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Figure 4: MaxDiff Example

As respondents go through these choice tasks, their strength of preference based on the consistency of their choices is developed. The percentage weight of each *Component* is derived from the number of times an item is chosen out of the number of times that item is shown. The result is a *Weight* for each item and an effective rank order. The higher the weight, the more importance the American public places on a *Component*.

For a more detailed description of the MaxDiff methodology, please see **Appendix D**. For the technical 2016 NORC survey methodology, please see **Appendix J**

¹ JUST Capital tested other methods for deriving Weights in 2015. Details of this work can be found in **Appendix C**.

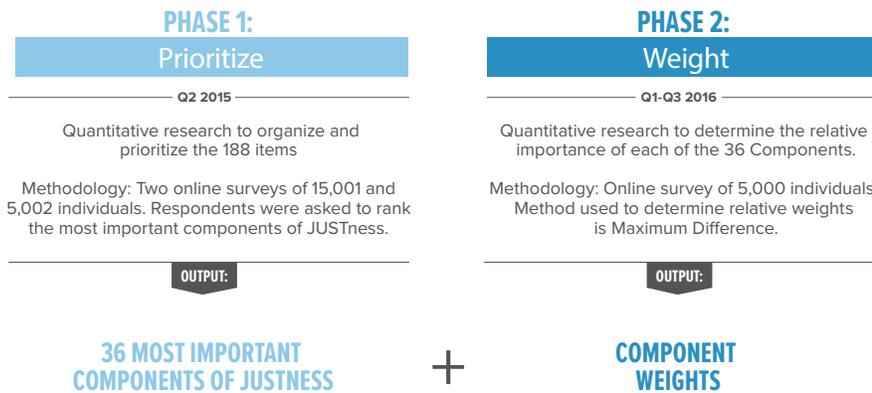


Figure 5: Components, Weights and the Benchmark

2.3 Ongoing Market Research

To ensure the scoring approach is unbiased and objective, we conduct ongoing market research that informs our overall methodology, provides clear direction on how the rankings process should handle certain complex scoring questions, and helps us with language and clarity of communication.

Because of their important potential influence over the final rankings, JUST seeks to minimize subjectivity and bias in how we deal with each of these issues. The results of the ongoing survey and polling work will help to ensure this is the case.

3 EVALUATING CORPORATE PERFORMANCE

3.1 Objectives

After the *Components* have been finalized, and the *Weights* derived, the next stage of the ranking methodology is the evaluation and scoring of each of the companies according to their performance on each *Component*.

Completing this involves determining the methods for measuring performance across widely different industries; developing metrics that accurately measure company performance on the relevant *Components*; collecting, analyzing and processing reliable corporate performance data; and scoring company performance.

3.2 Universe of Ranked Companies

Our universe of ranked companies began with the 1,000 largest publicly traded U.S. companies (by market capitalization, as defined by the Russell 1000 Index). Following the reconstitution of the Russell 1000 Index on June 24, 2016, we excluded companies that do not file form 10K with the SEC, and other companies that we could not subject to common standards of measurement due to data availability, including certain investment holding companies and most Real Estate Investment Trusts (REITs). The number of ranked companies was further reduced to 897 due to market developments, including mergers and acquisitions, during the data collection period.² Our universe of ranked companies may expand in future years.

Market developments and corporate actions have the potential to affect which companies are included in the universe. At the time such information becomes publicly available, companies in the JUST Ranking that are affected by such information may be re-evaluated. The most notable of these are corporate actions, such as spin-offs, and mergers and acquisitions.

3.3 Industry Classification

JUST Capital has defined 32 industries that map approximately to the [Global Industry Classification System](#) (GICS) (see **Appendix E**).³ GICS is a common global classification standard used by investment professionals. It consists of 11 sectors, 24 industry groups, 68 industries and 157 sub-industries. The JUST Capital industry classification separates some of the larger GICS industry groups so as to arrive at 32 industry groupings of similar size, based on number of constituents. Each company in our

² A complete list of companies excluded from our universe following the reconstitution of the Russell 1000 Index on June 24, 2016 is included in **Appendix F**.

³ GICS is jointly developed and owned by MSCI and Standard & Poor's.

coverage universe is thus assigned to a single industry according to its principal business activity.

While JUST Capital has elected to exclude most Real Estate Investment Trusts (REITs) from its rankings, companies categorized in the GICS “Specialized” REIT industry subgroup have been included as part of the Real Estate industry rankings.

In constructing its own industry groupings, JUST Capital has, in certain instances, elected to reassign a company’s industry classification from its original GICS classification to better reflect its operations and enable it to be ranked relative to its principal competitors.⁴

3.4 Metrics

3.4.1 Metric Creation

The JUST Capital team creates metrics that meet the following criteria:

1. Are judged to best reflect the public’s definition of the *Component* in question
2. Accurately measure company performance or managerial commitment
3. Require as few assumptions and as little subjective interpretation as possible
4. Can be assessed with clear units of measurement, or binary outcomes
5. Reflect measurement best practices

In some instances, JUST Capital employs metrics that measure actual performance on an issue (e.g. amount of pollution) and metrics that assess a company’s management practices on an issue (e.g. pollution prevention policies and management actions). Input from the public, advisors and specialist research experts confirmed that metrics on management practices should be included in a company’s JUST evaluation, particularly where measurement is heavily reliant on the availability of controversy data, such as Supply Chain Impact, for example.

JUST Capital analysts have reviewed, screened and consolidated over 5,000 individual data points from reputable third parties across all aspects of JUST corporate performance. Selection of final *Metrics* and data is driven by analyst recommendation, taking into account the above preference criteria, and internal and external review. The current list of *Metrics* is detailed in the Metric Definitions documentation at **Appendix H**, including sources and format. When metrics are sourced from JUST Capital, the indicated metric is constructed by JUST Capital research staff after

⁴ A complete list of companies whose original GICS classification has been reassigned by JUST Capital is included in **Appendix G**.

measuring company performance against best practices and standards for a *Component*.

In response to stakeholder feedback on our draft methodology, JUST Capital has selected, developed, and classified its metrics according to, the following taxonomy:

Metric-type	Description	Number
Performance	Measures and assessments of actual company performance (e.g. Quality of a company’s 401k plan on a 0-100 point scale; Percentage change in US workforce; Electricity use in MWh/USD million of revenue; CEO or company director involvement in material related-party transactions, reported as True or False).	25
Management	Companies’ policies, commitments and management practices which meet an established minimum standard or best practice. Typically measured on a binary Yes/No or True/False basis.	17
Controversy	Controversies reported by influential media, stakeholder, and third-party sources captured according to a strict, rules-based research process. Measured by the number and severity of cases.	12
Crowd-sourced	Reviews and salary disclosures from current and former employees of ranked companies.	8
Fine	Fines levied by relevant regulatory authorities. Measured in US Dollars.	5
TOTAL		67

3.4.2 Measurement Units and Timeframe

The units of measurement associated with the various *Metrics* vary considerably, reflecting significant differences in the underlying *Components* being measured. Typically, measurement units come in one of three forms:

1. **Quantitative measurement:** For example, the percentage of employees making a living wage. This calculation looks at the distribution of employee salaries for a given company and calculates the percentage of employees making a living wage, based on cost of living thresholds.
2. **Qualitative measurement:** For example, the crowd-sourced average rating of a company's work-life balance measured on a five-point scale by current and former employees of each company.

3. **Binary responses:** For example, whether or not a company provides flexible working hours, working hours that promote a work-life balance, or day care services for its employees.

For metrics that measure the change in corporate performance over a period of time, JUST Capital generally uses a 3-5 year time period as the standard assessment period. This chosen period is based on a desire to accurately capture both the long-term performance of a company and span the majority of an economic cycle (the duration of the average post-war economic cycle is 69 months (or 5.75 years), according to the National Bureau of Economic Research (NBER)). For controversies and fines, we used a time frame of three years.

JUST seeks to maintain the timeliest rankings possible. Some of the data in the JUST model are sourced from third-parties, who are themselves seeking to standardize and track disclosures that do not occur on any regular or predictable schedule. We therefore use the most recent data available to us for each metric, which means that data within and across metrics may pertain to different years. Companies within our ranking universe have conveyed a clear preference that we use the most up-to-date data available.

3.5 Data & Data Sources

JUST Capital considers the quality of the underlying data used to measure performance to be of paramount importance to the rankings. Due to the range of Components measured, and the breadth of industries covered, JUST Capital utilizes multiple reliable data from many different sources. These include:

1. Publicly Available Company Data and Reports: Audited company filings, annual reports, Corporate Social Responsibility and Sustainability reports, integrated reports, company presentations and other reports.
2. Third-party Data Vendors: For-profit companies that collect data on certain issues relevant to the rankings and specialty third party data providers focused on environmental, social and governance measurement. In some cases, this includes (though is not limited to) data on media controversies and regulatory fines and violations (see 3.5.1 below).
3. Government Data: US government agencies (e.g., Bureau of Labor Statistics)
4. Academic and Not-For-Profit: Non-governmental organizations and non-profits focused on corporate activities in certain areas

5. National Media and Press
6. Crowd-sourced Data: Company review websites (e.g., Glassdoor; see 3.5.2 below)

The full list of all current data sources and their mapping to the *Metrics* are provided in **Appendix H**.

3.5.1 Controversy Data

Controversies reported by media outlets or elsewhere in the public domain can be a useful and timely, albeit largely unstructured, source of information on companies. Controversy data can also ensure our model remains alert to capturing real-world events and stakeholder sentiments that may not otherwise be represented in more traditional company data sets. That said, use of controversy data must be handled with judgement and care, to ensure we remain as unbiased, accurate and data-driven as possible in our rankings.

We examine controversy data to inform our measurement of the performance of *Components* where, for a range of reasons, including the absence of company disclosures, conventional performance data is unavailable. In some cases, we use controversy data because a metric lends itself to measurement in this fashion—because the incidents with which a metric is concerned are rare, unique or geographically (or geopolitically) disparate. In all cases, JUST Capital’s use of controversy data is systematic, based on strict, rules-based research processes and delivered by reputable third parties.

JUST Capital has also sought to supplement metrics dependent on controversy data with metrics assessing company management practices that seek to mitigate related risks. Feedback from stakeholders has confirmed that many observers consider such incidents (particularly where they reveal a pattern of behavior) as potential indicators of management problems in a particular area of corporate performance, and a useful complement to information on company management practices.

3.5.2 Crowd-sourced data

Crowd-sourced data, which we obtain from websites such as Glassdoor, are derived from the anonymously submitted reviews of current and former employees of ranked companies on matters such as salary, benefits, and management.

JUST Capital uses crowd-sourced data in cases where it most accurately reflects the views of a relevant stakeholder. In many instances, crowd-sourced data can provide an internal viewpoint of a company that is otherwise impossible to ascertain. For example, crowd-sourced data from employee review sites is central to understanding workers' perspectives on Worker Treatment. Moreover, since companies do not disclose wage data, crowd-sourced salary reviews provide unique insights into companies' compensation practices. In these ways, crowd-sourced data can help us build a more comprehensive picture of corporate performance.

JUST Capital is fully aware of the public perceptions of crowd-sourced data and is attuned to the potential for bias and uneven quality. JUST has conducted a thorough quantitative assessment and qualitative review of all crowd-sourced data used in our models and is confident in the data's integrity, and accuracy.⁵ In instances where coverage is not adequate or sample sizes are small, JUST Capital has restricted its use of this data. The sources from which we are using crowd-sourced data are screened and we only accept data from those organizations with strict policies and guidelines preventing companies from altering or biasing their reviews. For a thorough discussion of our treatment of crowdsourced data, please refer to our Wage Methodologies at **Appendix I**.

3.6 Company Data Review Period

JUST Capital also seeks information directly from companies via its Corporate Portal. As part of a broader process to ensure the accuracy and validity of its data, JUST Capital provides each company within its ranking universe an opportunity to review and submit suggested revisions to the data on which its scores and ranking are based. As part of this process, representatives from each company were invited to access their data via a secure platform. The window for review and data submissions in 2016 exceeded one calendar month spanning September and October.

As part of this process, JUST Capital assesses all submitted data for accuracy, relevance and consistency with the metric(s) and methodologies to which they are related. In making those assessments, JUST Capital uses as reference points: the data it currently has on hand, supporting evidence provided by the company, historical data

⁵ For review and other uses of Glassdoor data, see Huang, Minjie, et al. "Family firms, employee satisfaction, and corporate performance." *Journal of Corporate Finance* 34 (2015): 108-127; Moniz, Andy. "Inferring Employees' Social Media Perceptions of Corporate Culture and the Link to Firm Value." (2016); and Chang, Sea-Jin, Ji Yeol Jimmy Oh, and Kwangwoo Park. "The Power of Silent Voices: Employee Satisfaction and Acquirer Stock Performance." (2016). See also the presentation by Andrew Chamberlain, chief economist at Glassdoor, to the National Association of Business Economics on the use of Glassdoor data for research purposes: <https://www.glassdoor.com/research/presentations/sf-nabe-2016/>

(where available), and any other sources it deems relevant. JUST Capital will only consider supporting evidence where it is publicly disclosed (i.e. published). Subject to these assessments, JUST Capital makes all reasonable efforts to incorporate company data submissions into the calculation of its annual rankings, while making no guarantees that any data submitted will affect (materially or otherwise) the score or ranking of any company.

3.7 Data Selection, Verification & Accuracy

JUST Capital selects data to support the rankings based on its analysts' best judgment, taking into account a number of key criteria and following a strict protocol:

1. Data must be derived from sources deemed to be credible by JUST Capital's Research Staff, together with the Research Committee of the Board and Research Council.
2. Data selected should reflect company performance or managerial commitment on the *Component* being measured.
3. Data should be verified where possible by independent third parties and subjected to continual review, validation and improvement.
4. All data selected to support rankings are reviewed by the JUST Research Committee and JUST Capital's network of third party advisors and consultants

JUST Capital evaluates each data series for its correlation with the company's size (as measured by market capitalization and revenue). If significant correlations are identified, they are investigated to understand whether these are correlations that reflect actual performance or are the result of size bias. In some cases, underlying data have been normalized for size (see 3.9 Scaling).

In all cases, we seek to minimize correlations that are artifacts of size and to use data that best reflect actual company performance.

3.8 Missing & Incomplete Data

Given the diversity of *Components* measured within the rankings, and the breadth of companies and industries covered, the challenge of finding credible data varies. Typically, within the context of the JUST rankings, missing data or missing values within data sets generally occur in one of three situations:

1. The company does not disclose the data publicly
2. The company discloses partial data or processes data differently than other companies (which may be due in part to the absence of standardized or conventional disclosure requirements)
3. No data is collected on that *Component* for the company because the *Metrics* are considered less relevant to the industry or because the data has not been compiled (for instance, in some cases, the universe of companies covered by one of our data sources may not wholly align with our own).

JUST Capital’s approach to handling missing data has been informed by stakeholder feedback on our draft methodology, survey work conducted in 2016, and the input of our Research Council. All mentions of values in the tables that follow are references to raw data values, prior to any transformation we subsequently apply as part of our scoring calculations, which are described in Chapter 4. Missing data are typically handled in one of two ways:

1. **Zero Value:** Companies missing data may be assigned a value of zero. This treatment can be positive or punitive in nature, depending on the metric.⁶

Metric-type	Application of “zero” treatment
Performance	<p>A value of zero has been assigned in certain instances for Performance metrics, as follows:</p> <ol style="list-style-type: none"> 1. Where data availability is a function of company disclosure. This approach is inherently punitive and is intended to encourage greater disclosure and discourage companies from withholding sub-average data. In 2016, we have applied this treatment to two Performance metrics—Charitable Giving and Waste Management. 2. Where the presence of a value greater than zero is the exception and represents poor performance. This approach is consistent with our handling of Controversy and Fine metrics. In 2016, we have applied this treatment to three Performance metrics—Total Recordable Incident Rate, Product Recalls, and Number of (Environmental) Accidents.

⁶ “Positive” and “punitive” are used here to describe treatments that are not “neutral” in nature, where “neutral” is defined as ascribing a value equivalent to a company’s industry average.

Metric-type	Application of “zero” treatment
Management	This treatment is applied to all Management metrics. A value of zero denotes an absence of publicly available evidence that a company is pro-actively managing the risk(s) in question. For most Management metrics, zero represents a value of No on binary Yes/No questions.
Controversy	This treatment is applied to all Controversy metrics. A value of zero in this instance is positive (indicating no controversies) and assumes the data available to us are complete. To do otherwise would be to assume that a majority of companies have incurred controversies, despite the absence of any supporting evidence.
Crowd-sourced	This treatment does not apply to any Crowd-sourced metrics.
Fine	This treatment is applied to all Fines metrics. A value of zero is positive (indicating no fines) and assumes the data available to us are complete. To do otherwise would be to assume that a majority of companies have incurred fines, despite the absence of any supporting evidence.

2. **Industry Average:** Companies missing data may be assigned a value equivalent to their industry’s average. This is a neutral treatment and, in the context of an industry-relative ranking, effectively eliminates the impact of that metric on a company’s overall score.

Metric-type	Application of “industry average” treatment
Performance	This treatment is applied to all remaining Performance metrics not subject to the “zero” treatment described at (1) above. This treatment reflects the practical reality that data availability is frequently beyond the control of companies.
Management	This treatment does not apply to any Management metrics.
Controversy	This treatment does not apply to any Controversy metrics.
Crowd-sourced	This treatment is applied to all Crowd-sourced metrics, reflecting the practical reality that data availability is beyond the control of companies.
Fine	This treatment does not apply to any Fine metrics.

3.9 Scaling

The companies ranked by JUST Capital vary considerably in terms of their size and scale, whether measured by revenue, market capitalization, number of employees, customers, suppliers, or other stakeholders. Companies’ physical impact, use of resources and scope of operations vary similarly. These inherent size differences may

influence the performance of ranked companies across many of the *Components*, and particularly those *Components* that are directly correlated with size and scale.

JUST Capital’s approach to scaling has been informed by stakeholder feedback on our draft methodology, survey work conducted in 2016 and the input of our Research Council. Where adjustments have been deemed appropriate through these processes, JUST Capital has normalized *Metrics* for size and scale in the following ways:

Metric-type	Application of scaling treatment
Performance	<p>No formal scaling protocol has been applied to Performance metrics.</p> <p>However, some metrics are, by design, intrinsically scaled. This is true of, for instance, all metrics presented as rates, ratios or percentages (such as Total Recordable Incident Rate, CEO to Median Worker Pay Ratio, Percentage Change in US Workforce, and 5-year average Return on Invested Capital).</p> <p>All metrics relating to resource efficiency are presented as intensities (i.e. units used per USD million of revenue) or percentages (i.e. metric tons of waste recycled as a percentage of total waste).</p>
Management	No scaling applied. These metrics are typically measured on a binary Yes/No basis.
Controversy	All controversies are scaled by company revenue.
Crowd-sourced	No scaling applied. These metrics represent worker sentiment on specific issues (and, in some cases, salary disclosures).
Fine	All fines are scaled by company revenue.

3.10 Unique Events

Unique events are defined by JUST Capital as important, defined events that are the result of action(s) or inaction(s) by the company; are sudden, extreme or unusual in nature; are considered material to JUSTness, as the public has defined it; and, have the potential to affect a company’s ranking, either positively or negatively, outside the normal weights assigned to a particular component. Examples of unique events include the occurrence of a major workplace scandal or environmental disaster on the negative side, or major increases in employee wages or breakthroughs in healthy products as a positive example.

We are currently seeking guidance from the public as well as independent specialists and other neutral third parties on the potential ways to address this issue, including:

- Polling the public shortly thereafter on the impact of the event and adjusting the company's score based on the public's views at that time; and
- Placing the affected company affected by the unique event on a "watch-list" and incorporating the event into the next scheduled annual evaluation.

4 RANKINGS CALCULATION

4.1 Objectives

Once the *Components* and their *Weights* have been determined and the metric data have been collected, the scores and the rankings themselves are calculated. The ranking is designed to be a consistent and unbiased reflection of corporate JUSTness as defined by the public.

4.2 Absolute and Relative Rankings

JUST Capital's ranking Methodology and the underlying model that drives it support the ranking of companies within custom groupings of companies, within established industry categories, and across the entire universe of publicly traded companies.

Relative rankings compare companies within the same industry, as defined by the JUST Capital list of industries in **Appendix E**. Relative rankings take, for example, the companies in the Capital Goods Industry, and score and rank them compared to their industry peers. This process is repeated for every industry, resulting in a list of the most JUST companies by industry. Thus, scores for corporations in different industries would be not comparable.

Absolute rankings compare companies across all industries by using the same *Components* and *Metrics* regardless of industry. These rankings reflect the universal nature of JUSTness and allow users to compare the performance of any group of companies without regard to, or adjustment for, the specific circumstances of each company. The final output of the *Absolute* approach is an ordinal ranking.

JUST Capital's 2016 rankings will only compare companies within the same industry, as defined by the JUST Capital list of industries in **Appendix E**. JUST Capital will release its absolute, universe-wide rankings in 2017.

4.3 Scoring and Ranking Calculation

A company's overall ranking is calculated as follows:

1. Corporate performance data across all raw *Metrics* are transformed into a numeric format. We convert all scales (binary, qualitative, and quantitative) into numeric form. For example, data that tracks corporate policy implementation, which may come in the form of a Yes/No response, is transformed into a numeric score. A Yes response may be given a value of one, and a No response may be given a value of zero. A verbal scale (e.g., one assessing the severity of a

company’s controversies at one of five different levels from “None” to “Very Severe”) may also be transformed (e.g., from 1 to 5). At the end of this step, all the scales are numeric, but they have different units (one might be dollars, another tons of pollutant emissions, another number of employees, another a rating, and another a numerical encoding of yes/no).

2. Extreme outliers may cause misleading results. We aim to minimize this using statistical techniques including winsorization. Winsorization preserves all observations in a data set, but replaces outlier values with non-outlier values at a specified threshold, in our case at the data set’s 5th and 95th percentiles. Binary variables are not winsorized.⁷
3. Scale normalization is performed via a z-score methodology, which uses the number of standard deviations from the mean as a uniform way of measuring consistently across varied scales. The generalized z-score formula is:

$$z = \frac{x - \mu}{\sigma}$$

4. Where “z” is the normalized score; “x” is a given company’s raw value for a given metric; “μ” is the mean value for the *Metric* within the comparison group and “σ” is the standard deviation for the *Metric* within the same group. This normalization is performed across all companies, by industry.
5. All heterogeneous numeric scales are aligned so that they run in the same direction with regard to positive vs. negative performance (e.g., higher board diversity is positively ranked, but a high rate of anti-trust controversies is negatively ranked).
6. To make these scores more intuitive and accessible, we transform them by multiplying the z-score by 25 and adding 50. This transformation does not change the order of the rankings, but provides a value of 50 for the average company, with one standard deviation from the mean represented by 25 points. For example, a company with a z-score of two (i.e. two standard deviations above the mean) would receive a score of 100). Although there are no pre-set bounds, most companies will fall in a range from zero to 100.
7. For each *Component*, the corresponding *Metrics* are averaged to create the *Component’s* score.

⁷ Metrics subject to winsorization are denoted as such in **Appendix H**.

8. The company's score for each *Component* is then weighted according to its relative importance based on our polling of the American public.
9. The weighted scores for each of the 36 *Components* are added together to produce the final score.

The scoring formula is illustrated below, where “C” indicates each *Component score* and “W” indicates the *Weight* corresponding to the respective Component.

$$\text{FINAL SCORE} = W_1C_1 + W_2C_2 + \dots + W_{35}C_{35} + W_{36}C_{36}$$

The final rankings are created by comparing the scores of all companies and listing in numerical order from highest to lowest for companies in a given industry.

5 MANAGEMENT PROCESS

The JUST Capital Research team is responsible for implementing the policies and methodologies agreed to by the Board of Directors, as proposed by the Research Committee of the Board. The JUST Capital Research Team is managed by the Head of Research, who reports to the CEO.

5.1 Key Policies and Methodology

Policies and methodology are reviewed for best practices on an ongoing basis and incorporated into the ranking methodology annually. Proposals for changes to methodology as deemed appropriate by the Head of Research and Research Staff are submitted to the Research Committee for review and approval. The Research Committee reserves the right to recalculate a ranking under certain, very limited, circumstances, including, but not limited to, changes in methodology and new information about corporate actions or events regarding companies in the coverage universe.

5.2 Governance

The Research Committee reviews material events that may affect the JUST rankings and its maintenance. The Committee may revise its policies and metrics to analyze corporate performance according to available data and new research. Material changes to the rankings, policies, and methodology of the JUST Ranking will be publicly disclosed on JUST Capital's website.

As described previously, at no time does the Research Committee or the Board directly focus on the companies being ranked; their input is purely methodological, in order to remain unbiased in the rankings. Neither the Board nor the Research Committee sees the rankings before they are made public.

5.3 Third Party Evaluation

JUST Capital consulted a wide range of academics and practitioners relating to their areas of expertise. We have partnered with NORC for polling and other leading academics, institutes, and subject-matter experts. We intend to form additional partnerships as needed for expert opinion and review of our processes.

5.3.1 JUST Capital Research Council

JUST Capital is supported by the JUST Capital Research Council which provides independent guidance on JUST Capital's research mission and technical expertise

on specific research matters. The Research Council ensures that JUST Capital appropriately captures the views of the American public and accurately and rigorously assesses corporations on those issues the American public deem important. The Research Council is comprised of external research leaders who provide experience and expertise to the JUST Capital research team, specifically related to one or more of the following:

1. Capturing, analyzing and accurately reflecting public opinion;
2. Designing assessment metrics and identifying data to evaluate corporate performance;
3. Developing statistical and econometric methods and models to evaluate corporate behavior;
4. The development of JUST Capital's specific research methodologies.

Membership of the JUST Capital Research Council is published on JUST's website at www.JUSTcapital.com.

5.4 Dissemination

The JUST rankings will be publicly available at JUST's website at www.JUSTcapital.com. The site also provides for recent ranking announcements, press releases, a history of the methodology, and material changes in the scheduled or unscheduled maintenance of the ranking.

6 APPENDICES

Appendix A: Focus Groups by location and ideological orientation

Date	Location	Total N	Liberal	Conservative	Moderate/Apolitical	Mixed
1/29	Seattle, WA	18	✓	✓		✓
2/4	New York City, NY	22	✓	✓		✓
2/9	Birmingham, AL	16		✓		✓
2/10	New Orleans, LA	15	✓		✓	
2/12	Los Angeles, CA	14	✓		✓	
2/16	Chicago, IL	13	✓			✓
2/17	Wichita, KS	10		✓	✓	
2/18	Dallas, TX	13		✓		✓
2/19	Albuquerque, NM	16			✓	✓
2/23	Allentown, PA	14	✓	✓		

Appendix B: 188 Components from 2015 Survey Results

Allow job-sharing if employees request	Production of hybrid or electric vehicles
Allowing regular schedules for employees who desire it	Impact of product lifecycle on environment
Flextime to facilitate work/life balance	Recycling
Telecommuting to facilitate work/life balance	Avoidance of personal misconduct by executive leadership
Lobbying	Board diversity
Advance notice of potential firings/layoffs	Board integrity
Firing/layoffs only with good reason	Ethics policy (and punishment of breaches)
If one area of a business is closing, retrain employees for jobs in other areas	Industry expertise on board
Not firing employees who are ill or caring for sick relatives	Limiting related party transactions
Retention of well-performing long-serving employees	Admit mistakes
Severance benefits	Active recruitment of diverse employees
Change plans in response to community input	Employment of Developmentally/Cognitively Handicapped
Disclose business impacts to community	Employment of formerly incarcerated people reentering society
Inform community of plans	Employment of veterans
Listen & respond to concerns raised by community (not only in response to company communications)	Hire apprentices/Paid internships
Managers as local leaders	Merit-based hiring regardless of educational credentials
Remediate mistakes	Nondiscriminatory hiring and promotion (with regard to race, religion, gender, age, ethnicity, sexual orientation)
Service to minority communities	Prevention of environmental accidents
Serve as positive role model for youth	Return policy
CEO/Average Worker Pay Disparity	Stands behind product
In-kind donations	Grievances handled well by HR department
Local sponsorships and donations	No retaliation against employees who bring negative information to light

Disaster relief/recovery	Prevention/appropriate handling of harassment
Company-paid employee volunteering	Respect for right to unionize
Non-grassroots charitable giving (ex-Planned Parenthood and disaster recovery)	Avoiding conflict of interest in IPOs
Partner with schools to prepare kids for jobs with company	Bond payments
Patronize local business (including small private businesses)	Clear and accessible proxy statements
Create local jobs	Dividend payments
Doesn't have too many branches/stores, which threaten small businesses (the "Mom-n-Pops")	Financial reporting integrity
Does not use market power to squeeze suppliers	Reduce company tax burden
Avoid losing positive features and mission focus when expanding through M&A	Impact of routine production on environment
Clear disclosure of nonfinancial impacts	Reduction/elimination of use of antibiotics for growth promotion in food animals
Clearly articulated mission and vision	Water usage
Executive leadership committed to company over long-term	Carbon emissions
Leadership mindful of entire company and multiple stakeholders	Animal welfare standards for food animals
No excessive growth/M&A for empire-building (without good rationale)	Avoidance of animal testing
Sound business plan and strategy to achieve mission	Offshoring
Avoidance of systemic risk	Good value for money
Patronage of small businesses as suppliers (in addition to local businesses near company locations)	Living Wage
Energy efficiency	Pay fair share of taxes (don't exploit loopholes)
Green buildings	Follow through on commitments made in return for tax breaks
Logistical planning to reduce fuel use related to product shipping	Political spending
Use of alternative energy	Long-term profitability

Overall environmental management quality	Atmosphere that respects and values work-life balance
Efforts to reduce or eliminate carbon emissions	CEO and top managers are accessible to all and do not stress hierarchy/look down on workers
General oversight of suppliers' environmental and social practices (including code of conduct)	Employees are regularly informed about business strategy and outlook (apart from potential layoff concerns)
Employer-sponsored day care	Employees feel their work is understood and appreciated by superiors
Maternity benefits	Employees understand how their jobs connect to corporate mission
Paternity benefits	Religious values motivate culture
Paid holidays (e.g., New Year's)	Upper management listens to and acts on employee suggestions
Paid vacation	Respect for employees' individuality and personal style
Sick leave	Cost of living raises
Employee education & training	Employees received performance-linked bonuses
Mentoring/buddy programs	Profit sharing
Promotion from within/opportunity for advancement	Reward employees for money-saving suggestions
Strong onboarding/orientation programs	Stock options
Equal pay by gender	Open discussion of compensation structures within company
Equal pay for fully-qualified disabled employees	Avoidance of bribery
Fair wages	Don't expect government support/No bail outs/Stand on their own
Easy access to real person you can understand on phone	Follow law and regulations
Easy to cancel or change service	Relations with repressive regimes
Easy-to-navigate phone system	Sticking to principles despite government pressure
Easy-to-use website	Fair competition/no antitrust violations
Understanding and knowledgeable employees who can respond to requests and even proactively solve customer problems	Lead when government cannot

Voice recognition programs that understand regional US accents	No abusive conditions
Employees who can help customers with disabilities access products or services	No child labor
Long-term improvement over time in customer service	No forced labor
Not forcing part-time employment to avoid paying health insurance costs	No materials sourcing that exacerbates conflict
Employee assistance programs	Land reclamation/reforestation
Employer-sponsored health insurance (medical, dental, vision)	Don't desecrate sacred indigenous sites
Wellness programs	Maintain valuable features of physical environment (in addition to sacred sites)
Products designed for customers with disabilities	Minimize disruptive impacts of construction and operations
Healthy products	Respect indigenous peoples' rights to land (in addition to sacred sites)
Innovative products	No funding of biased medical research publications (pharm)
Moral values govern what companies do and don't sell	Fully informative labeling
No predatory lending (for financials)	No excessive advertising
Product longevity	No surprise price increases
Product reliability & safety	Prompt and fully informative notification of recalls or product defects
Adjust products/services to local tastes	Truth in advertising (no false or deceptive advertising/marketing)
Emergency support programs	No advertising to children
Employer-sponsored credit union	Fair and equal treatment of all customers
Fulfillment of health care obligations to retirees	No exploitative pricing
Fulfillment of pension obligations to retirees	Company more focused on long-term customer relationship than maximizing short-term revenues (even willing to accept minor losses to maintain long-term relationship)
Provision of 401K match	Customer appreciation programs
Provision of 401K plans	Extended payment programs/grace periods for customers experiencing financial difficulties

Provision of company-funded defined benefit retirement plan	Not upselling/pressuring people to spend more
Retirement planning advice	Respect customer privacy
Worker Safety	Reduction of packaging
Innovative repurposing of discarded materials	Composting
Reduction in paper use	Internships for local students
Waste reduction	CEO does not get high pay if workers are suffering financially, business strategy is failing, or operational or stock price performance is poor
No undocumented workers	Company does not impose religious views on employees
Production of Genetically Modified Organisms	Carpooling
Planned Parenthood	Chemical safety

Appendix C: Discrete Choice Model: 2015 Weighting Methodology

The characteristics identified during 2015’s qualitative phase were grouped together into distinct, non-overlapping categories of behavior and a Discrete Choice Model (DCM) exercise was carried out. DCM is a method of discerning people’s preferences from choices they make and has been widely used in market research and product development. A sample of over 20,000 respondents was asked to complete the DCM.

As opposed to the 2016 Weighting survey, which derives Weights at the *Component* level, the 2015 DCM survey derived Weights at the *Driver* level. Please see the results in the graphic below.⁸

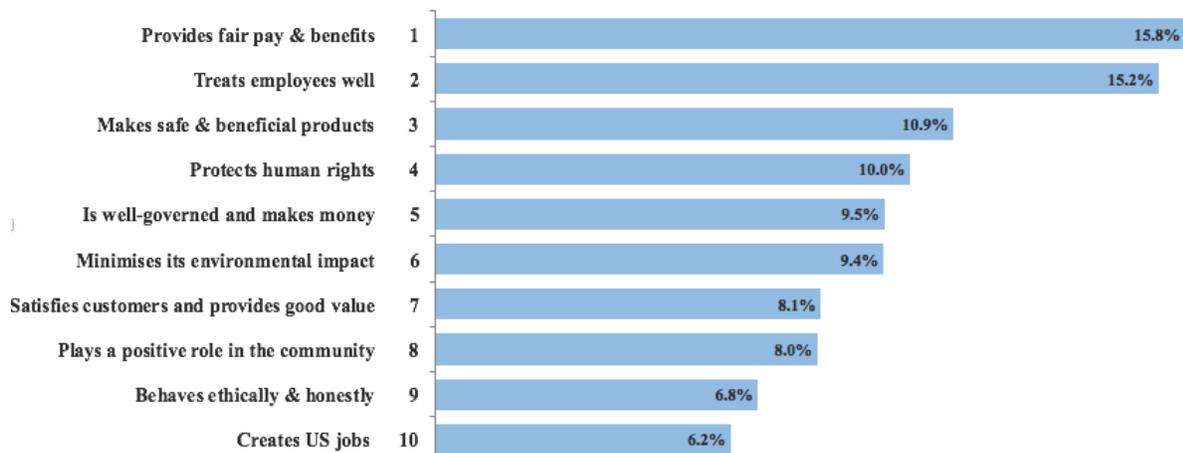


Figure 6: 2015 DCM Driver Weights

Both DCM and MaxDiff are revealed preference, rather than stated preference, methodologies. JUST Capital decided to replace the DCM methodology with MaxDiff in its 2016 survey because it is significantly easier for respondents to evaluate a large volume of information using MaxDiff than DCM. This has three advantages:

1. Increased confidence in the accuracy of the 2016 weights.
2. Ability to derive the weights at the *Component* level, as opposed to the *Driver* level. This provides an increasingly granular perspective of the views of the American public.
3. It simplifies the preference testing for respondents.

There is one tradeoff in going with the MaxDiff methodology. In contrast to DCM, it does not provide information about how respondents view JUSTness based on varying levels of performance. For example, MaxDiff will not pick up whether respondents ascribe a higher (or lower) importance to good safety performance versus bad safety performance. JUST Capital can only determine the relative importance of safety performance as a whole.

⁸ Note the *Drivers* in 2015 differ slightly from the *Drivers* in 2016. The differences are due primarily to changes in wording and regroupings of *Components* based on internal and external expert review.

Appendix D: Maximum Difference (MaxDiff) Methodology

JUST Capital uses a probability-based panel, recruited through random digit dialing, to poll the American public on the importance of the 36 *Components* using online and phone survey methods. The total sample size recruited was 5,000 respondents and the analytical sample was 3,940 respondents, resulting in a margin of error of 2.28%.

To understand the importance of each *Component* relative to the others, respondents are given a set of *Components* to evaluate and decide which behavior is most JUST. For example, they might get a question listing ‘pays a living wage’, ‘makes quality products’, ‘is truthful in advertising and labelling’, and ‘minimizes pollution’. Without considering the other components, respondents decide which *Component* is more important to corporate JUSTness.



Figure 7: MaxDiff Example

Respondents are provided with descriptions of each *Component* to provide clarity on what the terms mean. Respondents go through a defined number of unique MaxDiff tasks, with each *Component* showing up multiple times for each respondent. The survey is designed so that the combination of *Components* is balanced across both *Components* and respondents.

To determine the importance weights for the *Components*, JUST Capital collects all of the MaxDiff data and conducts two types of analyses. The first approach relied on multivariate logit model for MaxDiff (conducted in R with package ‘mlogit’)⁹. This approach allowed us to estimate utilities for the 36 components. While this approach produces a robust calculation of aggregate-level utilities, it does not allow computation of individual level utilities. In order to estimate utilities at the individual level, a second approach was followed using Hierarchical Bayesian model. This approach relies on analyzing simulated distributions of possible utilities. This analysis was conducted in R

⁹ <https://cran.r-project.org/web/packages/mlogit/mlogit.pdf>

as well with package ‘ChoiceModelR’¹⁰. In both models, utilities were derived by exponentiation of logit estimates.

The weights information for each respondent allows us to understand how one segment of the population might have different importance weights than another segment, such as men versus women.

¹⁰ <https://cran.r-project.org/web/packages/ChoiceModelR/ChoiceModelR.pdf>

Appendix E: Industry Classifications

The table below illustrates how the 32 JUST Capital industries map to the GICS (Global Industry Classification Standard), jointly developed and owned by MSCI and Standard & Poor's. The GICS structure shown is effective as of August 31, 2016.

GICS Sector	GICS Industry Group	GICS Industry	JUST Industry
Consumer Discretionary	Automobiles & Components	Auto Components	Automobiles & Components
Consumer Discretionary	Automobiles & Components	Automobiles	Automobiles & Components
Consumer Discretionary	Consumer Durables & Apparel	Household Durables	Consumer Durables & Apparel
Consumer Discretionary	Consumer Durables & Apparel	Leisure Products	Consumer Durables & Apparel
Consumer Discretionary	Consumer Durables & Apparel	Textiles, Apparel & Luxury Goods	Consumer Durables & Apparel
Consumer Discretionary	Consumer Services	Diversified Consumer Services	Consumer Services
Consumer Discretionary	Consumer Services	Hotels, Restaurants & Leisure	Consumer Services
Consumer Discretionary	Media	Media	Media
Consumer Discretionary	Retailing	Distributors	Retailing
Consumer Discretionary	Retailing	Internet & Direct Marketing Retail	Retailing
Consumer Discretionary	Retailing	Multiline Retail	Retailing
Consumer Discretionary	Retailing	Specialty Retail	Retailing
Consumer Staples	Food & Staples Retailing	Food & Staples Retailing	Food & Staples Retailing
Consumer Staples	Food & Staples Retailing	Food Products	Food Beverage & Tobacco
Consumer Staples	Food & Staples Retailing	Tobacco	Food Beverage & Tobacco
Consumer Staples	Household & Personal Products	Household Products	Household & Personal Products
Consumer Staples	Household & Personal Products	Personal Products	Household & Personal Products
Energy	Energy	Energy Equipment & Services	Energy Equipment & Services
Energy	Energy	Oil, Gas & Consumable Fuels	Oil, Gas & Consumable Fuels

GICS Sector	GICS Industry Group	GICS Industry	JUST Industry
Financials	Banks	Banks	Banks
Financials	Banks	Thrifts & Mortgage Finance	Banks
Financials	Diversified Financials	Capital Markets	Capital Markets
Financials	Diversified Financials	Consumer Finance	Consumer & Diversified Finance
Financials	Diversified Financials	Diversified Financial Services	Consumer & Diversified Finance
Financials	Diversified Financials	Mortgage Real Estate Investment Trusts (REITs)	Real Estate ¹¹
Financials	Insurance	Insurance	Insurance
Health Care	Health Care Equipment & Services	Health Care Equipment & Supplies	Health Care Equipment & Services
Health Care	Health Care Equipment & Services	Health Care Providers & Services	Health Care Providers & Services
Health Care	Health Care Equipment & Services	Health Care Technology	Health Care Equipment & Services
Health Care	Pharmaceuticals, Biotechnology & Life Sciences	Biotechnology	Pharmaceuticals, Biotechnology & Life Sciences
Health Care	Pharmaceuticals, Biotechnology & Life Sciences	Life Sciences Tools & Services	Pharmaceuticals, Biotechnology & Life Sciences
Health Care	Pharmaceuticals, Biotechnology & Life Sciences	Pharmaceuticals	Pharmaceuticals, Biotechnology & Life Sciences
Industrials	Capital Goods	Aerospace & Defense	Aerospace & Defense
Industrials	Capital Goods	Building Products	Capital Goods
Industrials	Capital Goods	Construction & Engineering	Capital Goods
Industrials	Capital Goods	Electrical Equipment	Capital Goods
Industrials	Capital Goods	Industrial Conglomerates	Capital Goods
Industrials	Capital Goods	Machinery	Machinery
Industrials	Capital Goods	Trading Companies & Distributors	Capital Goods
Industrials	Commercial & Professional Services	Commercial Services & Supplies	Commercial & Professional Services
Industrials	Commercial & Professional Services	Professional Services	Commercial & Professional Services

¹¹ Only Specialized REITs are included in the JUST Capital Ranking

GICS Sector	GICS Industry Group	GICS Industry	JUST Industry
Industrials	Transportation	Air Freight & Logistics	Transportation
Industrials	Transportation	Airlines	Transportation
Industrials	Transportation	Marine	Transportation
Industrials	Transportation	Road & Rail	Transportation
Industrials	Transportation	Transportation Infrastructure	Transportation
Information Technology	Semiconductors & Semiconductor Equipment	Semiconductors & Semiconductor Equipment	Semiconductors & Semiconductor Equipment
Information Technology	Software & Services	Internet Software & Services	Internet Software & Services
Information Technology	Software & Services	IT Services	IT Services
Information Technology	Software & Services	Software	Software
Information Technology	Technology Hardware & Equipment	Communications Equipment	Technology Hardware & Equipment
Information Technology	Technology Hardware & Equipment	Electronic Equipment, Instruments & Components	Technology Hardware & Equipment
Information Technology	Technology Hardware & Equipment	Technology Hardware, Storage & Peripherals	Technology Hardware & Equipment
Materials	Materials	Chemicals	Chemicals
Materials	Materials	Construction Materials	Materials
Materials	Materials	Containers & Packaging	Materials
Materials	Materials	Metals & Mining	Materials
Materials	Materials	Paper & Forest Products	Materials
Real Estate	Real Estate	Equity Real Estate Investment Trusts (REITs)	Real Estate ¹²
Real Estate	Real Estate	Real Estate Management & Development	Real Estate
Telecommunication Services	Telecommunication Services	Diversified Telecommunication Services	Telecommunication Services
Telecommunication Services	Telecommunication Services	Wireless Telecommunication Services	Telecommunication Services
Utilities	Utilities	Electric Utilities	Utilities

¹² Only Specialized REITs are included in the JUST Capital Ranking

GICS Sector	GICS Industry Group	GICS Industry	JUST Industry
Utilities	Utilities	Gas Utilities	Utilities
Utilities	Utilities	Independent Power and Renewable Electricity Producers	Utilities
Utilities	Utilities	Multi-Utilities	Utilities
Utilities	Utilities	Water Utilities	Utilities

11	24	68	32
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Source: MSCI and Standard & Poor's.

Appendix F: Russell 1000 Companies Removed from JUST Capital Universe

The table below is a complete list of companies excluded from our universe of ranked companies following the reconstitution of the Russell 1000 Index on June 24, 2016.

Where a company's status is "Acquired", its exclusion was a result of market developments such as mergers and acquisitions. Where a company's status is "Removed", it was excluded for the reasons set out in **Section 3.2**.

Ticker	Company	Status
GAS	AGL RESOURCES INC	ACQUIRED
ARE	ALEXANDRIA REAL ESTATE	REMOVED
ACC	AMERICAN CAMPUS COMMUN	REMOVED
AGNC	AMERICAN CAPITAL AGENCY	REMOVED
AMH	AMERICAN HOMES 4 RENT	REMOVED
ANAC	ANACOR PHARM INC	ACQUIRED
NLY	ANNALY CAPITAL MGMT INC	REMOVED
AIV	APARTMENT INVT & MGMT	REMOVED
APLE	APPLE HOSPITALITY REIT	REMOVED
AVB	AVALONBAY CMNTYS INC	REMOVED
BXP	BOSTON PROPERTIES INC	REMOVED
BDN	BRANDYWINE REALTY TRUST	REMOVED
BRX	BRIXMOR PROPERTY GROUP	REMOVED
CVC	CABLEVISION SYSTEMS CORP	ACQUIRED
CPT	CAMDEN PROPERTY TRUST	REMOVED
CCP	CARE CAPITAL PROPERTIES	REMOVED
CIM	CHIMERA INVESTMENT CORP	REMOVED
CPGX	COLUMBIA PIPELINE GROUP	ACQUIRED
CXP	COLUMBIA PPTY TR INC	REMOVED
OFC	CORPORATE OFFICE PPTYS	REMOVED
DCT	DCT INDUSTRIAL TRUST INC	REMOVED
DDR	DDR CORP	REMOVED
DEI	DOUGLAS EMMETT INC	REMOVED
DRE	DUKE REALTY CORP	REMOVED
EMC	EMC CORPORATION	ACQUIRED
ESRT	EMPIRE STATE REALTY	REMOVED
EQC	EQUITY COMMONWEALTH	REMOVED
ELS	EQUITY LIFESTYLE PROP	REMOVED
EQY	EQUITY ONE INC	REMOVED
EQR	EQUITY RESIDENTIAL	REMOVED

Ticker	Company	Status
ESS	ESSEX PROPERTY TRUST INC	REMOVED
FEIC	FEI CO	ACQUIRED
FRT	FEDERAL REALTY INVNT	REMOVED
FNFG	FIRST NIAGARA FINL GRP	ACQUIRED
FCE.A	FOREST CITY REALTY TRUST	REMOVED
GGP	GENERAL GROWTH PPTYS INC	REMOVED
HCP	HCP INC	REMOVED
HTA	HEALTHCARE TR AMER INC	REMOVED
HIW	HIGHWOODS PROPERTIES INC	REMOVED
HPT	HOSPITALITY PPTYS TRUST	REMOVED
HST	HOST HOTELS & RESORTS	REMOVED
IMS	IMS HEALTH HLDGS INC	ACQUIRED
IHS	IHS INC	ACQUIRED
ITC	ITC HOLDINGS CORP	REMOVED
KRC	KILROY REALTY CORP	REMOVED
KIM	KIMCO REALTY CORP	REMOVED
LPT	LIBERTY PROPERTY TRUST	REMOVED
LSXMA	LIBERTY SIRIUSXM SER A	REMOVED
LSXMK	LIBERTY SIRIUSXM SER C	REMOVED
MFA	MFA FINANCIAL INC	REMOVED
MAC	MACERICH CO	REMOVED
MDVN	MEDIVATION INC	ACQUIRED
MRD	MEMORIAL RESOURCE DEV	ACQUIRED
MAA	MID-AMER APT CMNTYS	REMOVED
NNN	NATIONAL RETAIL PPTYS	REMOVED
N	NETSUITE INC	REMOVED
NRF	NORTHSTAR REALTY FINANCE	REMOVED
OHI	OMEGA HEALTHCARE INVS	REMOVED
PGRE	PARAMOUNT GROUP INC	REMOVED
PNY	PIEDMONT NAT GAS INC	ACQUIRED
PDM	PIEDMONT OFFICE RLTY TR	REMOVED
PPS	POST PROPERTIES INC	REMOVED
PLD	PROLOGIS INC	REMOVED
STR	QUESTAR CORP	REMOVED
RAX	RACKSPACE HOSTING INC	ACQUIRED
O	REALTY INCOME CORP	REMOVED
REG	REGENCY CENTERS CORP	REMOVED
RPAI	RETAIL PPTYS AMER INC	REMOVED
SLG	SL GREEN REALTY CORP	REMOVED

Ticker	Company	Status
SNH	SENIOR HOUSING PPTYS TR	REMOVED
SPG	SIMON PROPERTY GROUP INC	REMOVED
SRC	SPIRIT RLTY CAP INC	REMOVED
STWD	STARWOOD PPTY TRUST INC	REMOVED
HOT	STARWOOD HOTELS & RESRTS	ACQUIRED
STOR	STORE CAPITAL CORP	REMOVED
SUI	SUN COMMUNITIES INC	REMOVED
TE	TECO ENERGY INC	ACQUIRED
TAHO	TAHOE RES INC	REMOVED
SKT	TANGER FACTORY OUTLET	REMOVED
TCO	TAUBMAN CENTERS INC	REMOVED
TRI	THOMSON REUTERS CORP	REMOVED
TWO	TWO HBRS INVT CORP	REMOVED
UDR	UDR INC	REMOVED
VTR	VENTAS INC	REMOVED
VER	VEREIT INC	REMOVED
VNO	VORNADO REALTY TRUST	REMOVED
WPC	W P CAREY INC	REMOVED
WRI	WEINGARTEN RLTY INVS	REMOVED
HCN	WELLTOWER INC	REMOVED
DOX	AMDOCS LTD	REMOVED
TEAM	ATLASSIAN CORP PLC	REMOVED
IGT	INTERNATIONAL GAME TECH	REMOVED
TYC	TYCO INTERNATIONAL PLC	ACQUIRED
QGEN	QIAGEN NV	REMOVED
CPA	COPA HOLDINGS SA	REMOVED

Appendix G: Industry Classification reassignments

A complete list of companies whose original GICS classification was reassigned by JUST Capital in the construction of its own Industry Groups.

Ticker	Company	JUST Industry
CCO	Clear Channel Outdoor	Real Estate
SBAC	SBA Communications	Real Estate

2

Appendix H: Metrics Mapped to Drivers & Components

The following pages provide a complete overview of *Drivers*, *Components* and associated *Metrics*. Additional information includes the metric's numeric format and source.

To produce the 2016 Industry Rankings, Companies are scored across all metrics relative only to their peers within each of the 32 industry sectors. Details of the scoring methodology are found in Section 4.3, while information regarding industry peers is listed in **Appendix E**.

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Worker Pay & Benefits	Pays a Living Wage	Employee Living Wage Ratio	Crowd-sourced	<p>An estimate of the percentage of employees at each company making a living wage. Wage, employment and job title distribution estimates for each company are calculated according to two separate methodologies, applied consistently within each industry, using a combination of Glassdoor salary respondent data, BLS national wage averages, data sourced from Dun & Bradstreet, Avention, Aggdata and publicly available company documents. Both methodologies use county-level living wage profiles generated by the MIT Living Wage Calculator for the average Census family: one adult working full-time, one adult working part-time, and one child.</p> <p>Companies are scored by grouping living wage percentage estimates into 10% increments. A company receiving a score of 1 pays between 0% and 10% of its employees a living wage; 2 between 10% and 20%; 3 between 20% and 30%; etc.</p> <p>The methodologies for this metric are described in greater detail at Appendix I.</p>	US	JUST analysis: Glassdoor; Bureau of Labor Statistics; MIT Living Wage Calculator; Dun & Bradstreet; Avention; Aggdata; C2ER; Publicly available company documents	Score (1-10)
Worker Pay & Benefits	Provides Paid Time Off	Paid Days Off	Crowd-sourced	Crowd-sourced average rating of a company's Vacation & Paid Time Off and Maternity & Paternity Leave measured on a five-point scale by current and former employees of each company.	US	Glassdoor	Score (0-5)
Worker Pay & Benefits	Provides Paid Time Off	Commitment to Providing Paid Time Off	Management	Company disclosure of its paid time off policy. Companies are scored from 0 to 10 and receive a 0 for no disclosure; 5 for boilerplate disclosure; 10 for detailed disclosure.	US	JUST analysis: Publicly available company documents	Score (0, 5 or 10)
Worker Pay & Benefits	Sponsors Health Insurance	Commitment to Providing Health Insurance	Management	An assessment of compensation and benefits programs, including the breadth and scope of healthcare coverage programs (and excluding conventional compensation programs such as pensions, variable compensation, and employee stock ownership) offered by the company.	US	MSCI	Score (0-10)
Worker Pay & Benefits	Sponsors Health Insurance	Benefits Quality	Crowd-sourced	Crowd-sourced average rating of a company's benefits measured on a five-point scale by current and former employees of each company.	US	Glassdoor	Score (0-5)

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Worker Pay & Benefits	Pays a Fair Wage for the Industry and Job Level	Fair Pay Percent	Crowd-sourced	<p>A comparison of wages using crowd-sourced wage reviews from Glassdoor, adjusted by a county-level purchasing power index and sorted into Glassdoor occupation code (GOC) classifications to allow cross-company comparisons by job title. Each company's score is based on comparisons with peers by title and assigned a numerical score based on the highest real wage (for example a company with the highest real wage score out of 10 companies will get a 10 out of 10). Scores for each title are then summed and divided by the maximum possible total to produce a percentage that represents how each company compares to its industry group.</p> <p>The methodology for this metric is described in greater detail at Appendix I.</p>	US	JUST analysis; Glassdoor; H1B Visas; C2ER	Percent
Worker Pay & Benefits	Pays a Fair Wage for the Industry and Job Level	Fair Pay Rating	Crowd-sourced	Crowd-sourced average rating of a company's Compensation and Benefits measured on a five-point scale by current and former employees of each company.	US	Glassdoor	Score (0-5)
Worker Pay & Benefits	Helps Workers Prepare for Retirement	401k Quality Assessment	Performance	Quality of 401k plan based on cost, participation rates, salary deferrals and performance.	US	Brightscope	Score (0-100)
Worker Pay & Benefits	Does Not Discriminate in Pay	Commitment to Promoting Employment Equity	Management	Commitment to gender pay equity, where a credible commitment consists of a public statement, conducting a pay equity analysis, or acceding to the White House Pay Pledge.	US	JUST analysis; Publicly available company documents; White House	True or False
Worker Pay & Benefits	Does Not Discriminate in Pay	Legal Convictions in Employment Discrimination	Controversy	Number of severe and very severe cases (major scandals or systematic risk incidents) in influential and highly influential news sources occurring in the US over the past three years that pertain to discrimination in employment.	US	RepRisk	Number
Worker Pay & Benefits	Pays Workers Fairly Compared to CEO	CEO to Median Worker Pay Ratio	Performance	<p>1) Reported CEO total compensation. 2) Estimated median US employee compensation based on JUST Capital analysis of crowd-sourced compensation data by title and location, with Bureau of Labor Statistics (BLS) wage averages by job title and industry where crowd-sourced data is incomplete. BLS job title distributions by industry are applied, and the median wage derived by company.</p> <p>CEO to Median Worker Pay Ratio is calculated as follows: Data point 1 / Data point 2</p>	US	1) Bloomberg 2) JUST analysis; Glassdoor; Bureau of Labor Statistics	1) Dollars 2) Dollars =Ratio

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Worker Treatment	Provides a Safe Workplace	Commitment to Ensuring a Safe Workplace	Management	<p>Commitment to ensuring a safe workplace, comprising assessments of whether the company:</p> <ol style="list-style-type: none"> 1) has a policy to improve employee health & safety within the company and its supply chain; 2) has a policy to improve employee health & safety; 3) has an employee health & safety team; 4) trains its executives or key employees on health & safety; and 5) has health & safety management systems in place like the OHSAS 18001 (Occupation Health & Safety Management System). <p>Each of these five data points awarded a value of 2 if TRUE and summed.</p>	US	<ol style="list-style-type: none"> 1) ASSET4 2) ASSET4 3) ASSET4 4) ASSET4 5) ASSET4 	<ol style="list-style-type: none"> 1) True or False 2) True or False 3) True or False 4) True or False 5) True or False = Score (0-10)
Worker Treatment	Provides a Safe Workplace	Total Recordable Incident Rate	Performance	Total number of recordable incidents, per 200,000 hours worked (equivalent to 100 FTE employees annually).	Global	Bloomberg	Incidents per 100 FTE employees annually
Worker Treatment	Provides a Safe Workplace	Controversies in Workplace Safety	Controversy	Number of severe and very severe cases (major scandals or systematic risk incidents) in influential and highly influential news sources occurring in the US over the past three years that pertain to occupational health and safety issues.	US	RepRisk	Number
Worker Treatment	Promotes Work-Life Balance	Commitment to Work-Life Balance	Management	<p>Commitment to work-life balance, comprising assessments of whether the company:</p> <ol style="list-style-type: none"> 1) states that it provides flexible working hours or working hours that promote a work-life balance; & 2) states that it provides day care services for its employees. <p>Each of these two data points awarded a value of 5 if TRUE and summed.</p>	US	<ol style="list-style-type: none"> 1) ASSET4 2) ASSET4 	<ol style="list-style-type: none"> (1) True or False (2) True or False = Score (0-10)
Worker Treatment	Promotes Work-Life Balance	Crowd-sourced Work-Life Balance	Crowd-sourced	Crowd-sourced average rating of a company's work-life balance measured on a five-point scale by current and former employees of each company.	US	Glassdoor	Score (0-5)
Worker Treatment	Provides Education and Training	Commitment to Education & Training	Management	<p>Commitment to education and training, comprising assessments of whether the company:</p> <ol style="list-style-type: none"> 1) has a policy to support the career development of its employees; and 2) has a policy to improve the skills training of its employees. <p>Each of these two data points awarded a value of 5 if TRUE and summed.</p>	US	<ol style="list-style-type: none"> 1) ASSET4 2) ASSET4 	<ol style="list-style-type: none"> 1) True or False 2) True or False = Score (0-10)
Worker Treatment	Provides Education and Training	Education & Training Practices	Management	An assessment of the strength, breadth and scope of the company's training and professional development programs, including support for degree programs and leadership training/skills development, based on company disclosures on their HR policies and programs.	US	MSCI	Score (0-10)

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Worker Treatment	Does Not Discriminate in Hiring, Firing and Promotion Practices	Commitment to Anti-Discrimination	Management	<p>Commitment to anti-discrimination, comprising assessments of whether the company:</p> <ol style="list-style-type: none"> 1) has a policy to drive diversity and equal opportunity; and 2) has set targets or objectives to be achieved on diversity and equal opportunity. <p>Each of these two data points awarded a value of 5 if TRUE and summed.</p>	US	<ol style="list-style-type: none"> 1) ASSET4 2) ASSET4 	<ol style="list-style-type: none"> 1) True or False 2) True or False = Score (0-10)
Worker Treatment	Handles Grievances and Layoffs Fairly	Worker Grievance Fines and Violations	Fine	Fines over the past three years from the Justice Department's Civil Rights Division.	US	Good Jobs First Violation Tracker	US Dollars
Worker Treatment	Respects Workers	Commitment to Employee Respect	Management	An assessment of the strength of the company's initiatives to monitor employee satisfaction, including the presence, scope, and frequency of employee engagement surveys and commitment to quantifiable targets, based on company disclosures on their HR policies and programs.	US	MSCI	Score (0-10)
Worker Treatment	Respects Workers	Crowd-sourced Employee Respect	Crowd-sourced	Crowd-sourced average rating of a company's senior management measured on a five-point scale by current and former employees of each company.	US	Glassdoor	Score (0-5)
Supply Chain Impact	Does Not Have Suppliers with Abusive Conditions	Commitment to Supply Chain Policy & Practices	Management	<p>Commitment to supply chain policy and practices, comprising assessments of whether the company:</p> <ol style="list-style-type: none"> 1) has a policy to improve employee health & safety in its supply chain; 2) trains its executives or key employees on employee health & safety in the supply chain; 3) has implemented any initiatives to ensure the protection of the rights of all people it works with. "N" indicates that the company has not explicitly disclosed any such efforts in its most recent Annual or Company Responsibility reports; 4) has implemented any initiatives to reduce the social risks in its supply chain. Social risks might include poor working conditions, the use of child or forced labor, lack of a living, fair or minimum wage etc. "N" indicates that the company has not explicitly disclosed any such efforts in its most recent Annual or Company Responsibility reports; and 5) has implemented any initiatives to ensure the prevention of child labor in all parts of its business. "N" indicates that the company has not explicitly disclosed any such efforts in its most recent annual or company responsibility reports. <p>Each of these five data points awarded a value of 2 if TRUE and summed.</p>	Global	<ol style="list-style-type: none"> 1) ASSET4 2) ASSET4 3) Bloomberg 4) Bloomberg 5) Bloomberg 	<ol style="list-style-type: none"> 1) True or False 2) True or False 3) Yes or No 4) Yes or No 5) Yes or No = Score (0-10)

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Supply Chain Impact	Does Not Have Suppliers with Abusive Conditions	Controversies in Human Rights in Supply Chain	Controversy	Number of severe and very severe cases (major scandals or systematic risk incidents) in influential and highly influential news sources occurring globally over the past three years that pertain to human rights abuses.	Global	RepRisk	Number
Supply Chain Impact	Does Not Cause or Contribute to Conflict Abroad	Commitment to Conflict-Free Sourcing	Management	<p>Commitment to conflict-free sourcing, comprising assessments of:</p> <ol style="list-style-type: none"> 1) the extent to which companies are at risk of incurring regulatory compliance costs, reputational damage, or supply chain disruptions resulting from reliance on raw materials that originate in areas associated with severe human rights and labor rights abuses. The range of scoring depends on the material, with different materials relevant for different industries. In general, companies able to trace the origin of their raw materials and certify that they were obtained in a way that minimizes social harm (e.g. slave labor, funding for groups engaged in human rights violations) score higher on this key issue, while companies that do not work with their suppliers and use no certified materials score lower on this key issue. 2) the quality of a company's formal policy commitment to eliminate conflict minerals from its products and its supply chain (i.e. an internal strategy). The term "conflict minerals" refers to tantalum (coltan), tin (cassiterite), tungsten (wolframite) – the 3Ts – and gold, which have originated in the Democratic Republic of Congo (DRC) and have been linked to the illegal trafficking of these mineral ores, and to egregious human rights violations in the eastern conflict regions of the country. 3) the strength of the company's initiatives to eliminate conflict minerals from its products and its supply chain. The term "conflict minerals" refers to tantalum (coltan), tin (cassiterite), tungsten (wolframite) and gold (commonly referred to as the 3TG), which have originated in conflict-affected or high-risk regions and may be used to financially support the conflict or human rights abuses. The most prominent example is the Democratic Republic of Congo (DRC), where conflict minerals have been linked to the illegal trafficking of these mineral ores, and to egregious human rights violations in the eastern conflict regions of the country. <p>Data point 1 averaged with [(average of data points 2 and 3)/10]</p>	Global	<ol style="list-style-type: none"> 1) MSCI 2) Sustainalytics 3) Sustainalytics 	<ol style="list-style-type: none"> 1) Score (0-10) 2) Score (0-100) 3) Score (0-100) = Score (0-10)
Supply Chain Impact	Does Not Cause or Contribute to Conflict Abroad	Controversies in Conflict Regions	Controversy	Number of severe and very severe cases (major scandals or systematic risk incidents) in influential and highly influential news sources occurring globally over the past three years that pertain to conflict minerals.	Global	RepRisk	Number

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Supply Chain Impact	Does Not Do Business with Repressive Governments	Controversies in Business with Repressive Governments	Controversy	Number of severe and very severe cases (major scandals or systemic risk incidents) in influential and highly influential new sources occurring in countries flagged by the US Treasury Department Active Sanctions Program, over the past three years. Countries include: Belarus; Burundi; Central African Republic; Cuba; Democratic Republic of the Congo; Iran; Iraq; Ivory Coast; Korea (Democratic People's Republic); Lebanon; Libya; Myanmar; Somalia; Sudan; South Sudan; Syrian Arab Republic; Ukraine; Venezuela; Yemen; and Zimbabwe.	Global	RepRisk	Number
Community Wellbeing	Maintains Strong Relationships with Communities	Commitment to Community Development Practices	Management	<p>Commitment to community development practices, comprising assessments of:</p> <ol style="list-style-type: none"> 1) whether the company has a policy to improve its corporate citizenship; 2) the strength of the company's local community development programmes. It does not focus on cash donations, but formal programmes that promote long-term economic development among communities directly affected by the company's operations. (Strong program: 100, adequate program: 75, weak program: 50, some activities, but no evidence of a formal program: 25, does not have a program: 0); and 3) the company's mechanisms to consult with local communities potentially affected by its operations. (Strong program: 100, adequate program: 75, weak program: 50, some activities, but no evidence of a formal program: 25, does not have a program: 0). <p>Data point 1 assigned 10 if True and 0 if False. All three data points are averaged, with data point 2 and data point 3 divided by 10.</p>	Global	<ol style="list-style-type: none"> 1) ASSET4 2) Sustainalytics 3) Sustainalytics 	<ol style="list-style-type: none"> 1) True or False 2) Score (0-100) 3) Score (0-100) = Score (0-10)
Community Wellbeing	Maintains Strong Relationships with Communities	Controversies in Community	Controversy	Number of severe and very severe cases (major scandals or systematic risk incidents) in influential and highly influential news sources occurring globally over the past three years that pertain to a company's impact on communities.	Global	RepRisk	Number
Community Wellbeing	Contributes to Charitable Causes	Charitable Giving Ratio	Performance	<ol style="list-style-type: none"> 1) Charitable giving, including in-kind donations. 2) Pre-tax profit. <p>Charitable Giving Ratio is calculated as follows: Data point 1 / Data point 2</p>	Global	<ol style="list-style-type: none"> 1) Chronicle of Philanthropy; Bloomberg 2) Bloomberg 	<ol style="list-style-type: none"> 1) USD millions 2) USD millions =Ratio
Domestic Job Creation	Creates Jobs in the US	Percentage Change in US Workforce	Performance	Percentage change in US workforce over the trailing four years. The number of US employees is gathered explicitly (US employee count for companies that disclose such data) or implicitly (total employees for companies with substantially all operations based in the US) from company sources where available. The number is then adjusted for major acquisitions and divestitures (transactions over \$1 billion) over the measurement period that would have a material impact on headcount.	US	JUST analysis: Publicly available company documents	Percent

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Domestic Job Creation	Creates Jobs in the US	Absolute Change in US Workforce	Performance	Absolute change in US workforce over the trailing four years. The number of US employees is gathered explicitly (US employee count for companies that disclose such data) or implicitly (total employees for companies with substantially all operations based in the US) from company sources where available. The number is then adjusted for major acquisitions and divestitures (transactions over \$1 billion) over the measurement period that would have a material impact on headcount.	US	JUST analysis: Publicly available company documents	Number
Product Attributes	Makes Products That are Beneficial to Health, Environment, or Society	Commitment to Producing Beneficial and Non-Harmful Products	Management	Industry-specific assessment of products and services that are beneficial to Health, Environment, or Society. The final score is an aggregate of individual ratings on 4 product categories (Clean Tech, Renewable Energy, Water Tech, Tobacco) and 6 product attributes (Eco-design, Health & Nutrition, Financial Product Safety, Access to Finance, Access to Health, Access to Communication). Individual ratings can be either positive (Clean Tech) or negative (Tobacco) and are either based on activity levels (e.g. percent of tobacco-related revenue, percent of renewable energy capacity) or on qualitative assessment from one of the major ESG ratings firms (MSCI, Sustainalytics and ASSET4). Most company's scores are within a range of -10 to 20.	Global	JUST analysis: MSCI; Sustainalytics; ASSET4; Bloomberg	Score
Product Attributes	Makes Quality Products	Product Quality	Management	The extent to which the company manages product quality, comprising assessments of: 1) whether it applies quality management systems, such as ISO 9000, Six Sigma, Lean Manufacturing, Lean Sigma, TQM or any other similar quality principles; and 2) the extent to which companies are at risk of facing major product recalls or losing customer trust through major product quality concerns. Companies that proactively manage product quality by achieving certification to widely acceptable standards, undertaking extensive product testing and building processes to track raw materials or components score higher. Companies that take a reactive approach to managing recalls and product quality concerns score lower. Data point 1 assigned 10 if True and 0 if False. Data point 1 and Data point 2 are averaged.	Global	1) ASSET4 2) MSCI	1) True or False 2) Score (0-10) = Score (0-10)
Product Attributes	Makes Quality Products	Product Recalls	Performance	Whether the company has announced a mass recall of products or has completely withdrawn a product due to defects or safety reasons.	Global	ASSET4	True or False
Customer Treatment	Provides Fair Pricing and Sales Terms	Pricing Fines and Violations	Fine	Amount fined over the past three years from the Consumer Financial Protection Bureau, Consumer Product Safety Commission and the Consumer Product Safety Commission referral to the Justice Department.	US	Good Jobs First Violation Tracker	US Dollars
Customer Treatment	Maintains Strong Relationships with Customers	Customer Satisfaction	Performance	National customer satisfaction score, covering perceived quality, customer expectations, customer loyalty, customer complaints from recent customers of each company.	US	ACSI	Score (0-100)

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Customer Treatment	Maintains Strong Relationships with Customers	Controversies in Customer Service	Controversy	This indicator analyses severity of incidents related to false or misleading advertising, breach of customers' data privacy, product quality and safety, and anti-competitive practices over the last three years. Scored from 0 (no evidence of incidents) to 5 (most severe).	Global	Sustainalytics	Score (0-5)
Customer Treatment	Does Not Discriminate in Customer Treatment	Controversies in Customer Discrimination	Controversy	Number of severe and very severe cases (major scandals or systematic risk incidents) in influential and highly influential news sources occurring in the US over the past three years that pertain to customer discrimination.	US	RepRisk	Number
Customer Treatment	Protects Customer Privacy	Commitment to Customer Privacy	Management	<p>Commitment to customer privacy, comprising assessments of:</p> <ol style="list-style-type: none"> 1) whether the company has a policy to protect customer and general public privacy and integrity; 2) the highest level position within the company with direct responsibility for privacy and data security matters. This may range from a Chief Privacy Officer (best practice) to low level staff or no one at all. JUST Capital converts MSCI scores to a 0-10 scale as follows: C-suite (Chief Privacy Officer) responsibility a 10, other executives a 7, dedicated staff a 5, contractors a 3 and none a zero; and 3) whether the company collects and stores personally identifiable data pertaining to individuals, allows those individuals to completely delete their information from the company's records, or whether the company will do this on their behalf if requested. <p>Data points 1 and 3 assigned 10 if True and 0 if False. Data point 2 scored as described. All three data points are averaged.</p>	Global	<ol style="list-style-type: none"> 1) ASSET4 2) MSCI 3) MSCI 	<ol style="list-style-type: none"> 1) True or False 2) Score (0-10) 3) True or False = Score (0-10)
Customer Treatment	Protects Customer Privacy	Controversies in Customer Privacy	Controversy	Number of severe and very severe cases (major scandals or systematic risk incidents) in influential and highly influential news sources occurring globally over the past three years that pertain to privacy violations.	Global	RepRisk	Number
Leadership & Ethics	Follows Laws and Regulations	Commitment to Follow Laws & Regulations	Management	<p>Commitment to follow laws and regulations, comprising assessments of whether the company:</p> <ol style="list-style-type: none"> 1) describes in its code of conduct that it strives to maintain the highest level of general business ethics; and 2) has appropriate communication tools (whistle blower, ombudsman, suggestion box, hotline, newsletter, website, etc.) to improve general business ethics. <p>Each of these two data points awarded a value of 5 if TRUE and summed.</p>	US	<ol style="list-style-type: none"> 1) ASSET4 2) ASSET4 	<ol style="list-style-type: none"> 1) True or False 2) True or False = Score (0-10)
Leadership & Ethics	Follows Laws and Regulations	Controversies in Legal & Regulatory	Controversy	Number of severe and very severe cases (major scandals or systematic risk incidents) in influential and highly influential news sources occurring in the US over the past three years that pertain to the violation of national legislation.	US	RepRisk	Number

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Leadership & Ethics	Follows Laws and Regulations	Legal Fines and Violations	Fine	Dollars of fines over the past three years from the Alcohol and Tobacco Tax and Trade Bureau, Bureau of Industry and Security, Commodity Futures Trading Commission, Fannie Mae, Federal Aviation Administration, Federal Aviation Administration referral to the Justice Department, Federal Deposit Insurance Corporation, Federal Housing Finance Agency, Federal Motor Carrier Safety Administration, Federal Railroad Administration, Federal Reserve, Food and Drug Administration, Food and Drug Administration referral to the Justice Department, Freddie Mac, Justice Department Antitrust Division, Justice Department Civil Division (selected cases), Justice Department Criminal Division, Justice Department multiagency referral, Justice Department Tax Division, Mine Safety & Health Administration, Mine Safety & Health Administration settlements, National Credit Union Administration, National Highway Traffic Safety Administration, National Highway Traffic Safety Administration referral to the Justice Department, Nuclear Regulatory Commission, Occupational Safety & Health Administration, Occupational Safety & Health Administration corporate-wide settlements, Office of Foreign Assets Control, Office of the Comptroller of the Currency, Securities and Exchange Commission (FCPA cases), Securities and Exchange Commission selected cases, Southern District of New York (selected cases), Treasury Department Financial Crimes Enforcement Network, U.S. Department of Agriculture referral to the Justice Department.	US	Good Jobs First Violation Tracker	US Dollars
Leadership & Ethics	Has Leaders with Integrity	Controversies in Integrity	Controversy	<p>Assessments of whether:</p> <ol style="list-style-type: none"> 1) a senior executive of the company has been dismissed or faced criminal or other prosecution for personal misconduct or misrepresentation within the past two years. This includes the following: Embezzlement, Company Theft, Executive, Director Misrepresentation of Credentials or Qualifications, External or Other Criminal Activity, Inappropriate Relationships, Inappropriate Use of Company Assets, and Illegal Trading. The specific event triggers used are: Arrest, Charges, Dispute, Investigation, Litigation, Subpoena or Settlement, Conviction, and Fine. 2) there are directors on the board whose previous history of board service raises concerns about this board's integrity. Flagged if yes, including individual directors who have been involved in a corporate bankruptcy or other major loss of shareholder value, even when those circumstances are subsequently omitted from that individual's personal bio. Individual directors are only flagged if their board service began at least one full year prior to the event in question. These flags do not expire. <p>Value of 10 if data point 1 is True. Value of 5 if data point 1 is False and data point 2 is True. Value of 0 if both are False.</p>	Global	<ol style="list-style-type: none"> 1) MSCI 2) MSCI 	<ol style="list-style-type: none"> 1) True or False 2) True or False = Score (0-10)
Leadership & Ethics	Has Leaders with Integrity	Company Leadership	Crowd-sourced	Crowd-sourced average rating of a company's culture and values measured on a five-point scale by current and former employees of each company.	US	Glassdoor	Score (0-5)

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Leadership & Ethics	Has Leaders with Integrity	Board Governance	Performance	The independent director composition of the Board. Independence is as defined by ISS in their US Proxy Voting Guidelines. Directors are classified, depending on their relationships and affiliations with the company or its executives, as either Inside Director, Affiliated Outside Director, or Independent Outside Director. The value shown here is the percentage classified as Independent Outside Directors.	Global	ISS	Percent
Leadership & Ethics	Has Leaders with Integrity	Related Party Transactions	Performance	<p>The existence of material related-party transactions involving the CEO or company directors, either directly or indirectly (through employers and immediate family members).</p> <p>In the U.S., a material transactional relationship is defined as one that: includes grants to non-profit organizations; exists if the company makes annual payments to, or receives annual payments from, another entity exceeding the greater of \$200,000 or 5 percent of the recipient's gross revenues, in the case of a company which follows NASDAQ listing standards; or the greater of \$1,000,000 or 2 percent of the recipient's gross revenues, in the case of a company which follows NYSE/Amex listing standards. In the case of a company which follows neither of the preceding standards, ISS applies the NASDAQ-based materiality test.</p> <p>A material professional service relationship is defined as one that includes, but is not limited to the following: investment banking/financial advisory services; commercial banking (beyond deposit services); investment services; insurance services; accounting/audit services; consulting services; marketing services; legal services; property management services; realtor services; lobbying services; executive search services; and IT consulting services; exists if the company or an affiliate of the company makes annual payments to, or receives annual payments from, another entity in excess of \$10,000 per year.</p>	Global	ISS	True or False
Leadership & Ethics	Is Truthful in Advertising and Labelling	Advertising Fines and Violations	Fine	Fines over the past three years from the Federal Trade Commission.	US	Good Jobs First Violation Tracker	US Dollars
Leadership & Ethics	Pays Fair Share of Taxes	Effective US Tax Rate	Performance	The US tax rate is calculated by adding the US Federal and State taxes (both current and deferred) and dividing that by pre-tax income from the US only. To adjust for the new ASC 718 rules coming into effect next year (simplifying share-based compensation expense accounting), we retroactively add the excess tax benefit from share-based compensation to the numerator. We also bind the output to a range of between 0% and 60%, and then take the trailing five-year average of these tax rates.	US	JUST analysis: Publicly available company documents	Percent
Leadership & Ethics	Pays Fair Share of Taxes	Incorporated Outside the U.S.	Performance	Whether the company is incorporated or reincorporated outside the U.S., while maintaining corporate headquarters and/or primary trading exchange in the U.S. Each company is assigned a score of either 0 for non-U.S. companies or 10 for U.S. companies based on jurisdiction or incorporation.	Global	Bloomberg	Score (0 or 10)

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Leadership & Ethics	Minimizes Political Spending	Transparency and Oversight of Political Spending	Performance	A numerical score based on 24 indicators of political spending disclosure, oversight and policy.	US	CPA-Zicklin Index	Score (0-70)
Environmental Impact	Minimizes Pollution	Environmental Impact	Performance	Total Direct Environmental Damage Costs relative to turnover. The Direct Environmental Damage Costs are those incurred when a company emits pollutants or uses natural resources as part of its own activities. The ten most significant impacts are listed below. Carbon Dioxide To Air (Tonnes), River Abstraction (Cubic Meters), Nuclear Waste To Land (Tonnes), Groundwater Abstraction (Cubic Meters), Methane To Air (Tonnes), Sulphur Dioxide To Air (Tonnes), Nitrogen Oxide To Air (Tonnes), Dinitrogen Oxide (Nitrous Oxide) To Air (Tonnes), Barium To Land (Tonnes), Particulates To Air (Tonnes). This Metric is winsorized.	Global	Trucost	Ratio
Environmental Impact	Minimizes Pollution	Supply Chain Environmental Impact	Performance	Total Supply Chain Environmental Damage Costs relative to turnover. The Supply Chain Environmental Damage Costs are those incurred when a company emits pollutants or uses natural resources as part of the goods and services it purchases. The ten most significant impacts are listed below. Carbon Dioxide To Air (Tonnes), River Abstraction (Cubic Meters), Nuclear Waste To Land (Tonnes), Groundwater Abstraction (Cubic Meters), Methane To Air (Tonnes), Sulphur Dioxide To Air (Tonnes), Nitrogen Oxide To Air (Tonnes), Dinitrogen Oxide (Nitrous Oxide) To Air (Tonnes), Barium To Land (Tonnes), Particulates To Air (Tonnes). This Metric is winsorized.	Global	Trucost	Ratio
Environmental Impact	Minimizes Pollution	Number of Accidents	Performance	Number of spills of hazardous materials reported by the company in its latest annual disclosure.	Global	Bloomberg	Number
Environmental Impact	Has Environmentally Responsible Management	Commitment to Environmental Practices	Management	Commitment to environmental practices, comprising assessments of: 1) the quality and comprehensiveness of a company's Environmental Management System; and 2) whether the company's Environmental Management System has received external certification (i.e. according to the ISO 14001 standard). The Metric is calculated as an average of data point 1 and data point 2, divided by 10.	Global	1) Sustainalytics 2) Sustainalytics	1) Score (0-100) 2) Score (0-100) = Score (0-10)

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Environmental Impact	Has Environmentally Responsible Management	Environmental Fines	Fine	Fines over the past three years from the Bureau of Safety and Environmental Enforcement, Energy Department Office of Enforcement, Energy Department referral to the Justice Department, Environmental Protection Agency, Environmental Protection Agency civil settlements, Environmental Protection Agency criminal docket, Environmental Protection Agency referral to the Justice Department, Federal Energy Regulatory Commission, National Oceanic and Atmospheric Administration referral to the Justice Department, Pipeline and Hazardous Materials Safety Administration, U.S. Coast Guard referral to the Justice Department and the U.S. Fish and Wildlife Service referral to the Justice Department.	US	Good Jobs First Violation Tracker	US Dollars
Environmental Impact	Has Environmentally Responsible Management	Controversies in Environmental Responsibility	Controversy	Number of severe and very severe cases (major scandals or systematic risk incidents) in influential and highly influential news sources occurring globally over the past three years. Incidents include waste issues; overuse and wasting of resources; other environmental issues; local pollution; impacts on ecosystems/landscapes; and global pollution (including climate change and GHG emissions).	Global	RepRisk	Number
Environmental Impact	Uses Resources Efficiently	Water Use	Performance	Volume of water that is directly abstracted and purchased from utility companies in cubic meters / USD million of revenue. This Metric is winsorized.	Global	Trucost	Ratio
Environmental Impact	Uses Resources Efficiently	Fuel Use	Performance	Reported fuel usage in Megawatt Hours / USD million of revenue. This Metric is winsorized.	Global	CDP	Ratio
Environmental Impact	Uses Resources Efficiently	Electricity Use	Performance	Reported electricity usage in Megawatt Hours / USD million of revenue. This Metric is winsorized.	Global	CDP	Ratio
Environmental Impact	Uses Resources Efficiently	Waste Management	Performance	1) <i>Recycled Waste</i> calculated as the total amount of waste the company recycles, in thousands of metric tons. JUST Capital may adjust for one-time items such as demolition waste recycled, or add additional items such as composting, or recycling of other items not always included in primary recycling category such as batteries or electronic waste. 2) <i>Total Waste</i> calculated as total amount of waste the company discards, both hazardous and non-hazardous, in thousands of metric tons. Data may be provided by CanPan. Waste Management is calculated as follows: $\text{Recycled Waste} / \text{Total Waste}$	Global	1) Bloomberg 2) Bloomberg; CanPan	1) Number 2) Number = Percent

Driver Name	Component Name	Metric Name	Metric Type	Metric Description	Geography	Data Source(s)	Unit of Measurement
Investor Alignment	Is Transparent & Accurate in Financial Reporting	SEC Filings Review	Performance	<p>Transparency and accuracy in SEC filings, comprising assessments of whether:</p> <ol style="list-style-type: none"> 1) a regulator initiated enforcement action against the company in the past two years; a regulator initiated enforcement action against a director or officer of the company in the past two years; or the company, or any of its directors and officers, are currently under investigation by a regulatory body. Enforcement action covers a wide breadth of circumstances, for example, freezing of a company's assets, fines, probationary periods of any sort, or any other action taken by any regulatory body under any jurisdiction in which the company operates. The value shown here will be True even if the cause of the action has been remediated; 2) the company's independent auditor issued an adverse opinion in the past year; 3) the company disclosed any material weaknesses in its internal controls in the past two years; 4) the company made non-timely financial disclosure filings in the past two years; and 5) the company restated financials for any period within the past two years. <p>Each of these five data points awarded a value of 2 if True and summed.</p>	Global	<ol style="list-style-type: none"> 1) ISS 2) ISS 3) ISS 4) ISS 5) ISS 	<ol style="list-style-type: none"> 1) True or False 2) True or False 3) True or False 4) True or False 5) True or False = Score (0-10)
Investor Alignment	Is Profitable Over the Long Term	5-year Operating Income Growth CAGR	Performance	<p>5-year operating income compound annual growth rate (CAGR). Applied to all industries except for banks.</p> <p>This Metric is winsorized.</p>	Global	Bloomberg	Percent
Investor Alignment	Is Profitable Over the Long Term	5-year Net Income Growth CAGR	Performance	<p>5-year net income compound annual growth rate (CAGR).</p> <p>This Metric is winsorized.</p>	Global	Bloomberg	Percent
Investor Alignment	Is Profitable Over the Long Term	5-year Average ROIC	Performance	<p>5-year average Return on Invested Capital (ROIC) or Return on Tangible Equity (ROTE) for financial companies.</p> <p>This Metric is winsorized.</p>	Global	Bloomberg	Percent
Investor Alignment	Provides Investor Return	5-year Total Shareholder Return	Performance	<p>Annualized 5-year total shareholder return, including reinvested dividends.</p> <p>This Metric is winsorized.</p>	Global	Bloomberg	Percent

10	36	67
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Appendix I: Wage Metric Methodologies

Living Wage Model I (applied to 30/32 industries)

Glassdoor

We use Glassdoor salary respondent data post-2011 for companies in our universe, and remove wages that are reported as below the minimum wage. These salaries are adjusted using the BLS Employment Cost Index to 2016 levels. Each Glassdoor salary respondent location is matched to its corresponding county using the Census city to county mapping. Based on the MIT Living Wage Calculator, we use the county living wage profile for the average Census family: one adult working full-time, one adult working part-time, and one child.¹³ We determine whether each Glassdoor salary respondent is making a living wage, by company and job title. We match these job titles to the BLS occupation codes (OCC) and calculate the percent of respondents making a living wage for each OCC by company.

Bureau of Labor Statistics

Where Glassdoor data for a specific job title at a company are unavailable, BLS national wage averages are used as proxies. Using the North American Industry Classification System (NAICS), we map each company to the OCC codes for that industry.¹⁴ When Glassdoor salary data exists for an OCC, we use it; for any OCC codes lacking Glassdoor salary information, we input the BLS national wage averages for these job titles. We match each BLS salary to the MIT Living Wage Calculator population-weighted national average living wage for all counties to determine whether these BLS salaries are above or below the living wage.

Total Percentage Making a Living Wage

The percent of workers making a living wage for each job title and company, whether derived from Glassdoor or the BLS, is then weighted according to that job title's distribution within its NAICS industry, as provided by the BLS.¹⁵ By company, these weighted percentages are summed to find the total percentage above a living wage. This number is divided by the total OCC distributions for that NAICS, to account for incomplete disclosure of BLS occupation distributions, which approach but do not sum to 100% for confidentiality reasons.

¹³ We commissioned MIT to calculate the living wage for this family profile, which replicates their existing methodology but modifies the total child-care costs. Documentation for this methodology is available upon request.

¹⁴ To map companies to their NAICS, we rely on Bloomberg and Morningstar, as the NAICS designations assigned by the Census are confidential: "Title 13, U.S. Code, Section 9 (a) prohibits the U.S. Census Bureau from releasing information on a specific business including NAICS and SIC codes."
<https://www.census.gov/eos/www/naics/faqs/faqs.html#q13>

¹⁵ We rely on the most refined NAICS level that provides information on job title distributions. This can range from 3 to 6 digit designation of increasing industry specificity, based on BLS sampling, which is meant to capture industries with significantly different staffing patterns.

Scoring

These scaled living wage percentages are grouped into ten different scores. A company receiving a 1 pays between 0% and 10% of its employees a living wage; 2 between 11% and 20%; etc.

For companies that have fewer than 30 Glassdoor salary respondents, we calculate an average living wage for that company based on its industry classification.

Living Wage Model II (applied to 2/32 industries)

JUST Capital has produced company specific living wage estimates for two industries, 49 total companies:

1. Food & Staples Retailing (10 companies)
2. Retailing (39 companies)

In order to make a determination of whether an employee is being paid a living wage, the following four data points are needed for each company at the county level: 1) the number of employees at each facility, 2) the job titles for employees at each facility, 3) the wage levels associated with each job title, and 4) the living wage level needed to support a representative family unit.

JUST Capital Assessment of Employment Levels at Each Facility

In order to determine the number of employees working at each company facility, JUST divides employment into two distinct groups: 1) headquarter, office, and distribution center employees, and 2) branch location employees.

For headquarter, office, and distribution center employment, JUST uses employment data assembled from company websites, news services, Dun and Bradstreet, and over 400 economic development authority largest employer websites between June 2014 – September 2016 to estimate employment levels.

For branch location employment, JUST uses facility level employment estimates provided by Dun and Bradstreet and Avention to create a national average of branch level employment for a given company type. For example, in the case of Walmart, JUST will have average national employment estimates for Walmart Stores, Walmart Superstores, Sam's Club Stores, and Walmart Neighborhood Stores. Each facility type for a given company is assumed to be the same size at each branch, nationally. However, some companies like Kroger have multiple types of stores.

The estimates from Dun and Bradstreet and Avention are individually summed to create an average for each, and then the two are divided. Aggdata is used to determine the number of facilities in a county. Distribution centers are found using company websites. The 400 websites are being used to identify the number of employees at the company that work in either distribution centers, offices or headquarters. News services often provide employment data when new facilities are created, offices move, or companies have job cuts.

JUST then compares the total employment estimate (headquarters, offices, distribution centers, and branch locations) to data provided by each company on US employment (when available) to sensitivity test the results. Companies with disclosed US employment data are deferred to for averages when available by deduction corporate offices, headquarter, and distribution center employment. JUST Capital estimates sometimes exceed the reported number of employees due to differences in the number of full time and part time employees.

JUST Capital's Assessment of Job Titles at Each Facility

In order to determine the job title for employees at each facility level, JUST divides employment into two distinct groups: 1) headquarters and office locations and 2) branch and distribution center locations. In the current version of the living wage analysis. JUST does not calculate living wage estimates for headquarter and office staff for the Retail and Food and Staples industries, assuming the vast majority (90%) are being paid a living wage (the logic here is that we are giving them a pass this time on headquarter employment - 90% is generous so we can focus on those more susceptible to living wage issues in the branches), before more thorough analysis is conducted. This percentage is in line with the highest levels of living wage within any industry. JUST also does not calculate living wage estimates for distribution centers for companies that do not have sufficient salary review data. As the average wage for warehouse workers in the United States is \$16.05/hour according to BLS, which corresponds closely to JUST's living wage estimates in most counties with distribution centers, JUST Capital assumes at this time that half of these employees are being paid a living wage (the logic here being that \$16.05 is basically a national average for warehouse employment, and it's roughly at the living wage in most rural areas, so the assumption is that half make more and half make less).

For calculating the distribution of employment for branch level locations, JUST uses the following 5 step process:

1. JUST assembles all Glassdoor salary reviews for a given company from 2011 to 2016 (using the BLS's Employment Cost Index for national private business to normalize all reviews in 2016 dollars). Next JUST divides each salary review into

one of 2,500 job classification titles provided by Glassdoor and then excludes any job titles for which we do not have at least 10 salary reviews.

2. Each salary review is then assigned a county level Federal Information Processing Standards (FIPS) code and adjusted by that code's county level purchasing power index (provided by C2ER) and then averaged with all other salary data points from other locations for that title to create a "real wage" estimate of hourly earnings for each job title.
3. JUST uses the 3 digit NAICS code associated with each company to map to the company's industry sector at the Bureau of Labor Statistics. For example, the 3 digit NAICS code for CVS is 446 which relates to the Health and Personal Care Stores industry classification. JUST next uses the BLS's national level employment data (grouped by 6-digit Standard Occupation Code) to create an initial estimate for each company's employment distribution by title.
4. In order to create a distribution of employment specific to each company, JUST next compares SOC codes associated with each Glassdoor review to SOC codes used by the Bureau of Labor Statistics.

Titles are first matched in order of their percentage distribution at the BLS by 6 digit SOC code. JUST then reviews all unmatched titles based on 3-5 digit SOC codes and matches similar titles (at the judgment of the analyst; for example a warehouse worker at Target is matched to the 6 digit NAICS code for Laborers and Freight, Stock, and Material Movers, Handlers) to add to the number of job titles used in the branch level distribution estimates. For BLS titles that do not have an equivalent 3-6 digit SOC code match from Glassdoor, JUST assumes that the title does not exist at the company. For example, CVS does not have a Glassdoor review for an optician, which represents 2.3% of BLS national employment for the Health and Personal Care Stores, so this title is not included in JUST's estimate of branch level CVS employment distributions.

5. Once Glassdoor and BLS job titles have been matched, JUST then rescales the total percentage distribution (generally above 80%, with lowest at 65%) to 100% to create a final employment by title estimate for each company at the facility level and then multiplies that by the number of employees at each location to get a number of employees at each job title by county.

JUST Capital's Assessment of Wage levels at Each Facility

As JUST does not have 10 wage estimates at each facility for each title, we create estimates of county level wages using the “real wage” calculation created in its Fair Pay by Level analysis to generate local wages.

As described in the Fair Pay Methodology, JUST’s “real wage” estimate is generated to create a sample of wages for a given title that are largely independent of regional biases. In order to create a “real wage” estimate, JUST adjusts each salary data point collected by Glassdoor in a given location by a purchasing power index provided by C2ER. Once these wages have been adjusted, all wages for a given title are then averaged to create a “real” or national wage level for the company. For example, in order to determine the “real wage” equivalent for a CVS pharmacist technician in Garrard County KY, JUST would divide the average real wage estimate of \$11.85/hour by the C2ER purchasing power index of 0.961 to arrive at a local wage of \$12.32/hour.

In order to determine what individuals are being paid at the county level, JUST uses the “real wage” estimates created for each company by title and then multiplies them by the county level purchasing power index provided by C2ER. For example, in order to determine the local wage for a CVS pharmacist technician in Garrard County KY, JUST would multiple the average real wage estimate of \$12.32/hour by the C2ER purchasing power index of 0.961 to arrive at a local wage of \$11.85/hour.

JUST Capital Assessment of Living Wage

Lastly, JUST compares hourly wage data by title and county with an hourly salary needed to support a family consisting of two adults (one adult working full-time, one working part-time) and one child. JUST uses this representative family unit to calculate living wage as it represents a reasonable proxy for a Census average household (2.6 members) and the average ratio of 0-18 year olds to 18-64 years olds (2.5:1). The employment rate was derived from worker participation rate of 76% for 20-64 years olds. The living wage used in this analysis ranges from \$14.50 to \$21.75 depending on the county a worker lives in and is calculated by the Massachusetts Institute of Technology.

Employees that make over the county level living wage are assigned a one and employees that make less than the county level living wage are assigned a zero.

Finally, JUST adds up all 1's and zeros calculated in its analysis at the branch level and distribution center level (where applicable) and adds them to the numbers for the headquarters and offices to create a total number of employees making a living wage. The total is then divided by the total number of employees JUST estimates the company has in the US to create JUST's estimate of the total percentage of employees at the company who are being paid a living wage.

These living wage percentages are grouped into ten different scores. A company receiving a 1 pays between 0% and 10% of its employees a living wage; 2 between 11% and 20%; etc.

Fair Pay Model

JUST Capital evaluates relative company pay practices by estimating hourly wages paid by job title at each company. The national estimate is a composite of site level wage estimates, adjusted for the relative cost of living in each US county.

JUST examines the 360 largest companies which meet our minimum criteria based on having at least 10 salary reviews by job title on Glassdoor, 5 titles for comparison, and at least three competitors in their sector with the same job title.

Using Glassdoor methodologies, JUST matches crowd-sourced (self reported) job titles to a consolidated list of 2,500 occupational titles across all companies in all industries. Job titles with less than 10 reviews are excluded from this analysis.

JUST adjusts Glassdoor self-reported salary estimates by a county-level purchasing power index provided by The Council for Community and Economic Research (C2ER).

Each purchasing-power adjusted local wage estimate for each title is combined and averaged at the national level by company to create an average national wage estimate for each job title at each company.

JUST compares these national wage estimates by each title at each company across all companies in a JUST industry. Companies are ranked at each job title versus all companies in an industry with the same job titles.

JUST sums up the total score by company and divides this score by the total number of companies in the comparisons to create a percentage rank (for example 230 out of 400).

Appendix J: 2016 Survey Methodology



ANNUAL SURVEY 2016

JUST CAPITAL

METHODOLOGY REPORT

November 30, 2016

Study Introduction

NORC conducted the Annual Survey on behalf of JUST Capital using NORC's AmeriSpeak® Panel as the sample source. This research was conducted in support of JUST Capital's efforts to assess Americans' attitudes of "JUST" behavior in business.

This study was offered in both English and Spanish and in web and phone modes.

This AmeriSpeak Methodology Report supplements the information provided in the *NORC Card*, which provides an in-depth profile of sample quality metrics for the study, the data collection field period, interview sample size, response rate statistics, the design effect, and sampling margins of error, among other statistics. Please refer to the NORC Card for information useful for compliance with the AAPOR Transparency Initiative, in addition to information provided in this AmeriSpeak Field Report.

For more detailed information on the AmeriSpeak panel recruitment and management methodology, please see the Appendix ("Technical Notes on AmeriSpeak Methodology") attached to this AmeriSpeak Field Report.

SURVEY METHODOLOGY

Sampling

A general population sample of U.S. adults age 18 and older was selected from NORC's AmeriSpeak Panel for this study.

The sample for a specific study is selected from the AmeriSpeak Panel using sampling strata based on age, race/ethnicity, education, and gender (48 strata in total). The size of the selected sample per sampling stratum is determined by the population distribution for each stratum. In addition, sample selection takes into account expected differential survey completion rates by demographic groups so that the set of panel members with a completed interview for a study is a representative sample of the target population. If a panel household has one more than one active adult panel member, only one adult in the household is eligible for selection (random within-household sampling). Panelists selected for an AmeriSpeak study earlier in the business week are not eligible for sample selection until the following business week.

For technical information about the AmeriSpeak Panel, including recruitment process and panel management policies, please see the Appendix.

Field

A sub-sample of AmeriSpeak web-mode panelists were invited to the survey on Wednesday July 6th in a soft-launch. The initial data from the soft-launch was reviewed and the remainder of sampled AmeriSpeak panelists were invited to the survey on Tuesday July 12th in order to collect a total 5,135 interviews.

Please see NORC Card for field period, sample sizes, and the AAPOR response rate documentation.

Gaining Cooperation of AmeriSpeak Panelists for the Study

To encourage study cooperation, NORC sent email reminders to sampled web-mode panelists on the following dates:

- Friday July 15
- Monday July 18
- Wednesday July 20
- Tuesday July 26
- Monday August 1
- Thursday August 4
- Sunday August 7

NORC dialed the sampled phone-mode panelists throughout the field period to conduct the phone interviews.

Panelists were given the cash equivalent of \$2.50 for completing this survey.

Statistical Weighting

Statistical weights for the eligible respondents were calculated using panel base weights to start. Panel base sampling weights for all sampled housing units are computed as the inverse of probability of selection from the NORC National Frame (the sampling frame that is used to sample housing units for AmeriSpeak) or address-based sample. The sample design and recruitment protocol for the AmeriSpeak Panel involves subsampling of initial non-respondent housing units. These subsampled non-respondent housing units are selected for an in-person follow-up. The subsample of housing units that are selected for the nonresponse follow-up (NRFU) have their panel base sampling weights adjusted by the inverse of the subsampling rate. The base sampling weights are further adjusted to account for unknown eligibility (such as an unoccupied dwelling unit) and nonresponse among eligible housing units. The household-level nonresponse adjusted weights are then post-stratified to external counts for number of households obtained from the Current Population Survey. Then, these household-level post-stratified weights are assigned to each eligible adult in every recruited household. Furthermore, a person-level nonresponse adjustment accounts for nonresponding adults within a recruited household.

Finally, panel weights are ‘raked’ to fit external population totals associated with age, sex, education, race/ethnicity, housing tenure, telephone status, and Census Division. The external population totals are obtained from the Current Population Survey.

Study-specific base sampling weights are derived using a combination of the final panel weight and the probability of selection associated with the sampled panel member. Since not all sampled panel members respond to the survey interview, an adjustment is needed to account for and adjust for survey non-respondents. This adjustment decreases potential nonresponse bias associated with sampled panel members who did not complete the survey interview for the study. Thus, the survey nonresponse adjusted weights for the study are adjusted via a raking ratio method to age 18+ U.S. general population totals associated with the following socio-demographic characteristics: age, sex, education, race/ethnicity, and Census Division.

At this stage of weighting, any extreme weights (defined as any weight larger than median weight plus three times the interquartile range of the weights) were trimmed, and then, weights re-raked to the same population totals.

Survey development

The survey was divided into five sections as follows.

1. Introductory opinion questions on respondents' attitudes towards business and the economy in the country.
2. Opinion questions about their understanding and importance of JUST corporate behavior, given a provided definition in the questionnaire.
3. Questions used for a MaxDiff balanced design where 36 components (developed in prior research) considered. To minimize respondent burden, respondents were presented only 14 questions. Each question featured a set of 4 randomly selected components (out of the 36) which described ways a corporation can exhibit JUST behavior. The respondent was asked to indicate which of the four behaviors they considered the "most important" in evaluating how JUST a corporation is and which behavior they considered "least important."
4. As a confirmation of the component weights, a ranking exercise was presented using 10 drivers. These drivers were created based on a conceptual grouping of the original 36 components (i.e., corporate behaviors). Respondents were shown a question with 4 randomly selected drivers (out of the 10 drivers), and were asked to rank them in order of importance by selecting "1" for the most important through "4" for the least important.
5. The final section included opinion questions about respondents' thoughts on corporate behavior currently and over the past decade. Respondents were also asked their likelihood of using a ranking of JUST corporations for various consumer decisions. This section concludes with multiple demographic questions that are not included in the AmeriSpeak panel data.

ANALYSIS

Data processing

Prior to conducting analysis, data were checked for inconsistencies or possible data entry errors. A total of 5,135 persons responded to questions for this study, of which 3,940 (77%) provided valid answers to all questions included in the modeling (observations with missing values were not included in the analysis). Only those with complete information (3,940) were considered for multivariate analysis. An analysis of missing values revealed that there are no significant differences associated to item nonresponse across demographic groups.

Modeling Strategy

Two regression model approaches were used to calculate utilities for 36 components. The first approach relied on multivariate logit model for MaxDiff (conducted in R with package 'mlogit'¹⁶). This approach allowed us to estimate utilities for the 36 components. While this approach produces a robust calculation of aggregate-level utilities, it does not allow computation of individual level utilities. In order to estimate utilities at the individual level, a second approach was followed using Hierarchical Bayesian model. This approach relies on analyzing simulated distributions of possible utilities. This analysis was

¹⁶ <https://cran.r-project.org/web/packages/mlogit/mlogit.pdf>

conducted in R as well with package ‘ChoiceModelR’¹⁷. In both models, utilities were derived by exponentiation of logit estimates.

Aggregate-level Utilities Ranking

The 36 components were ranked based on utilities derived from the MaxDiff model (aggregate-level estimates). Utilities are defined based on the overall likelihood of selecting each component. Components with higher likelihood of selection are ranked higher than the rest.

Individual – level Utilities Comparison

The average value of utilities for each of the 36 components derived from the Hierarchical Bayesian model would be useful to determine differences among subgroups. However, an analysis of estimated values revealed that extreme cases would make average values inconsistent with aggregate-level calculations. We deemed the use of medians more appropriate for subgroup comparisons.

Component and Driver level comparison

Each of the 36 components was assigned to one of ten drivers. To confirm that the component weights were consistent at the driver level, the summed component weights for each driver were compared to aggregate level weights for each of the ten drivers. To test for association between the two lists, a Kendall’s Tau test was conducted. Results indicated a positive association between the two lists (the summed component weights, and the driver weights).

Deliverables

The following files were created for JUST Capital as part of the study deliverables:

- Survey interview data file in SAS format
- Final programming questionnaire in Word document
- Field report documenting study procedures
- NORC Card

TECHNICAL NOTES ON AMERISPEAK METHODOLOGY

Updated July 15, 2016

Overview.

Funded and operated by NORC at the University of Chicago, AmeriSpeak® is a probability-based panel designed to be representative of the US household population. Randomly selected US households are sampled with a known, non-zero probability of selection from the NORC National Frame, and then contacted by US mail, telephone interviewers, overnight express mailers, and field interviewers (face to face). AmeriSpeak panelists participate in NORC studies or studies conducted by NORC on behalf of NORC’s clients.

¹⁷ <https://cran.r-project.org/web/packages/ChoiceModelR/ChoiceModelR.pdf>

In 2016, the AmeriSpeak Panel is expanding to 20,000 households, with a large oversample of young African-American, Hispanic, and Asian adults (age 18 to 30). AmeriSpeak will expand further in 2017 – to 30,000 households.

Sampling Methodology for the AmeriSpeak Panel Recruitment.

The sample frame is the NORC National Frame, an area probability sample frame constructed by NORC providing sample coverage of 97 percent of U.S. households for AmeriSpeak, the *General Social Survey*, the *Survey of Consumer Finances*, etc. The National Frame contains almost 3 million households, including over 80,000 rural households added through the in-person listing of households that were not recorded on the USPS Delivery Sequence File. For the 2014-2015 AmeriSpeak recruitment, a stratified random sampling approach was used to select sample units from the National Frame. In 2016, AmeriSpeak introduced a supplement of address-based sample for certain states. AmeriSpeak attempts to recruit all English- and Spanish-speaking members age 18 and older in the sampled households; householders between the ages of 13 to 17 are eligible for AmeriSpeak surveys with the consent of the parent or legal guardian.

AmeriSpeak Panel Recruitment Procedures.

Recruitment is a two-stage process: initial recruitment using less expensive methods and then non-response follow-up using personal interviewers. For the initial recruitment, sample units are invited to join AmeriSpeak online by visiting the panel website AmeriSpeak.org or by telephone (in-bound/outbound supported). English and Spanish language are supported for both online and telephone recruitment. Study invitations are communicated via an over-sized pre-notification postcard, a USPS recruitment package in a 9"x12" envelope (containing a cover letter, a summary of the privacy policy, FAQs, and a study brochure), two follow-up post cards, and also follow-up by NORC's telephone research center for matched sample units.

The second-stage non-response follow-up targets a stratified random sub-sample of the non-responders from the initial recruitment. Stratification is based on consumer vendor data and stratification variables from the initial recruitment stage in order to increase sample representation of young adults, non-Hispanic African Americans, and Hispanics. Units sampled for the non-response follow-up are sent by Federal Express a new recruitment package with an enhanced incentive offer. NORC field interviewers then make personal, face-to-face visits to the respondents' homes to encourage participation. NORC field interviewers administer the recruitment survey in-person using CAPI or else encourage the respondents to register at AmeriSpeak.org or call the toll-free AmeriSpeak telephone number to register.

Recruiting Non-Internet and "Net Averse" Households.

Under certain conditions, AmeriSpeak gives respondents a choice regarding their preferred mode for future participation in AmeriSpeak surveys. For the 2014-2015 recruitment, 76% of the recruited panelists elected to receive online AmeriSpeak surveys while 24% of the recruited adults stated a preference for the telephone mode. For the 2016 recruitment, respondents provided an option of online or telephone modes include: persons without internet access, persons whose only internet access is via a smartphone, and persons with internet access but unwilling to share an email address. A recruited household can consist of both web-mode and phone-mode panelists.

Impact of Non-Response Follow-up.

The non-response follow-up improves the representativeness of the AmeriSpeak sample with respect to certain demographic segments, including but not limited to rural and/or lower income households, cell-phone only households, persons age 18 to 34, African Americans, Hispanics, and persons without a high school degree or have only a high school degree (no college). Compared to panelists recruited in the initial stage, panelists recruited via the non-response follow-up campaign are more politically conservative, are less knowledgeable about science, report less interest in current events and topics in the news (such as climate change), and are less likely to read a print newspaper.

AmeriSpeak Panel Recruitment Response Rate and Other Sample Metrics.

Between October 2014 and August 2015, 7,752 households were recruited to the AmeriSpeak Panel. The AAPOR RR3 (response rate) for the panel recruitment during this time frame is 36.6% (weighted to take into account selection probabilities).¹⁸ The estimated cumulative AAPOR RR3 for client surveys is 13% to 20% (varying according to study parameters and taking into account all sources of non-response including panel recruitment, panel household attrition, and survey participation).¹⁹

Key statistics with respect to the 2014-2015 recruited households are as follows: 48% recruited via the non-response follow-up recruitment using overnight Federal Express mailers and face-to-face methodology (with NORC field staff visiting households); 24% indicated a preference for the telephone mode of data collection for participating in AmeriSpeak studies; 22% of the recruited households are non-Internet; 71% are cell-phone only or cell-phone mostly; 18% are African-American and 13% Hispanic; and 34% have household income below \$30,000 (compared to ACS benchmark of 29%).

Mixed-Mode Data Collection.

Panelists may participate in 2 to 3 AmeriSpeak Panel studies per month via online (computer, tablet, or smartphones) or by CATI phone. CATI phone mode respondents represent a population currently under-represented in web panels that exclude non-internet households or “net averse” persons. NORC’s telephone interviewers administer the phone mode of survey questionnaires using a data collection system supporting both the CATI phone and web modes of data collection, providing an integrated sample management and data collection platform. For panelists using smartphones for web-mode AmeriSpeak surveys, the NORC survey system renders an optimized presentation of the survey questions for these mobile users. For general population client studies, approximately 20% of the completed interviews are completed by the telephone mode.

¹⁸ The response rate calculation incorporates the selection probabilities of the samples for the initial recruitment and non-response follow-up stages, as calculated by the US Bureau of the Census for the American Community Survey.

¹⁹ A properly calculated AAPOR response rate for panel-based research takes into account all sources of non-response at each stage of the panel recruitment, management, and survey administration process. A common misapplication of the term “response rate” in online panel surveys is to represent the survey-specific cooperation rate as the “survey response rate.”

2014 Pilot Study.

The AmeriSpeak Pilot Study was conducted in October-November 2014 in a test of study procedures. In total, 406 households were recruited. For the reported results below, the analysis is restricted to the 352 recruited households where the two-stage recruitment design was implemented. The AAPOR RR3 weighted response rate was 26%. Fifty percent of the initially recruited household registered and completed the introductory survey by CATI phone (half by web). Consistent with expectations, the households recruited by the non-response follow-up (by overnight mailers and field interviewers) provided enhanced representation of typically hard-to-contact and recruit populations. Compared to the panelists recruited during the initial stage, the panelists recruited by the non-response follow-up had higher percentages of non-white racial groups (34% v. 28%), persons with only a high school degree or less (28% v. 19%), younger adults age 18-34 (31% v. 22%), household income less than \$35,000 (27% v. 25%), cell-phone only (40% v. 27%), home renters (32% v. 26%), those not reading a newspaper regularly (55% v. 47%), and those who did not get news online yesterday (45% v. 35%), among other results.

Panel Management Policies

NORC maintains strict rules to limit respondent burden and reduce the risk of panel fatigue. On average, AmeriSpeak panel members typically participate in AmeriSpeak web-based or phone-based studies two to three times a month.

Because the risk of panel attrition increases with the fielding of poorly constructed survey questionnaires, the AmeriSpeak team works with NORC clients to create surveys that provide an appropriate user experience for AmeriSpeak panelists. AmeriSpeak will not field surveys that in our professional opinion will result in a poor user experience for our panelists and panel attrition.

About NORC at the University of Chicago

As one of the world's foremost independent research institutions, NORC at the University of Chicago delivers objective data and meaningful analysis to help decision-makers and leading organizations make informed choices and identify new opportunities. Since 1941, NORC has applied sophisticated methods and tools, innovative and cost-effective solutions, and the highest standards of scientific integrity and quality to conduct and advance research on critical issues. Today, NORC expands on this tradition by partnering with government, business, and nonprofit clients to create deep insight across a broad range of topics and to disseminate useful knowledge throughout society.

Headquartered in downtown Chicago, NORC works in over 40 countries around the world, with additional offices on the University of Chicago campus, the DC metro area, Atlanta, Boston, and San Francisco.