

Corporate Culture

Do companies not only talk the talk but also walk the walk?

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Corporate culture is a powerful dynamic in a company. It is the set of beliefs and attitudes about the way things are done, and so is a key component of many corporate functions.

We often think about corporate culture being driven by the top – the board. The board sets the tone of the organisation and that tone filters down through the management and employees. Getting corporate culture right can be a powerful tool for any company and an important dimension for firm value. It also shapes the internal environment of a firm and influences the behaviour of both management and employee decision-making. Ultimately, this is seen as a driving factor on the success of an organization – it will give employees confidence in their work and their company and keep them motivated to do their best. Whilst it may not be the top item at a board meeting, it will be something on which a board should focus and it is always in the background affecting how things get done.

While intrinsically important for companies it is notoriously difficult to measure. How can you measure how well the corporate culture is embedded through the company? This is not like measuring an objective aspect of the company like sales or % women on the board. One method often used is a company's employee surveys. These will give an insight into the company, but they are unfortunately not a useful tool for cross company analysis. This is because they are not necessarily conducted annually, their methodology differs between companies, and the results are often not publicly available. Other ways that corporate culture can be captured may be via employee rating sites (e.g., Glassdoor) but this gives more of a view of the happiness of employees and not necessarily the underlying culture of the company.

Here we are using a unique way to try to capture a company's culture. We analyse conference calls to see if we can capture the strength of a company's culture via the way management speak.

We then analyse the types of firm attributes that this is related to and whether we can capture stock outperformance by trading on this information.

What is Corporate Culture?

Since the definition of culture can be highly subjective we borrow a definition from the management literature as a 'set of values and norms widely shared and firmly held by members of an organisation.'¹

Under the definition above culture is the way of describing how things "get done" in a firm. It will matter to the firm's performance as we can see it playing a role of a social control mechanism over the employees' behaviours via peer influence. What do we mean by this? Think about this example: you work in a firm where everyone clocks on at 9am and clocks off at 5pm, not a minute earlier or later. If you come into the business as someone who is willing to put in extra hours, or arrives early or stays late, as you observe those around you and the common practice, you will sooner or later start to conform to the culture and come at 9am and leave at 5pm. The culture will set a tone for how you will work – and you will evolve into that same process. Likewise, if you are someone who shirks at work while those around you are diligently working, again the social pressure from the culture will likely mean that you will change your work habits to adapt to this culture and improve your productivity. The way that the employee's behaviour can change speaks to the power that a good corporate culture can have on a firm.

And the power that culture can have on a firm means that from an investor perspective it is important to be able to try to measure this and be able to differentiate firms based on those with strong corporate culture and those without.

1 O'Reilly, 1989; O'Reilly and Chatman, 1996

Background and literature review

This work was motivated by the paper ‘Measuring Corporate Culture Using Machine Learning’ by Li, Mai, Shen and Yan (2021). This paper uses a specialist ‘culture’ dictionary to measure the culture of a company through analysing conference calls.

The authors create a culture dictionary using word2Vec (Mikolev et al. 2013) based on five dimensions of corporate culture: **innovation, integrity, quality, respect** and **teamwork**. The choice of these five dimensions of corporate culture are based on the work of Guiso, Sapienza and Zingales (2015): ‘The Value of Corporate Culture’. Here the authors, focusing on firms in the S&P 500, had looked at the corporate websites of these firms and found the most mentioned company values resulting in the five above. Whilst every firm did not have all five values, most firms had at least one if not a multiple of the values listed above.

Li et al (2021) then took these core corporate values and built an extensive dictionary around it, using 209,480 earnings calls (7,501 unique firms) from Thomson Reuters Street Events database over 2001 to 2018 to train their word embedding model.

For example, words associated with the value **integrity** is below:

accountability, ethic, integrity, responsibility, transparency, accountable, governance, ethical, transparent, trust, responsible, oversight, independence, objectivity, moral, trustworthy, fairness, hold_accountable, corporate_governance, autonomy, core_value, assure, stakeholder, fiduciary_responsibility, continuity, credibility, honesty, privacy, fiduciary_duty, rigor, empathy, ethic_integrity, egalitarian, fiduciary, utmost, code_ethic, faith, passionately, impartial, compliance, honorable, socially_responsible, ethically, company_culture, solidarity, democracy, stewardship, identity, constituent, governance_model, citizen, scrupulous, society, governance_structure, safety_soundness, humility, decency, meritocracy, reassure, exemplary, business_ethic, act_responsibly, advocacy, controllership, diligent, sincerity

At a high level, the associations we see with the different values are below:

Dimensions	Associations
Innovation	Creativity, efficiency, excellence, passion, pride
Integrity	Ethics, fairness, honesty, responsibility, transparency
Quality	Customer relationships, dedication, product quality
Respect	Leadership, professionalism and talent
Teamwork	Collaboration, cooperation, leadership, professionalism

Using these dictionaries, we then measure the strength of the corporate culture looking at conference call data, and then exploring this to see if there is any alpha opportunities.

How are we actually measuring Corporate Culture?

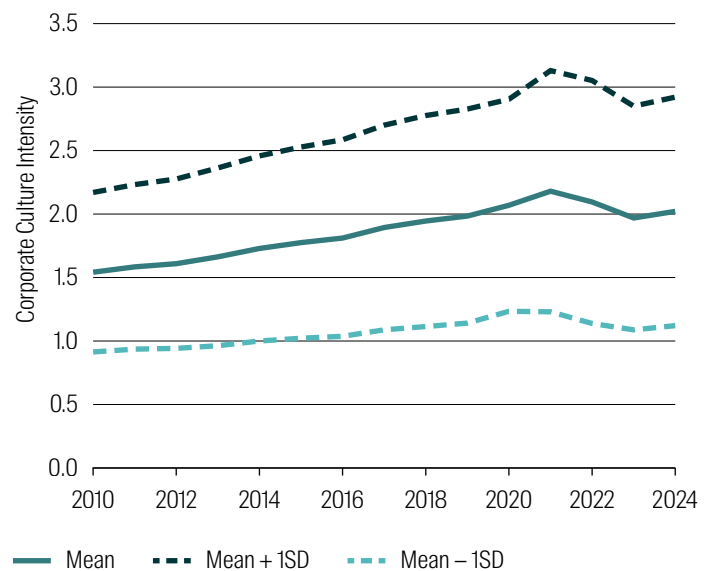
Using the dictionaries from Li et al (2021) we use a bag of words approach on the conference call transcripts for all the five corporate values. The more the words are mentioned, the stronger the culture of the firm.

Note that while there are several different data sources we could use to measure corporate culture (e.g., company website, annual report etc), we chose to use the conference calls. The reason is that the purpose behind these calls is not to publicise the company and its virtues but rather to talk about the recent company performance and provide an outlook. Hence it is likely to be less impacted by ‘PR’ talk and hopefully the language used more accurately reflect the culture of the company.

Data analysis

We look firstly at some of the basic data analysis. We can see in *Figure 1* below that total mentions of culture within conference calls have increased over time.

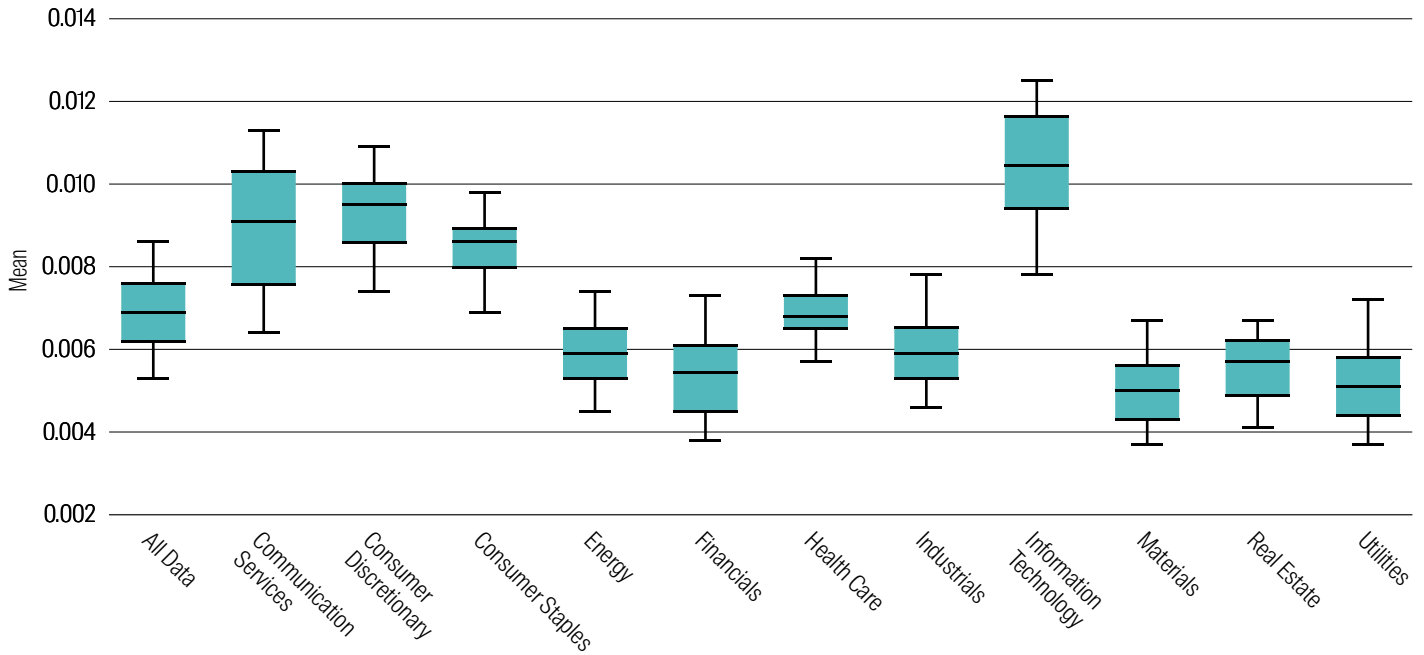
Figure 1: Total mentions of culture words in transcripts over time



Source: RQI, Factset, Data as at 30 June 2024

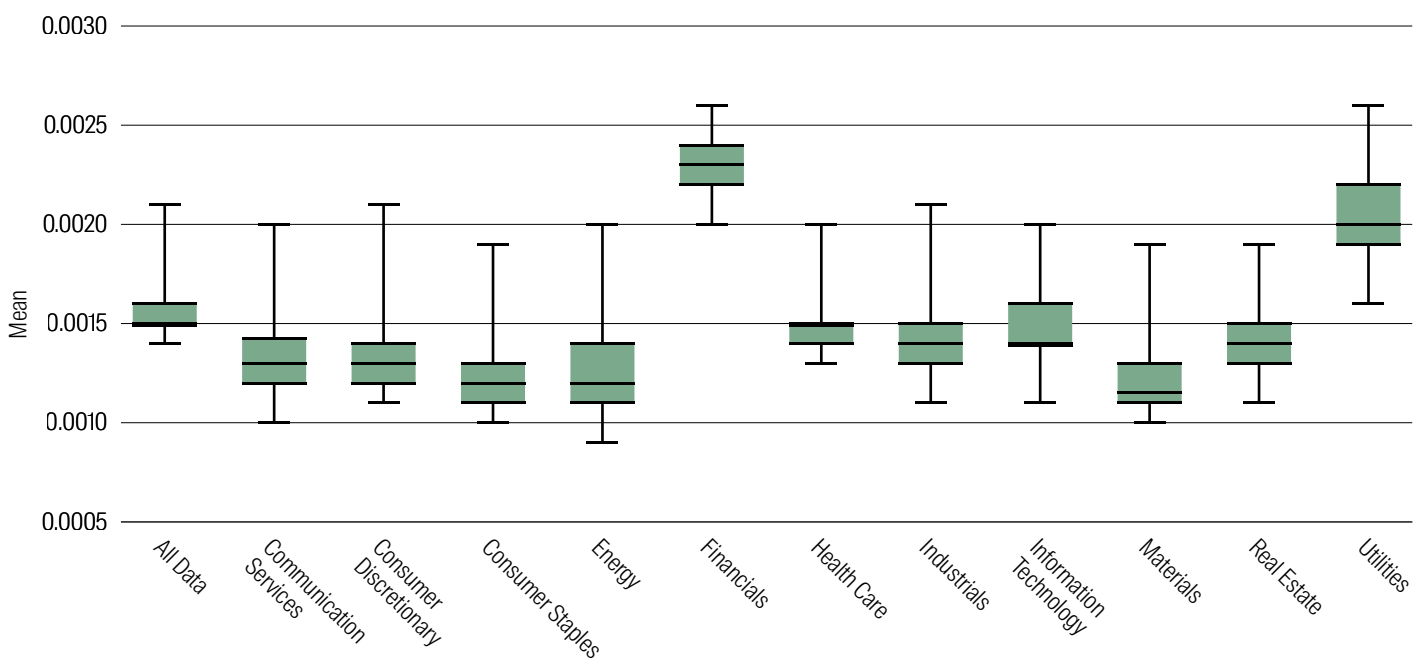
We can go further. When we look at the five underlying corporate values, we can also see that different industries have a focus on different corporate value. This is not surprising. For example, IT firms and communication services have more mentions of innovation but financials talk more about integrity (probably to address previous issues!). The distribution of mentions by sector for the five corporate values are in *Figures 2 to 6* below. These charts show the distribution of the mentions with the box representing where the middle 50% (also known as the interquartile spread) of the mentions lies.

Figure 2: Distribution of Innovation words by industry



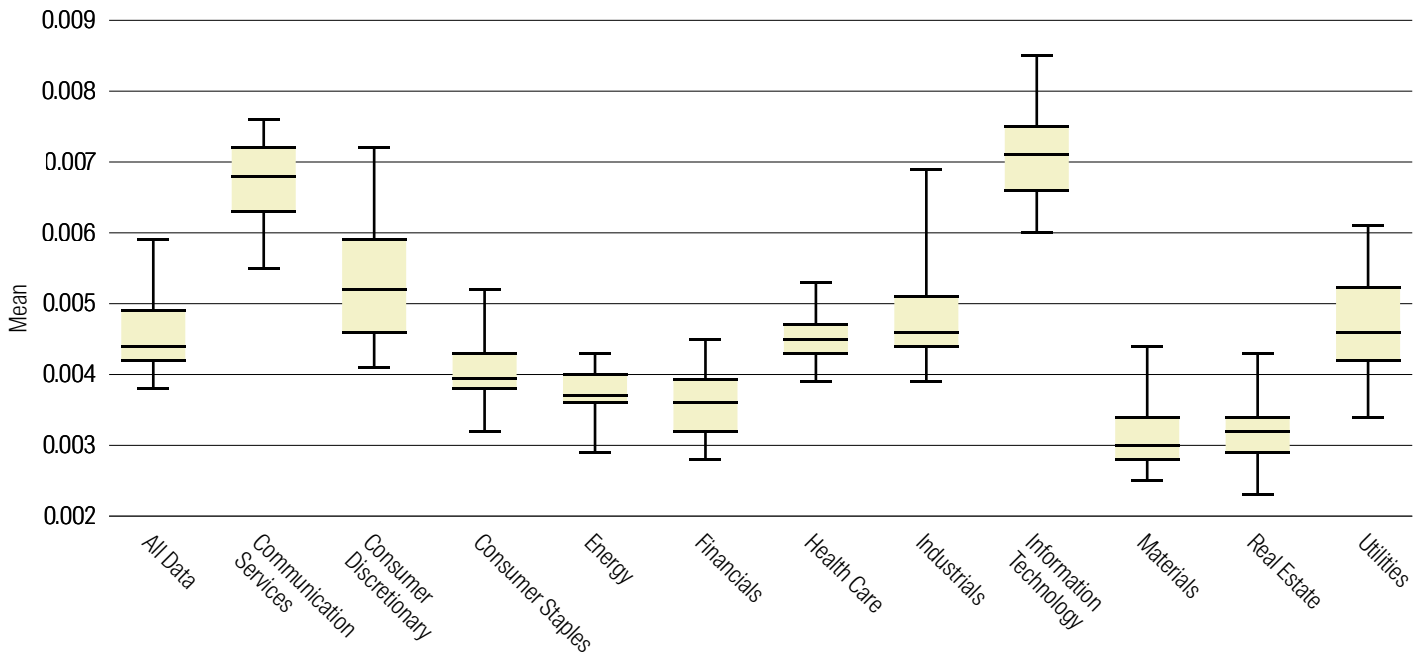
Source: RQI, Factset, Data as at 30 June 2024

Figure 3: Distribution of Integrity words by industry



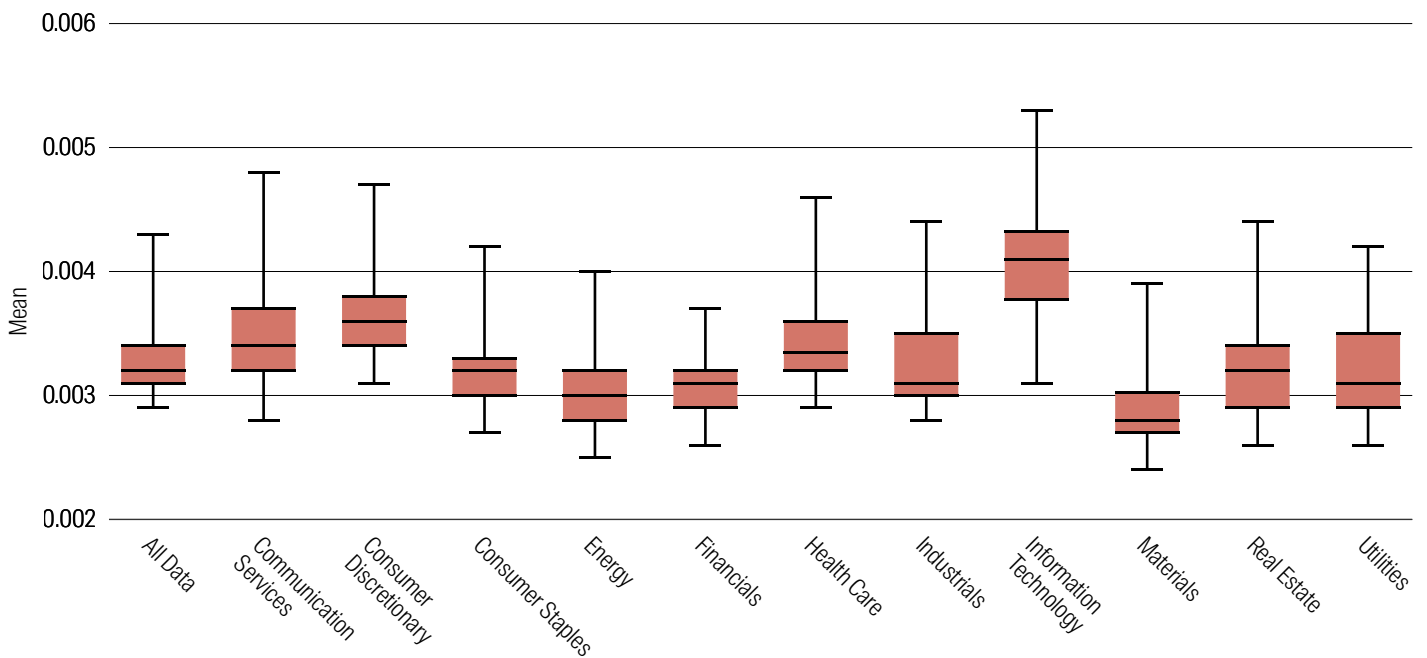
Source: RQI, Factset, Data as at 30 June 2024

Figure 4: Distribution of Quality words by industry



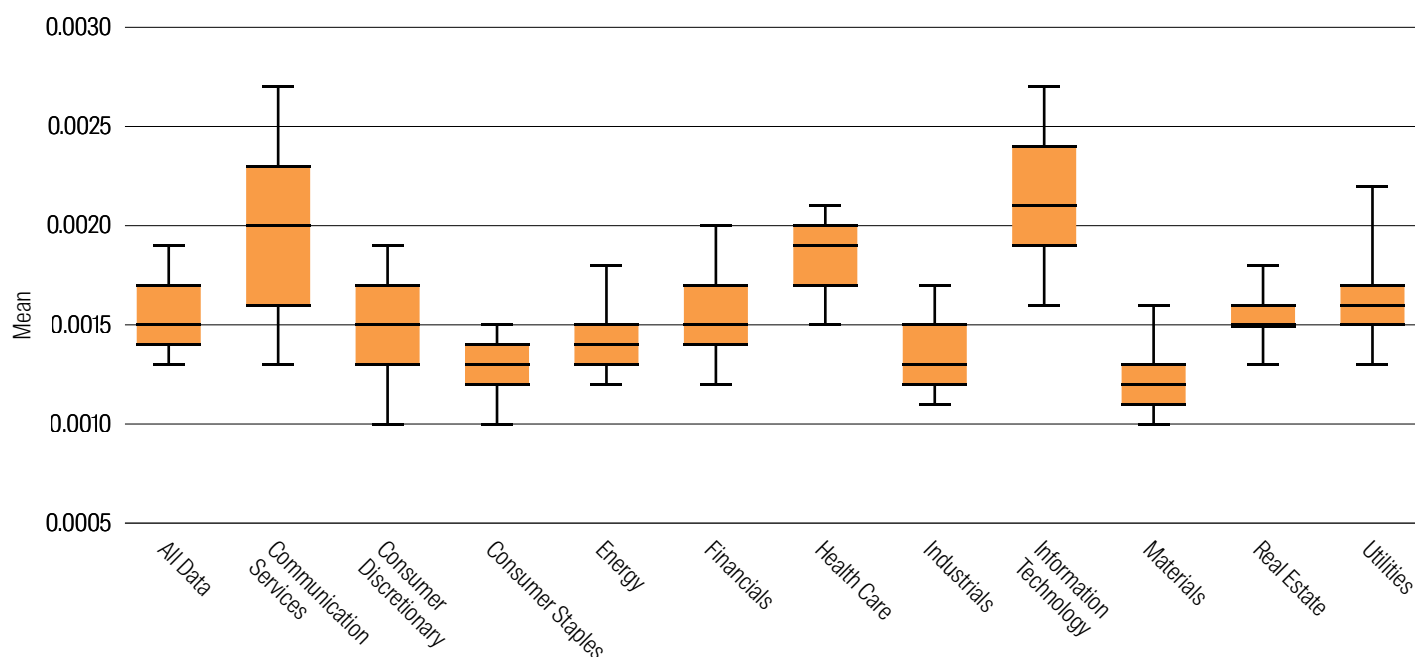
Source: RQI, Factset, Data as at 30 June 2024

Figure 5: Distribution of Respect words by industry



Source: RQI, Factset, Data as at 30 June 2024

Figure 6: Distribution of Teamwork words by industry



Source: RQI, Factset, Data as at 30 June 2024

We go further to provide some descriptive statistics for each sector – both at the overall level as well as split out between the five different corporate values. See *Table 1* below. What is interesting is that it is only the value ‘respect’ that is mentioned across all firms over time. For other values (e.g., integrity, teamwork and quality), there are at least some firms within the sectors that do not mention any of the words associated with the value in the conference call (as shown by the score of 0 for the min value).

Table 1: Descriptive statistics of Corporate Value words

Industry	Count	Unique firms	All				
			Mean	SD	Median	Min	Max
Communication Services	5,100	115	2.257	0.854	2.144	0.274	7.407
Consumer Discretionary	8,834	181	2.171	0.896	2.041	0.273	6.374
Consumer Staples	5,259	107	1.899	0.782	1.809	0.164	6.269
Energy	5,222	110	1.635	0.609	1.564	0.245	6.06
Financials	12,492	259	1.667	0.747	1.542	0.152	7.544
Health Care	7,690	159	1.892	0.688	1.796	0.423	6.689
Industrials	13,477	269	1.803	0.755	1.701	0.084	5.961
Information Technology	7,475	162	2.587	0.956	2.482	0.476	8.747
Materials	6,419	129	1.414	0.637	1.306	0.263	6.894
Real Estate	3,925	79	1.502	0.612	1.38	0.259	5.132
Utilities	4,105	79	1.715	0.707	1.611	0.325	5.875

Industry	Count	Unique firms	Innovation				
			Mean	SD	Median	Min	Max
Communication Services	5,100	115	0.893	0.476	0.781	0	3.672
Consumer Discretionary	8,834	181	0.948	0.49	0.861	0.032	3.217
Consumer Staples	5,259	107	0.856	0.402	0.81	0	3.052
Energy	5,222	110	0.619	0.296	0.562	0	2.093
Financials	12,492	259	0.576	0.335	0.512	0	2.819
Health Care	7,690	159	0.715	0.341	0.667	0	2.842
Industrials	13,477	269	0.642	0.341	0.58	0	2.944
Information Technology	7,475	162	1.066	0.48	1.003	0	3.749
Materials	6,419	129	0.521	0.299	0.459	0.018	3.056
Real Estate	3,925	79	0.554	0.278	0.502	0	2.39
Utilities	4,105	79	0.528	0.266	0.487	0	3.102

Industry	Count	Unique firms	Integrity				
			Mean	SD	Median	Min	Max
Communication Services	5,100	115	0.141	0.092	0.123	0	0.913
Consumer Discretionary	8,834	181	0.136	0.105	0.116	0	1.584
Consumer Staples	5,259	107	0.133	0.102	0.113	0	1.208
Energy	5,222	110	0.135	0.103	0.113	0	1.262
Financials	12,492	259	0.226	0.151	0.194	0	1.464
Health Care	7,690	159	0.155	0.102	0.135	0	1.457
Industrials	13,477	269	0.149	0.113	0.126	0	1.613
Information Technology	7,475	162	0.152	0.124	0.122	0	1.503
Materials	6,419	129	0.131	0.102	0.11	0	1.801
Real Estate	3,925	79	0.15	0.118	0.123	0	1.483
Utilities	4,105	79	0.203	0.128	0.178	0	1.506

Industry	Count	Unique firms	Quality				
			Mean	SD	Median	Min	Max
Communication Services	5,100	115	0.638	0.388	0.57	0	2.665
Consumer Discretionary	8,834	181	0.561	0.3	0.503	0	2.635
Consumer Staples	5,259	107	0.433	0.239	0.393	0	1.943
Energy	5,222	110	0.399	0.201	0.365	0	1.7
Financials	12,492	259	0.381	0.221	0.35	0	2.314
Health Care	7,690	159	0.465	0.229	0.427	0	1.862
Industrials	13,477	269	0.518	0.269	0.482	0	2.334
Information Technology	7,475	162	0.732	0.322	0.691	0	2.299
Materials	6,419	129	0.334	0.183	0.301	0	1.421
Real Estate	3,925	79	0.32	0.213	0.264	0	1.627
Utilities	4,105	79	0.486	0.286	0.439	0	1.953

Industry	Count	Unique firms	Respect				
			Mean	SD	Median	Min	Max
Communication Services	5,100	115	0.369	0.243	2.144	0.274	7.407
Consumer Discretionary	8,834	181	0.371	0.244	2.041	0.273	6.374
Consumer Staples	5,259	107	0.341	0.244	1.809	0.164	6.269
Energy	5,222	110	0.335	0.228	1.564	0.245	6.06
Financials	12,492	259	0.324	0.223	1.542	0.152	7.544
Health Care	7,690	159	0.366	0.219	1.796	0.423	6.689
Industrials	13,477	269	0.352	0.224	1.701	0.084	5.961
Information Technology	7,475	162	0.415	0.255	2.482	0.476	8.747
Materials	6,419	129	0.299	0.211	1.306	0.263	6.894
Real Estate	3,925	79	0.326	0.215	1.38	0.259	5.132
Utilities	4,105	79	0.331	0.215	1.611	0.325	5.875

Industry	Count	Unique firms	Teamwork				
			Mean	SD	Median	Min	Max
Communication Services	5,100	115	0.216	0.157	0.183	0	2.284
Consumer Discretionary	8,834	181	0.153	0.104	0.131	0	1.105
Consumer Staples	5,259	107	0.137	0.09	0.119	0	0.811
Energy	5,222	110	0.148	0.105	0.125	0	0.991
Financials	12,492	259	0.161	0.114	0.134	0	1.657
Health Care	7,690	159	0.191	0.125	0.165	0	1.277
Industrials	13,477	269	0.143	0.099	0.121	0	0.837
Information Technology	7,475	162	0.222	0.148	0.191	0	1.81
Materials	6,419	129	0.129	0.094	0.108	0	0.827
Real Estate	3,925	79	0.151	0.097	0.133	0	0.861
Utilities	4,105	79	0.166	0.098	0.15	0	1.314

Source: RQI, Factset, Data as at 30 June 2024

Determining the strength of Corporate Culture

We are interested in determining the strength of the corporate culture within the firm. To this end we look at the different parts of the conference call to see the consistency of the language used by the company.

A conference call transcript is split into two main sections – the prepared management section, where the company provides their initial comment, and then the analyst Q&A section where the analyst can ask questions of management without notice. We expect differences in the way management may talk in these sections will show up if culture is not truly embedded in the firm, and it is these differences may give us a better insight into the underlying culture of the company.

Even though the focus of the conference call is on providing an update on the earnings of the company, we have seen that the prepared section of these conference calls is often very structured and more in 'PR' talk. Hence there is some chance that it has been manipulated and may not give us the best measure of the company culture. However, when management must answer questions from analysts, these are off-the-cuff, and therefore give a better reflection of the way management actually speak. We therefore look at the difference in the language between the different parts of the conference call to give us a measure of the strength of the company culture.

The higher the score, the stronger the corporate culture is embedded in the firm. That is, if the culture is truly embedded in the company, then the way management speaks whether it is prepared or off the cuff should be similar (i.e., they not only “talk the talk” but also “walk the walk”). If it is not truly embedded and has just been more for show, we would expect to see differences in the culture score between the two sections. Further, if we see a strong score in the analyst section and not the prepared section, we also view this as positive as the management appear to have this language embedded in their company and do not feel the need to emphasize it in the prepared section. In other words, for them it is just the way business is done.

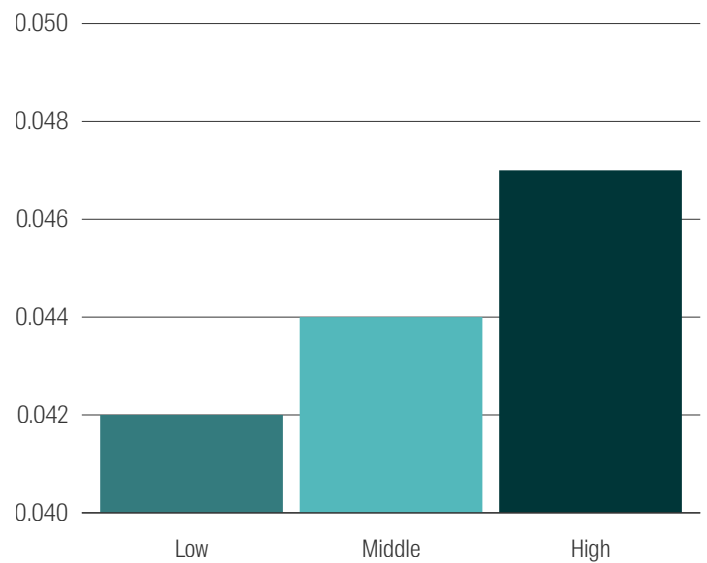
We also don’t just look at the analyst’s section (and ignore the management section) as this doesn’t allow us any comparison – the comparison is important. If a company scores poorly on culture in the analyst section, we won’t know if that is because they don’t care about culture (and score poorly in the prepared section as well) or if they are trying to pretend they have a good culture and hence score well in the prepared section and poorly in the analyst section.² We want to be able to distinguish between these two situations where we believe the second option is worse than the indifference shown under the first scenario.

Analysis

Having determined a way to measure culture we look at the attributes it reflects of the company. We would hope that companies with better culture would also be better managed firms and hence be of higher quality. We would also expect them to be less risky and volatile for the same reason. We looked to see if this is the case in our data set. We split the companies into three groups, those with low, middle and high culture scores and looked at the average return on assets (ROA) as a proxy for quality and volatility as a proxy for risk. We can see the results in *Figure 7* below.

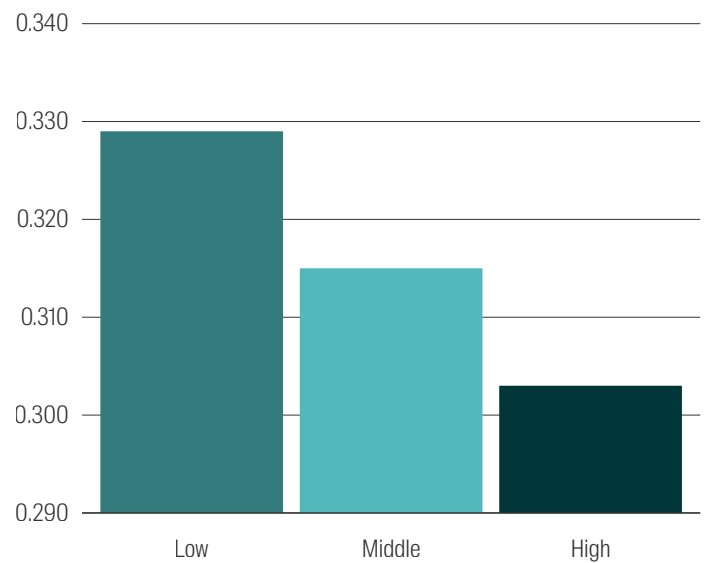
We see that as the score for culture increases, the ROA for the firms on average also increase. This showing that firms with better culture tend to be better quality firms.

Figure 7: Average ROA of firms split by corporate Culture score



Source: RQI Data as at 30 June 2024

Figure 8 : Average Volatility of firms split by corporate Culture score



Source: RQI Data as at 30 June 2024

We also looked at the volatility of the firm in *Figure 8*. Here we see that as the culture score increases, the volatility of the firm reduces showing that firms with better culture are also lower risk.

² “The most important thing is sincerity/honesty – If you can fake that you’ve got it made”. Variously attributed to George Burns, Groucho Marx and others

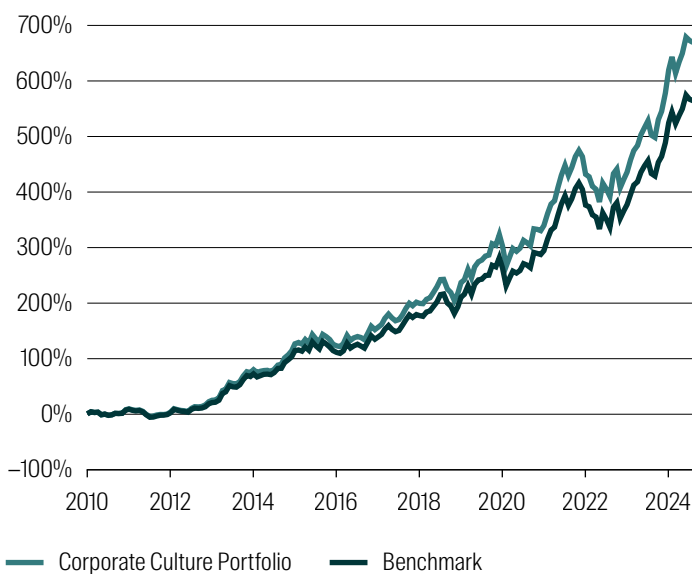


What about trading on this idea?

Having seen that there is a link between corporate culture and different attributes of the firm (quality and risk) we wanted to see if this information is considered in the market. We constructed an optimised portfolio that tilts towards firms which exhibit strong culture and away from those with weaker culture. As we are using English-translated conference calls, our universe includes only those stocks within the MSCI ACWI universe that trade in North American or European markets³. This is approx. 1000 stocks within the universe of MSCI ACWI, which covers approx. 80% of the market cap.

We see the performance of this backtested portfolio relative to the benchmark in *Figure 9* below.

Figure 9: Backtest performance of Long Short portfolio



Source: RQI Data as at 30 June 2024

Over the nearly 14 year period we can see that the corporate culture tilted portfolio has outperformed the benchmark. This consistency in performance over this period shows that this firm attribute of strong corporate culture is one that is rewarded by the market. This performance is just over 1% return p.a over the approx. 14-year period.

Conclusion

We have found a compelling way to be able to capture the corporate culture of a firm. This uses natural language processing via a curated dictionary to see the importance of common corporate values words within conference call transcripts. We analyse the difference in the prepared section of the conference call verses the analyst Q and A section to see if companies not only “talk the talk” but also “walk the walk”. We find strong performance with this insight, both in terms of quality and risk but also in terms of outperformance relative to the market.

³ As we currently only have English conference call transcripts and hence limited coverage in Asia and the Emerging markets

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