Women on Boards: Does Corporate Culture Influence Board Gender Diversity?

Paulina Roszkowska

Hult International Business School & Bayes Business School (formerly Cass)

Paulina.Roszkowska@city.ac.uk

Abstract

Purpose: We examine the link between corporate culture and the company's willingness to appoint women to the Boards of Directors.

Method: We proxy corporate culture by how companies communicate with investors in the 10-K filings and run textual data analysis. Then, we employ quantitative modeling.

Result: We find that companies with high degree of competitive culture appoint fewer female directors, while companies that score high on collaborative culture appoint more female directors

Motivation

Academia:

"We know very little about the causes of female relative underrepresentation on boards." (Renée B. Adams 2016)

Industry:

"**Fewer large companies are run by women than by men named John**" (FT, 2015)

"It's also essential to **look at culture**, which is often the biggest driver of diversity and inclusion. Culture underpins diversity and inclusion." (HBR 2020)

The Upshot
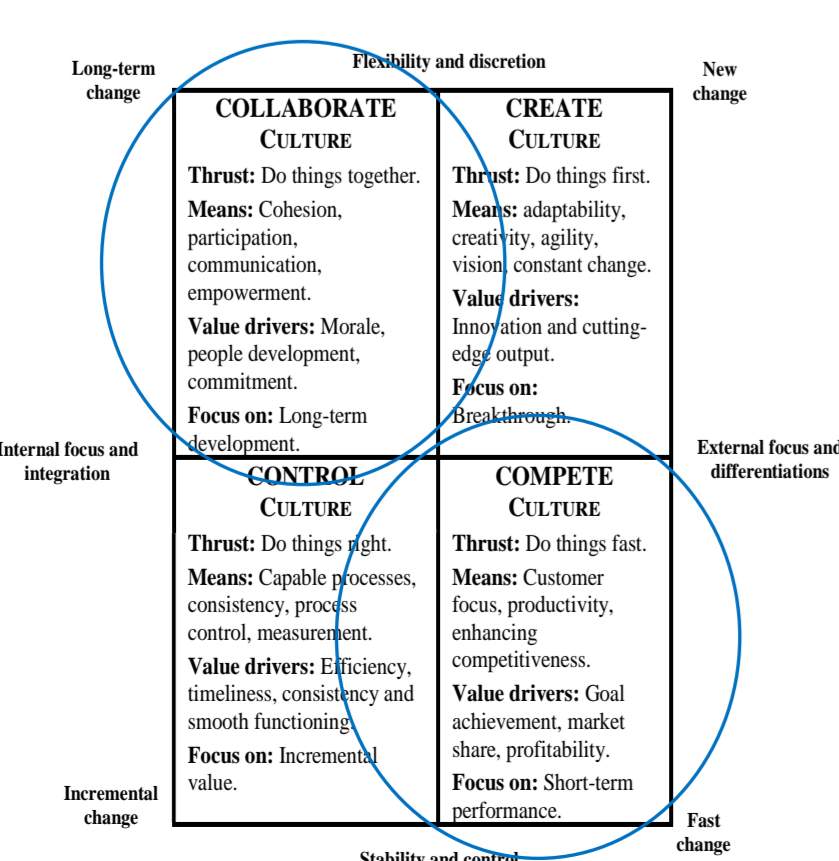*Fewer Women Run Big Companies Than Men Named John*

Research Objectives

We study the composition of the Boards of Directors (BoD) of the S&P 1500 companies to verify whether **corporate culture (CC),** which details a firm's operating philosophy that guides the top management's decision-making and influences their outcomes, is **the channel** through which organizations decide to appoint women onto their Boards of Directors.

Operationalizing CC

Competing values framework ("CVF") –one of the 40 most important frameworks in the history of business (Ten Have et al. 2003) – considers the factors that account for highly effective organizational performance (Quinn & Cameron, 1983; Quinn & Rohrbaugh, 1983)

Hypothesis

H1: Companies with strong tendency towards collaborative corporate culture appoint more women to their BoD.

H2: Companies with strong tendency towards compete corporate culture appoint fewer women to their BoD.

Methods

Qualitative analysis—sentiment analysis (propagated in finance and accounting by Loughran and McDonald (JAR, 2016):

- developing word lists (libraries) – defining key words used to identify corporate values associated with the four CCs, adding synonyms and controlling for negations

A (Collaborate)
mentor*, coaching, counsel*, nurture*, foster*, train*, teamwork, cooperatively, consensus*, participate*, integrity, trustworthy, commitment, openness, impartial*, transparent*

A (Collaborate)
mentor* = [mentored, mentoring, mentors, mentorship]
coaching = [coaching]
counsel* = [counsel, counseled, counseling, counsels]
nurture* = [nurture, nurtured, nurtures, nurturing]
foster* = [fostered, fostering, fosters]
train* = [train, training]

- textual analysis run on the 10-K filings

Quantitative analysis—mean, quartile analysis, univariate and multivariate regression analysis (panel data)

Data

SEC's Edgar: mapping/measuring Corporate Culture (CC) through textual analysis run on the firms' 10-K filings

$$COLLABORATE = \frac{\text{\# words describing the collaborative culture}}{\text{Total \# words in the } 10-K \text{ filing}}$$

$$CREATE = \frac{\text{\# words describing the creative culture}}{\text{Total \# words in the } 10-K \text{ filing}}$$

$$COMPETE = \frac{\text{\# words describing the compete culture}}{\text{Total \# words in the } 10-K \text{ filing}}$$

$$CONTROL = \frac{\text{\# words describing the control culture}}{\text{Total \# words in the } 10-K \text{ filing}}$$
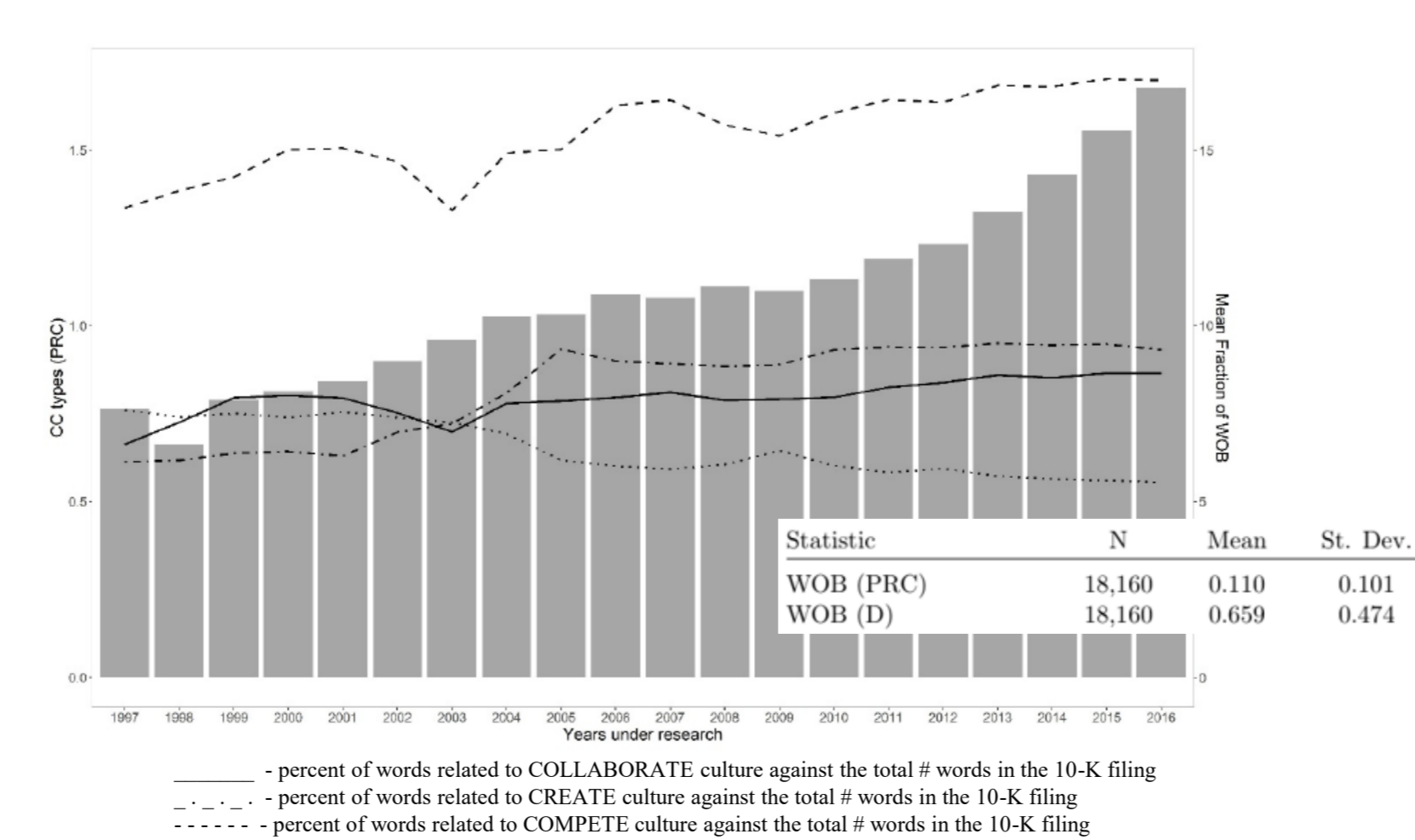
Compustat: annual firm-level data of the U.S. publicly traded firms

ISS (formerly RiskMetrics): Women representation on the BoD and other corporate governance data (data on the universe of S&P1500 firms)

Execucomp: data on the firms' executives, their personal characteristics, and compensation etc.

WOB and CC

The number of women on the BoDs has been gradually increasing over time; but on average, only a bit over 60% firm-year observations had a t least one women on the board.

Statistic	N	Mean	St. Dev.
WOB (PRC)	18,160	0.110	0.101
WOB (D)	18,160	0.650	0.474

— percent of words related to COLLABORATE culture against the total # words in the 10-K filing
----- percent of words related to CREATE culture against the total # words in the 10-K filing
— · — percent of words related to COMPETE culture against the total # words in the 10-K filing
········ percent of words related to CONTROL culture against the total # words in the 10-K filing

Univariate analysis

The more collaborative the CC is, the more women on the board on average; the more creative, competitive or controlling the CC, the fewer women on the board.

	Collaborate (lag 3)		Create (lag 3)		Compete (lag 3)		Control (lag 3)	
	WOB(PRC)	WOB(D)	WOB(PRC)	WOB(D)	WOB(PRC)	WOB(D)	WOB(PRC)	WOB(D)
Low	0.096	0.580	0.118	0.714	0.119	0.722	0.121	0.720
2	0.105	0.643	0.117	0.718	0.114	0.700	0.115	0.683
3	0.114	0.679	0.115	0.687	0.117	0.708	0.108	0.655
4	0.120	0.709	0.109	0.651	0.111	0.659	0.108	0.651
High	0.124	0.746	0.101	0.587	0.098	0.575	0.107	0.649
High-Low	0.028 ***	0.166 ***	-0.017 ***	-0.127 ***	-0.021 ***	-0.147 ***	-0.014 ***	-0.071 ***
t_stat	(11.63)	(14.68)	(6.88)	(11.08)	(8.48)	(12.90)	(5.62)	(6.32)

Multivariate analysis

Model: $WOB_{i,t} = \alpha + B\,CC_{i,t-1} + \Gamma\,X_{i,t} + \eta_{i,t} + \varepsilon_{i,t}$

Results: the more collaborative the CC is, the more female board members; the more competitive CC is, the fewer female directors. Results hold with and without controls, lagging CC variables by one, two and three periods. Results are consistent in the OLS and logit model specification.

Controlling for the presence of female executives in the period preceding the measure of female presence on the board, and in the period following the measure of female presence on the board yields both coefficients significant. This is an empirical evidence for both, the pipeline argument of Adams' (2016), where one in five executives becomes a director, and Matsa and Miller's (2011) thesis that women (directors) help women (executives) in America. Importantly, this does not take away the effect of collaborative and competitive culture on the female board representation.

Addressing Endogeneity

- Lagging CC variables up to 3 periods

- Testing for changes in WOB with preceding changes in CC

$$\Delta WOB_{i,t} = \alpha + B\,\Delta CC_{i,t-1} + \Gamma\,X_{i,t} + \eta_{i,t} + \varepsilon_{i,t}$$

A preceding 1% increase in collaborate culture is followed by a 1.2% increase in female representation on the BoD.

- Testing for reverse causal relationships within so-called dynamic approach to CC

$$CC_{i,t}^k = \alpha + \sum_{n=1}^{3} \beta\,CC_{i,t-n}^k + \delta\,WOB_{i,t} + \Gamma X_{i,t} + \eta_{i,t} + \varepsilon_{i,t}$$

Past realization of each CC type affects its current level, but past increase of WOB does not have any significant effect on the current level of each CC type.

- testing for reverse causality when women directors gain critical mass (>35% according to Kanter, 1977)

Only once a minimal threshold of gender diversity is reached— min 3 female directors—an increase of WOB affects back CC. That happens in only 1,368 out of 17,010 firm-year observations.

Tokenism

Bloomberg
Deals
WeWork Adds Harvard's Frei to All-Male Board After Criticism
By Patrick Clark and Jeff Green
4 September 2019, 13:14 BST Updated on 4 September 2019, 16:13 BST

Farrell and Hersch (2005): the likelihood of a company appointing a woman to its board is negatively affected by the number of woman already on the board

	Dependent variable: Pr(Δ WOB (number) >0)				
	(1) Neutral All sample	(2) Women-hostile COLL LOW	(3) Women-friendly COLL HIGH	(4) Women-hostile COLL LOW COMP HIGH	(5) Women-friendly COLL HIGH COMP LOW
Token: 1 WOB (lag)	−0.092*** (0.007)	−0.121*** (0.014)	−0.111*** (0.015)	−0.072*** (0.013)	
Token: 2 WOB (lag)	−0.184*** (0.010)	−0.209*** (0.021)	−0.154*** (0.019)	−0.198*** (0.018)	−0.165*** (0.017)
Token: >2 WOB (lag)	−0.231*** (0.014)	−0.280*** (0.026)	−0.191*** (0.029)	−0.265*** (0.023)	−0.198*** (0.028)
Controls	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	16,095	3,226	3,223	4,470	4,470
R²	0.072	0.106	0.088	0.085	0.076
Adjusted R²	0.068	0.085	0.068	0.069	0.062

- The presence of one woman on board reduces chances of other women being appointed among the US companies (Smith and Parrotta, 2018) and the UK firms (Gregory-Smith et al., 2014). In our sample, tokenism holds—as per model (1), the more female directors there were in the previous period, the less likely the appointment of other women onto the BoD.

- In female-friendly environment (companies with a high degree of collaborative culture), coefficients on the tokens are significantly less negative than in female-hostile environments (companies with a low degree of collaborative culture). The effect holds when additionally controlling for high and low compete type of culture.

- Companies that score high on collaborative culture are more genuinely interested in appointing female directors, while companies that score low on collaborative culture appoint female directors more to likely to avoid criticism of poor board gender diversity.

Conclusions

- This is the first study to link corporate culture (proxied by management communication via the SEC filings) and women representation to the BoDs

- Highly collaborative culture companies appoint more female directors and exhibit less tendency for tokenism: 'ticking the box' only to look good regarding board gender diversity than highly competitive culture companies

- While gender quota are more of a 'stick' type of measure to increase gender balance in business that can cause performance decrease, changing corporate culture has a long lasting, positive effect on the board gender diversity without causing negative side effects.