

LINGUISTIC DIFFERENCES BETWEEN SUCCESSFUL AND NON-SUCCESSFUL CEOS DURING THE FINANCIAL CRISIS

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Abstract

The present study represents an important attempt to explore some of the rhetorical aspects of effective leadership. The main purpose is to investigate possible linguistic differences between 104 effective and non-effective CEOs during the Financial Crisis (years 2008 and 2009) – using language and company performance as predictor variables. The word usage of the top and bottom 25 % of CEOs from the S and P500 within their corresponding letters to shareholders were analysed via the LIWC2015 quantitative content analysis software. The main focus is on the following linguistic markers: use of a) present achievement –, b) present power –, c) present risk –, d) emotionality –, e) present positive work – and f) visionary words. The results revealed that successful and non-successful CEOs use language equally, indicating that both also have the same leadership attributes. Our findings highlight the important role which communication plays in the leadership process, as well as, leadership effectiveness.

Keywords: linguistic differences, financial crisis, CEO effectiveness, LIWC2015

INTRODUCTION

Characteristics of Chief Executive Officers

Chief Executive Officers or simply “CEOs” are arguably the most powerful managers within an organisation. They are essentially important for the future of an organisation and can be the driving force behind the performance of companies. Hart (1993) stated that the conflicting demands on senior executives are to keep the balance between flexibility and stability, having the focus on the inside and the outside of the organisation, as well as, targeting processes

and outcomes. Selecting a CEO for example is one of the most influential and significant events for an organisation. Research suggests that the leadership of a CEO accounts for 15 % of the total variance in profitability or total return to shareholders (Nohria *et al.*, 2003). This is a surprisingly large number since the same study found that the whole industry in which a company operates accounts for the same variance. This indicates that choosing a CEO has the same impact as deciding whether to stay in the same industry or to enter a new one. Nevertheless it has to be mentioned that there are large differences in the degrees of actual influence

and level of achievements; some CEOs are highly capable and perform well, whereas others perform worse. In 1991, Barrick, Day, Lord, and Alexander compared average performing CEOs to high performing CEOs by examining 132 organisations from the Fortune 500 over a period of 15 years (1971–1985). The results revealed that during their tenure, effective CEOs provided an additional 25 million dollars in value to a company, contrary to averagely effective CEOs. These findings emphasise the need to identify those characteristics that separate effective CEOs from non-effective CEOs.

Firstly there are some directly observable features, like the demographic information that is linked to effectiveness. In particular the age and education of a CEO seems to influence investment policy, financial policy, organisational strategy and the performance of a company (Bertrand and Schoar, 2002). Older CEOs, for example, tend to be more conservative in their decision-making. This can be seen through lower capital expenditure, higher cash holdings and less financial leverage. The reasons for this may be that a more mature CEO has more business experience and goes beyond his self-interest to cope with the demands of the organisation, employees and stakeholders. Further, Zaccaro and Klimoski, (2002) identified career experience, relevant education and functional background as highly favourable. Highly efficient CEOs are able to deal with cognitively complex tasks, have a high self-efficacy and a strong need for achievement compared to non-effective CEOs. This aligns with the findings of Kaplan *et al.*, (2012), that highly effective CEOs often excel on executive-related measures, such as efficacy and organisation. Moreover, personality traits, such as being detail-oriented, proactive, as well as a strong focus on achievements through setting high standards were all found to be important attributes of successful CEOs (Kaplan *et al.*, 2012).

A strong focus on performance is also linked to success in the work environment. Indeed, the difference between effective and non-effective CEOs is, amongst others, a strong need for achievement and self-efficacy (Zaccaro and Klimoski, 2002). Here, Sashkin (1990) added the power motive as a requirement for effective leadership. Besides positive effects on the employees and the company, a high power motivation has an influence on the performance of the individual. For example, a need for power is linked to work promotions (McClelland and Boyatzis, 1982). Managers with high power needs were significantly more likely to get promoted in their workplace, compared to those with lower needs. Further, CEOs with a socialised power

motive are more emotionally mature and they use their power for the benefit of the whole organisation (McClelland, 1985). So, not surprisingly, the need for power is frequently found in executive leaders (Bass and Bass, 2009, pp. 157–159).

Additionally the ability to take reasonable and calculated risks is linked to effectiveness. CEOs especially must have the capacity to take legitimate risks, even when there is limited information available or in times of uncertainty, such as an economic crisis (Hoskisson *et al.*, 2017). Effective CEOs are more ready and willing to take risks compared to their non-effective colleagues (Zaccaro and Klimoski, 2002). Further, the level of a CEO's tolerance toward risks is correlated to company growth (Graham *et al.*, 2013). Researchers have shown that companies with high former or future growth rates are more likely to be managed by risk-tolerant CEOs. Risk-taking managers would initiate more mergers and acquisitions than their risk-averse colleagues. This might be because CEOs know that risk-aversion makes incentive pay costly and being too cautious could result in failing to detect possible rewarding opportunities. Because of that companies prefer to hire those individuals as CEOs who are capable of taking and handling risks.

The Graham *et al.* (2013) study made two further interesting discoveries. CEOs are on average significantly less risk-averse and show much more positive emotion than the general population. This is truly interesting, since researchers emphasise that emotions have a crucial role in the process of effective leadership (Bono and Ilies, 2006). For example, positive emotions have been proven to influence motivation and effort. Those managers who are able to trigger emotional responses from their followers have a higher chance of accomplishing changes in the working environment (Conger and Kanungo, 1998). Further, CEOs who can build positive relationships with people at all levels of the company and who inspire followers can foster positive attitudes which can lead to improved corporate performance (Nohria *et al.*, 2003). This is because individuals who experience a positive affect have a stronger feeling that their efforts lead to performance and that this performance will result in rewards, compared to those who are in a negative mood state (Erez and Isen, 2002). On the other side, leaders will also transfer their negative mood states onto their subordinates, which can lead to lower group achievement (Sy, Côté, and Saavedra, 2005). These findings emphasise that effective CEOs ought to show positive emotions to their followers and try to avoid negative ones.

Effective Leadership in Times of Crisis

Highly stressful situations in particular require effective leadership and highly skilled CEOs. Minor or major crises can be severe scenarios which can have harmful and disruptive impacts on organisations (Reilly, 1993). They can affect the national or even the global economy, as could be seen during the Financial Crisis. According to Reilly (1993), crises are outside of a company's typical operation and thus they put extreme demands on the organisation, especially the time and attention of senior management. In such times people want a leader who seems to be powerful and is able to provide a clear direction (Pillai, 1996). The followers will accept, even need, the influence of a leader who can show high self-confidence and provide a solution to the current problem. Therefore a CEO ought to convey meaning and understanding of the current situation, which can be accomplished by giving assurance that solutions are available to cope with the demands of the present situation (Shamir and Howell, 1999). Hoffman *et al.* (2011) state that this can be achieved by conveying a positive, collective vision with which the employees can identify. Articulating a clear and appealing vision has been proven to have a strong influence on effective leadership and charismatic leaders can motivate and inspire their followers through a persuasive way of communicating (Conger and Kanungo, 1988). Therefore effective CEOs need to convey the image that there will be a positive outcome to a crisis, which can be accomplished by presenting dramatic changes as positive challenges and not as potential disturbances (Hoffman *et al.*, 2011).

However, a crisis does not only have a strong effect on the entire firm, but also on its employees. The accompanying uncertainties and struggles can cause high levels of stress for those individuals affected by it. Findings from clinical psychology found that stress in general can lead to depression (Caspi *et al.*, 2003), post-traumatic stress disorder (Brewin *et al.*, 2000) and anxiety (Maes *et al.*, 1998). In return these conditions can lead to poor work performances, a higher degree of absenteeism and a decrease in the overall work productivity (Naghieh *et al.*, 2015; Colligan and Higgins, 2005). Moreover, perceived stress in the work environment is related to lower job satisfaction (Thoresen *et al.*, 2003) and employees who have a negative approach towards their workplace significantly lower the performance of the whole company (Brief *et al.*, 1988). Conversely, an optimistic view towards work was shown to

lower perceived stress and increase the overall well-being of individuals (Mäkikangas and Kinnunen, 2003). Employees who have a positive view of their work are more satisfied and happy with their job and show more organisational commitment, proving that an employee's positive view of his work increases the overall performance of the organisation (Youssef and Luthans, 2007). Therefore, employees who like their job relate to and contribute to the effectiveness of the whole company. Further, this suggests that, CEOs ought to have an optimistic view of their workplace and should therefore rate their work as likeable. By doing so they can positively contribute to the company's performance, even if the current situation is highly stressful.

Content Analysis and Effective Leadership

Various researchers emphasise that effective leadership lays in the process of communication and that language use plays a key role in the process of leadership (Conger, 1991; Conger and Kanungo, 1998; Gardner and Avolio, 1998; Shamir, Arthur, and House, 1994). Or as Bass, (1990, p. 340) stated that "*communication distinguishes leaders who are successful and effective from those who are not*". Therefore, and not surprisingly, investigating the language use of leaders has become a growing trend within the social sciences. Quantitative content analysis tools especially have proven to be highly effective. Here, the main assumption is that everything an individual expresses reflects his emotions in the present moment. Thus, it can be scientifically analysed and replicable inferences can be drawn from the context of their use (Krippendorff, 2013). Content analysis can give important insights into the psychological and social worlds of leaders (Tausczik and Pennebaker, 2010), proving to be a highly reliable and powerful scientific tool. Nevertheless, even though content analysis made major contributions to the study of leadership, current research examining possible linguistic differences between effective and non-effective CEOs is quite sparse. In particular there seems to be a great lack of research during times of severe economic crisis. A possible reason might be that adequate data are just beginning to emerge. However, there are two studies worth mentioning.

The first study by Bligh and Hess (2007) was conducted on the use of positive and negative emotion words in times of economic crisis. In the study, the degree of optimism, pessimism, certainty, immediacy and activity of the former

Federal Reserve CEO Alan Greenspan were studied. The researchers investigated his use of language during the economic recession of 2001, the following bull market and in times when the general U.S. economy showed clear signs of recovery. Two main patterns were identified, namely that during economic good times, the CEO used more words related to certainty and activity. Whereas economic bad times reduce the use of certainty and activity words, but increased the usage of pessimistic, immediacy, as well as jargon words. Nevertheless, there are two major implications of the Bligh and Hess (2007) study. First of all, the researchers were only focusing on one individual, namely Alan Greenspan. Having only one-test subject could be problematic in making adequate and reliable assumptions, since there is no reference sample or reference corpus. Secondly, Bligh and Hess (2007) were only investigating a small subset of effective leadership and its corresponding linguistic markers (degree of optimism, pessimism, certainty, immediacy and activity).

The second study by Poole (2016) investigated the language change in letters to shareholders of two major banks (Bank of America and Citigroup) between the years 2008 and 2010. It could be shown that in economic bad times, effective CEOs would create more messages, which contain a vision and a strategy for future success. But at the same time the managers distanced themselves from past failures. After the crises, so when the companies performed well again, non-effective CEOs tend to accept praise and attribute the company's success to their own actions. Here again there are two limitations. Even though the study did contain two reference corpus sets, they only consisted of 18 other companies (8 outside the banking industry and 10 within the banking industry) and only two banks were investigated, which can be considered quiet a small sample size. Secondly, the Poole (2016) study focused primarily on the banking industry. Since the U.S. economy is quite broad, considering multiple branches could help gain a deeper understanding of the linguistic differences between effective and non-effective CEOs. This brings us to the purpose of the present study.

Aim of the Study

It could be seen that during the Financial Crisis some companies were performing well, whereas others performed much worse or even went into bankruptcy (e.g. Fannie Mae and Freddie Mac). Therefore, the present study raises the following research

question: Do the CEOs of well-performing companies talk differently to CEOs of poorly-performing companies? Therefore, the main goal is to investigate whether effective and non-effective CEOs and, more broadly leaders, use language differently during an economic crisis – using language and company as predictor variables. Research concerning leadership and content analysis in times of the Financial Crisis is quite sparse and relevant data are just beginning to emerge. Thus, the present study wants to expand on the current state of the literature and close some of the existing knowledge gaps. By using more appropriate frameworks, instruments and methodologies, the present study wants to improve on some of the weaknesses identified in earlier research. Additionally, with a larger sample size and considering various industry branches of the U.S., the present study aims to create a consecutive picture of the language use of leaders during this highly stressful time. To our knowledge, this makes this study one of the first that explores in detail the linguistic characteristics of a CEO's communication during this highly stressful time. However, and due to the innate complexity and richness of language and communication, it is unavoidable to focus on a finite number of variables, as well as leaders that can be measured and analysed. Therefore, and in accordance with the previously summarised literature, the present research investigates the following six linguistic parameters: use of a) present achievement –, b) present power –, c) present risk –, d) emotionality –, e) present positive work – and f) visionary words.

MATERIALS AND METHODS

Equipment and Measurements

Equipment Used

All data were analysed using the IBM SPSS Statistics Version 22. The written content was analysed using Linguistic Inquiry and Word Count 2015 (LIWC 2015) (Pennebaker, Booth, Boyd, and Francis, 2015). All of the investigated companies were listed on the Standard and Poor's 500 index (S and P500) within the investigated time period (2006–2011). Further equipment included letters to shareholders, which were extracted from the annual reports of the investigated companies.

Content Analysis Software – LIWC2015

All written contents were analysed using the *Linguistic Inquiry and Word Count* or LIWC2015 (Pennebaker *et al.*, 2015). The LIWC2015 program was used since it proves to be an effective and

efficient tool to analyse the content of written words. Further, LIWC2015 is the most widely used quantitative content analysis program for psychological purposes all over the world. Having a closer look at the internal reliability of LIWC2015 reveals that the corrected Cronbach's Alpha coefficients range from .18 (predispositions) to .93 (work) (Pennebaker and Jordan, 2015). More importantly, the program has been extensively validated and provided substantial evidence that social and psychological processes can be explained through the use of language (Pennebaker *et al.*, 2003). Therefore, the program proves to be a highly reliable and valid tool to analyze the content of written texts. LIWC2015 uses a word counting strategy by searching a given text for over 6400 words, word stems and selected emoticons. These words are then categorized into different sections based on the internal LIWC categories (Tausczik and Pennebaker, 2010). Over 2000 independent judges have evaluated these search words, which resulted in a total of 93 linguistic dimensions (Pennebaker and Jordan, 2015). Example categories include affective processes, social processes, personal concerns, cognitive processes and several pronoun categories. After going through each word, LIWC2015 shows the percentage in each category. These percentages were used for the statistical analyses.

In alliance with the previously summarised literature, the present study focuses on the following LIWC2015 categories:

- a) Present Achievements (PA): The CEO's focus on achievements is measured through the combination of a) present focus – and b) achievement – scores from the LIWC2015 output. This variable is labelled “Present Achievements (PA)”, formed for each investigated company and used for further analysis.
- b) Present Power (PP): The CEO's power motive is measured through the combination of a) present focus – and b) power – scores from the LIWC2015 output. This variable is labeled “Present Power (PP)”, formed for each investigated company and used for further analysis.
- c) Present Risk (PR): The CEO's ability to take reasonable and calculated risk is measured through the combination of a) present focus – and b) risk – scores from the LIWC2015 output. This variable is labelled “Risk Taking (PR)”, formed for each investigated company and used for further analysis.
- d) Emotionality (EMO): The CEO's ability to express positive and negative emotions is measured through an emotionality scale, consisting

of a) positive emotion – and b) negative emotion – scores from the LIWC2015 output. The emotionality scale consists of the a) positive emotion scores divided by the sum of a) positive and b) negative emotion scores: This variable is formed for each investigated company and used for further analysis.

$$EMO = \frac{PosEmo}{PosEmo + NegEmo}$$

- e) Present Positive Work (PPW): The CEO's positive attitude towards their workplace is measured through the combination of a) present focus –; b) positive emotion and c) work – scores from the LIWC2015 output. This variable is labelled “Present Positive Work (PPW)”, formed for each investigated company and used for further analysis.
- f) Vision: To measure the CEO's ability to provide a clear and appealing vision, the present study relies on the definition of Avolio and Bass (1995), since it is widely quoted and referred to within the social sciences (e.g. Awamleh and Gardner, 1999; Bass and Bass, 2009; Conger and Kanungo, 1998; Thoms and Greenberger, 1995). Here, visions have an optimistic, positive tone and focus on collective group goals. Furthermore, they target achievements and these achievements can be motivated by promising rewards. Therefore, visions are measured through the combination of a) first person plural (to define the collective group aspects) –; b) positive emotion –; c) achievement – and d) reward scores from the LIWC2015 output. This variable is formed for each investigated company and used for further analysis.

Investigated Time Period

Many economists consider the Financial Crisis to be the worst since the Great Depression of the 1930s (Eigner and Umlauf, 2015). According to the U.S. National Bureau of Economic Research (NBER) the crisis started in December 2007 and ended two years later in June 2009. The starting factor were high default rates in the subprime mortgage sector from U.S. house owners. Poor regulations and oversight of the Wall Street banks were considered to be the main reason and provoked calls for reforming the US financial sector (Poole, 2016).

Since the present study investigates possible linguistic differences between effective and non-effective CEOs during an economic crisis, we particularly chose the Financial Crisis as the definition of an economical bad time. Thus, we investigate language use within letters to shareholders between the years 2008 and 2009 (*t1*).

Linguistic Data Analysed

The present study analyses the written language use of CEOs within their corresponding letters to shareholders (in the following text they will be referred to just a “letters”). Since the contents of letters are neither regulated, nor dictated by any other party, there are no specific requirements of what the CEO can include or exclude (Geppert and Lawrence, 2008). Therefore, they offer a great opportunity to analyse the implicit and explicit information which the CEOs want to portray to the public. Within the letters the CEO usually elaborates on the last year’s struggles, explains the achievements, and gives an outlook onto the upcoming business year (Geppert and Lawrence, 2008).

In order to gain a good portrait of the total U.S. economy, all CEOs and subsequently their letters were selected from the Standard and Poor’s 500 Index (S and P 500). This is because the S and P 500 is one of the most watched indices in the world and analysts widely regard it as the best representation of the U.S. stock market. The letters were manually extracted between the 15 April and 2 June 2017. They were downloaded from either the official SP500 website, <http://www.annualreports.com>, <http://www.bloomberg.com> or the individual homepages of the companies. A letter had to fulfil the following criteria to be either included or excluded for further analysis:

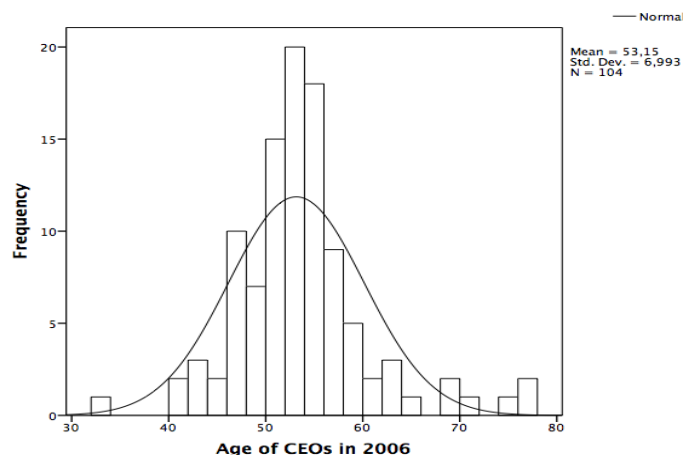
- i) The letter had to be written by the CEO. This criterion was fulfilled when the signature of the CEO was present at the bottom of the individual letter.
- ii) To ensure a high degree of reliability, there had to be at least four letters per CEO present during the investigated time period (years 2006 -2011).

- iii) The total word count had to be a 100 or more words per letter. This is due to the fact, that according to the LIWC’s official website (<http://www.Liwc.net>) texts with less than 50 words can cause problems with internal reliability. This is why LIWC suggests that they should only be used with caution. Other researchers argue that reliability is violated in texts with less than 70 words and suggest the use of at least 100 words for an appropriate content analysis (Gottschalk, Winget, and Gleser, 1979). Thus, to ensure a high degree of internal reliability we compromised to consider only those letters with at least 100 words.

A total of 197 letters from 104 CEOs fulfilled these criteria and were used for further analysis. A closer look at the SIC codes of the companies revealed that the present sample represents more than 12 different industries within the U.S., including the Technology, Consumer, Telecommunication and Energy sectors. Therefore, the present sample can be considered an excellent representative of the total U.S. economy.

Demographic Information on CEOs

Out of the 104 CEOs, 100 were male (96.15 %) and four were female (3.85 %). The average age was 53.15 years (with a SD of 6.993). Regarding educational background, the analysis revealed three have no formal college/university education (2.9 %), 29 hold a bachelor’s degree (27.9 %), 43 a master’s degree or MBA (Master of Business Administration) (41.3 %), 19 have a higher education degree (18.3 %) and for 10 there was



1: Histogram of Age of Chief Executive Officers in 2006 with Normal Distribution

no or unclear information available (9.6%). The higher education level included PhD, honorary doctorates (h.c.) and juristic doctorate (J.D.) degrees. The marital status or country of origin were not considered in the study because they came from untrustworthy sources or were simply not available.

Measurement of Effectiveness – Earnings per Share (EPS)

To assess the performance of the companies and subsequently the effectiveness of the individual CEOs, we relied on the financial indicator Earnings per Share (EPS). EPS is an accounting-based measure and it is broadly recognized by investors and analysts to rate the future value of a firm. It serves as one of the most obvious indicators of company achievement and practically every CEO tries to increase its value. For this reason, previous researchers have used EPS scores as a measure of company performance (e.g. D. Davis and Daley, 2008; Schneider, Hanges, Brent, and Salvaggio, 2003).

All EPS scores were publically available and accessible. They were manually downloaded for every company from the official <http://www.nasdaq.com> webpage and double-checked by comparing them to the German financial site <http://www.finanzen.net>. Those companies (N = 5) with different EPS scores on either website, were excluded for further analysis. All EPS scores were displayed in US dollars. The mean EPS scores for the years 2008 and 2009 was 2.18 (with a SD of 2.43). Since the EPS scores were used to define the effectiveness of the CEOs, we divided the investigated companies into quartiles. The bottom quartile, so those companies with the lowest 25 % EPS scores were defined as the *non-effective CEO group*. The top quartile, those companies with the highest 25 % EPS scores, were defined as the *effective CEO group*. This resulted in 50 effective and 50 ineffective CEOs in *t1*, which were further investigated.

Having a closer look at the 3-digit SIC codes of the companies, we could see that our sample represent over 12 different industry branches in the US including: the a.) Energy; b.) Health; c.) E-Commerce; d.) Financials; e.) Technology; f.) Industrials; g.) Consumer; h.) Telecommunication; i.) Conglomerate; j.) Automotive; k.) Materials; and the l.) Utilities sector. Therefore, our sample can be considered an excellent representative of the entire U.S. economy.

RESULTS

All data were analysed using the IBM SPSS Statistics Version 22. Data are mean \pm standard deviation unless otherwise stated:

- a) Present Achievements (PA) – There was one outlier in the effective group with a PA score of (15.20) as assessed by the inspection of the boxplots. The outlier was excluded for further analysis. There were 49 effective CEOs and 50 non-effective CEOs in our analysis. An independent-samples t-test was run to determine if there was a difference in the use of Present Achievement scores between effective and non-effective CEOs in economic bad times. PA scores were normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$). There was homogeneity of variances, as assessed by Levene's test for equality of variances ($p = .512$). PA scores were slightly higher for effective leaders ($M = 9.411$; $SD = .277$) than for non-effective leaders ($M = 9.357$; $SD = .237$). However there was no statistically significant difference in the mean PA scores with -0.05422 (95 % CI, $-.777$ to $.669$), $t(97) = -0.149$, $p = .882$, $d = .03$. The results indicate that effective and non-effective CEOs rate the present achievements of their company approximately the same.
- b) Present Power (PP) – There was one outlier in the effective group with a score of (13.04), as assessed by the inspection of the boxplots. The outlier was excluded for further analysis. There were 49 effective CEOs and 50 non-effective CEOs in the analysis. An independent-samples t-test was run to determine if there was a difference in the use of Present Power (PP) scores between effective and non-effective CEOs. The assumption of normality was assessed using the Shapiro-Wilk's test ($p > .05$). The results revealed that the effective group was normally distributed ($p = .930$). However the non-effective group was not normally distributed ($p = .027$). At this point we had to make a decision on which test to continue with, either the independent-samples t-test or the Mann Whitney U test. Since the independent-samples t-test is fairly robust to deviations from normality and only the non-effective CEO group was not normally distributed, we decided to continue with the Independent-samples t-test to determine if there were differences in mean Present Power scores. There was homogeneity of variances, as assessed by Levene's test for equality of variances ($p = .257$). PP scores were

- slightly higher for effective leaders ($M = 9.200$; $SD = 1.450$) than for non-effective leaders ($M = 9.115$; $SD = 1.667$). But, there was no statistically significant difference in the mean *PP* scores with -0.0825 (95 % CI, -0.706 to 0.541), $t(97) = -0.263$, $p = .793$, $d = .058$. Again, the results indicate that there seems to be no difference in usage of Present Power words in effective and non-effective CEOs during economic bad times.
- c) Present Risk (PR) – There was one outlier in the non-effective group with a PR score of (2.45) and one outlier in the effective group (11.41) as assessed by the inspection of the boxplots. The outliers were excluded for further analysis. There were 49 effective CEOs and 49 non-effective CEOs in our analysis. An independent-samples t-test was run to determine if there was a difference in the use of Present Risk (PR) scores between effective and non-effective CEOs. The PR scores were normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$). There was homogeneity of variances, as assessed by Levene's test for equality of variances ($p = .430$). The PR scores were slightly higher for non-effective leaders ($M = 6.152$; $SD = 1.270$) than for effective leaders ($M = 6.132$; $SD = 1.447$). However, there was no statistically significant difference with $.020$ (95 % CI, -0.525 to 0.566), $t(96) = .074$, $p = .941$, $d = .015$. The results indicate that there seems to be no difference in the risk taking abilities of effective and non-effective CEOs during an economic crisis.
- d) Emotionality (EMO) – There were no outliers in the data, as assessed by the inspection of the boxplots. There were 50 effective CEOs and 50 non-effective CEOs in the analysis. The assumption of normality was assessed using Shapiro-Wilk's test ($p > .05$). The results revealed that the non-effective CEO group was normally distributed ($p = .264$). However the effective CEO group was not normally distributed ($p = .022$).
- For the same reasons as in the Present Power analysis (see above) we decided to continue with the independent-samples t-test. There was homogeneity of variances, as assessed by Levene's test for equality of variances ($p = .735$). Emotionality scores were higher for effective leaders ($M = .854$; $SD = 0.082$) than for non-effective leaders ($M = .831$; $SD = 0.082$). However, there was no statistically significant difference in the mean Emotionality scores of -0.023 (95 % CI, -0.055 to 0.0099), $t(98) = -1.385$, $p = .169$, $d = .282$. The results indicate that effective and non-effective CEOs do not differ in Emotionality words in economic bad times.
- e) Present Positive Work (PPW) – There was one outlier in the effective group with a PPW score of 27.19 as assessed by the inspection of the boxplots. The outlier was excluded for further analysis. There were 49 effective CEOs and 50 non-effective CEOs in the analysis. An independent-samples t-test was run to determine if there was a difference in the use of Present Positive Work (PPW) scores. PPW scores for effective and non-effective CEOs were normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$). There was a homogeneity of variances, as assessed by Levene's test for equality of variances ($p = .651$). PPW scores were higher for effective leaders ($M = 19.169$; $SD = 2.439$) than for non-effective leaders ($M = 18.617$; $SD = 2.448$). But, there was no statistically significant difference in the mean PPW scores with -0.551 (95 % CI, -1.526 to 0.424), $t(97) = -1.122$, $p = .265$, $d = .226$. Therefore, the results indicate that in economic bad times non-effective and effective CEOs talk equally positively about their current work situation.
- f) Vision – There were no outliers in the data, as assessed by the inspection of the boxplots. There were 50 effective CEOs and 50 non-effective

I: Summary of Linguistic Differences between Effective and Non-Effective Chief Executive Officers (CEOs) in the midst of the Financial Crisis (2008–2009)

Linguistic Variables (a)	Effective Mean \pm SD	Non Effective Mean \pm SD	t	df	p
PA	9.41 \pm 0.277	9.82 \pm 1.70	-0,149	97	0.882
PPW	19.17 \pm 2.44	18.62 \pm 2.45	-1,122	97	0.265
PP	9.20 \pm 1.45	9.12 \pm 1.67	-0,263	97	0.793
PR	6.13 \pm 1.45	6.15 \pm 1.27	0.074	96	0.941
EMO	0.85 \pm 0.08	0.83 \pm 0.08	-1,385	98	0.169
Vision	15.94 \pm 3.60	15.95 \pm 3.11	0.010	98	0.992

Note. $N = 100$; Independent Samples T-Test; Results are Mean Scores \pm Standard Deviation

CEOs in the analysis. An independent-samples t-test was run to determine if there was a difference in the use of visionary words. Vision scores were normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$). There was homogeneity of variances, as assessed by Levene's test for equality of variances ($p = .354$). Vision scores were minimally higher for non-effective leaders ($M = 15.945$; $SD = 3.110$) than for effective leaders ($M = 15.938$; $SD = 3.595$). However, there was no statistically significant difference in the mean Vision scores with $.00680$ (95 % CI, -1.327 to 1.341), $t(98) = 0.010$, $p = .992$, $d = .0015$. The results indicate that effective and non-effective CEOs do not differ in terms of visionary outlook during an economic crisis.

DISCUSSION

In the present study we examined possible differences between effective and non-effective CEOs, and in the broader picture, leaders during an economic crisis – using language and company performance as predictor variables. The results gained did not show any significant linguistic differences and therefore our previous assumptions were not supported. The results rather show that the language use of effective and non-effective CEOs is approximately the same in economic bad times, which might indicate that both have the same leadership qualities. This rather contradicts earlier studies, since linguistic differences could have been expected. Nevertheless, the non-significant results might be due to a variety of reasons:

First of all, it has to be considered that some of the previous studies investigated a variety of different types of leader. The present study used CEOs as leaders, because they are arguably the most influential managers within an organization. Contrary to this, McCann (2001) and Simonton (2003, 2009) for example investigated political leaders, such as American presidents, U.S. senators or Canadian Prime ministers. Other researchers, like Cassell *et al.* (2006) use adolescents from a virtual online forum and it can be doubted that teenagers use the same language as highly successful CEOs. Further, it is most likely that political and business leaders talk very differently, since they have quite contrasting jobs and different tasks to fulfil on an everyday basis. Therefore, these potential linguistic differences might be one of the reasons for the differing results.

Secondly, earlier researchers used different corpuses for their content analysis. The present research focused on letters to shareholders, since they are reported to be highly credible (Tilt, 1994) and they have an enormous rhetorical importance in the business world (Hyland, 1998). Other researchers used different and possibly less objective corpuses, such as online journals (Cohn *et al.*, 2004), press conferences (Pennebaker and Lay, 2002), photographs in the annual reports (Chatterjee and Hambrick, 2007) or biographies (O'Connor *et al.*, 1995). Even though the studies showed significant differences in a variety of leadership qualities, some of the measures are arguable much more subjective than letters to shareholders.

Thirdly, the present study relies on the financial variable Earnings per Share (EPS) to define the effectiveness of the CEOs. Previous researchers used different performance indicators. For example, Kohut and Segars (1992) used return on equity to distinguish between high-performing and low-performing companies, whereas Clatworthy and Jones (2003) relied on the percentage change in profit before taxation to differentiate between the 50 top and bottom companies within the U.K. Bertrand and Schoar (2002) used a combination of return on assets, capital expenditure, debts and dividends to measure effectiveness. Therefore, using a different indicator might have yielded different results. It can also be seen that previous studies, including ours, solely defined effectiveness via measurable financial variables. Here, future research could go one step further. It could be interesting to define leadership in a much broader sense, for example by considering employees' ratings of their manager, or their general job satisfaction as a measure of effectiveness. Using these more subjective but no less important indicators can lead to a clearer picture of the language use of today's leaders.

Fourthly, earlier research used a broad range and often largely differing methodology. For example, Chatterjee and Hambrick (2007) were only partly focusing on the language use (first-person singular pronouns) in their analysis, but also considered the relative subjective prominence of the CEO's photographs in the annual reports, press releases and compensation in relation to the second highest-paid firm executive. The present study solely focused on possible linguistic differences. Since we wanted to eliminate any potential biases, we did not consider any other data for analysis. Furthermore, Raskin and Shaw (1988) used extemporaneous monologues, thus the content

of verbal language. Additionally the study was conducted in an experimental setting, which involved undergraduate students of the University of California at Santa Cruz. Our study investigated language in a naturalistic, real-life setting and the letter to shareholders were written. Therefore, they could be revised several times before publication. This is impossible for spoken language and thus might partly justify the differing results. Since verbal language is much faster and more spontaneous than written language (Pennebaker and Stone, 2003), their analysis could be highly interesting for future research. Prospective studies could make a distinction between the oral and written differences in the communication of leaders and thus show whether our results are truly reliable and valid.

Lastly, it has to be considered that even though many of the previous studies relied on LIWC software, hardly any were conducted with the latest version, LIWC2015 (Pennebaker *et al.*, 2015). LIWC2015 has significantly changed both the dictionary and software options – they are new rather than just a basic update (Pennebaker and Jordan, 2015). There is a higher internal consistency

of the language dictionaries, which allows for a more reliable and valid analysis. Furthermore, the word categories of LIWC2015 were evaluated by over 2000 independent judges, enabling a high inter-coder reliability (Pennebaker and Jordan, 2015). Therefore, the present research might actually be more accurate than earlier studies, which might justify the differing results. Moreover, some researchers used different software or content analysis applications. For example, Davis *et al.* (2012) relied on DICTION (Hart, 2001) to investigate the linguistic markers of optimism and pessimism in quarterly earnings press releases. Even though DICTION and LIWC most likely greatly overlap, there might still be some differences. For instance, in DICTION the variable “optimism” consists of words such as praise, satisfaction and inspiration (Hart, 2001). On the other hand, LIWC is more psychologically precise and relevant. Here, “optimism” is partly measured through the use of positive emotion words, such as “love”, “nice” and “sweet” (Pennebaker and Jordan, 2015). Therefore, the more or less slight differing language categories within the programmes might be one of the reasons for the contrasting results.

CONCLUSION

The present study is an important attempt to explore the rhetorical aspects of the leadership process. The general aim was to examine whether high and low performing CEOs, and more broadly leaders, use language differently. We relied on the widely used financial indicator EPS to define effectiveness and investigated language use during the Financial Crisis. As earlier mentioned, the research in this field is quite sparse, possibly due to the broad nature of its topic and since relevant data are just beginning to emerge. We expanded on this by identifying and improving some of the weaknesses of earlier studies and by using, possibly, a better methodology, more reliable and valid software, as well as more adequate corpuses.

The results showed that successful and less successful leaders use language equally. This indicates that both also have the same important leadership attributes; namely a focus on achievements, the ability to communicate a vision, portraying emotions, being able to take risks, a need for power, as well as a positive view of their work. Nevertheless, our results contradict earlier findings; we were not able to show that effective and non-effective CEOs speak differently. But, we also identified some of the possible reasons for these differing results. Furthermore, our results highlight the role which communication plays in the leadership process, as well as leadership effectiveness. Future researchers, professionals and leaders are encouraged to further explore language use as a method for gaining a better understanding of the overall leadership phenomenon and facilitate interventions and directions that benefit leaders, teams and organisations.

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