CONTENT ANALYSIS OF CEO LETTERS TO SHAREHOLDERS AUTHORED BY BUSINESS SIMULATION PARTICIPANTS

Annette L. Halpin
Arcadia University
halpina@arcadia.edu

ABSTRACT

The author applies DICTION software to conduct a content analysis of CEO letters to shareholders written by senior undergraduate students participating in a total enterprise simulation exercise. DICTION, a text analysis program, provides feedback on the tone of the language in these documents. Levels of three attributes of language –Optimism, Certainty, and Realism – are related to firm performance over three periods.

INTRODUCTION

Computer simulations are a common teaching tool in business schools and programs. These aid undergraduate and graduate students in learning business concepts and the decision-making process. Modeled after a typical business including the functional areas (marketing, operations, and finance) and external factors (competition, interest rates, etc.) these software programs require students to establish a strategy and then make decisions, usually in a competitive environment, over a number of periods, quarters, or years (Romme, 2004). Total enterprise simulation packages (TES) require decision making in all functional areas and are usually complex and used in upper-level business courses.

CEO letters to shareholders are public documents intended for an audience which includes stockholders, investors, and other stakeholders. It is a personal narrative, an explanation of a year in the life of a firm and summarizes an organization's vision moving forward. CEOs prepare these communications understanding that they are offering their perspectives and sharing the core values of the leadership team with readers. Leaders must understand that the language they use as they communicate creates perceptions and discloses the goals and strategies of the organization (Amernic & Craig, 2007).

DICTION software is a text analysis program that analyzes the language of written and spoken communications. Content analysis using this tool produces a set of scores on language characteristics including optimism, clarity, and realism. Studies using business sources such as documents and speeches have examined the tone of CEO letters to shareholders (Craig & Amernic, 2018), financial forecasts (Demers & Yu, 2014), and firm reputation (Geppert & Lawrence, 2008).

The current paper extends the research on CEO letters to shareholders by examining the tone of these communications when written by undergraduate business students participating in a total enterprise simulation exercise. Using DICTION software, the language in the students' documents is analyzed and scores produced for levels of optimism, certainty, and realism. Scores on these dimensions are then correlated with firm performance over time to determine if there is a relationship between the variables. The content of the paper is organized as follows. The next section presents a review of the literature followed by the development of hypotheses. This is followed by a description of the methodology after which the results and an additional analysis are presented. The final sections are the discussion followed by conclusions and future directions.

LITERATURE REVIEW

In business education today educators are charged with teaching business skills and knowledge beyond simply learning a set of vocabulary terms (Allio, 2003; Kurthakoti & Halpin, 2016). This challenges educators to provide evidence that learners in their programs are mastering a level of thinking that Bloom, Englehart, Furst, Hill, & Krathwohl (1959) identify as 'synthesis' and 'evaluation'. Synthesis is linked with creative thinking while evaluation involves making judgments based on analysis and logical reasoning. These higher-order skills are common learning goals of business programs so to produce these outcomes a variety of teaching methods are used including lectures, problem solving, group exercises, case analysis, and computer simulations. Of particular interest in the proposed research is the use of simulations to improve the knowledge and skills of business learners.

The use of simulations in business education has led to an extensive body of research in the areas of decision making (Early, Northcraft, Lee, & Lituchy, 1990; Gladstein & Reilly, 1985), organization behavior (Boone, Van Olffen, & Van Witteloostuijn, 2005; Ellis, 2006; Waller, 1999), marketing (Smith, Mitchell, & Summer, 1985), and strategy (Chesney & Locke, 1991; Knight, Durham, & Locke, 2001; Mathieu & Schulze, 2006). The argument for why this tool is an effective teaching method is that there are ways to assess that learning is occurring - that students are gaining knowledge of business concepts and that a simulated environment provides a means to integrate what they have learned in previous coursework. Cherukuri & Cannon (1988) argue that a simulation environment helps students "...think through the nature of their business and the issues they are likely to face" (p. 262). One exercise that has emerged from this teaching tool is requiring students to write a business plan, a common document prepared by businesses,

and which requires the author(s) to synthesize and evaluate information. This assignment is often a requirement when running a simulation in a capstone course - a course offered at the end of a business program.

Business plan writing requires participants in a simulation to integrate concepts learned throughout their program. It requires an understanding of all the functional areas of a firm including management, marketing, operations, and finance. Malik, Howard, & Morse (1997) note that the use of simulations in the capstone course has replaced, in some programs, the case study method. They make the argument that case studies have limitations that simulations do not have such as a finite set of facts about a situation, financial statements that are already prepared, and no method of comparing forecasted results to actual. With a simulation the issues emerging for a business from period to period must be identified by the participants themselves. Their skills at analyzing and evaluating the internal and external environments provide a rich experience that they can take into their professional careers.

While the writing of a business plan has been an accepted requirement in business education for several decades there is another document, the annual report, that has not gotten as much attention. Annual reports are prepared by publicly traded companies to "...disclose corporate information to their shareholders" (U.S. Securities and Exchange Commission, 2019). These documents must be filed with the SEC on Form 10-K and include information such as company overview, financial condition, and audited financial statements. One of the components of the annual report, the CEO letter to shareholders, requires a review by top management of the year just ended and requires leaders to explain their performance in light of their results. The proposed study examines annual reports written by students in a business capstone class to identify the tone of the language used and its relationship with firm performance. What follows is a closer examination of the literature related to CEO letters to shareholders and a software package, DICTION (Hart & Carroll, 2013), that evaluates the language of text.

CEO letters to shareholders, as a part of a firm's annual report, provide "... a business profile, a management analysis, and financial data" (Brown, 2014). The crafting of a CEO letter more often than not involves a team of managers and writers working with the leader who approves the final version (Amernic & Craig, 2007). In their 2010 work, Amernic, Craig, & Tourish argue that the language used in a CEO letter provides evidence of the energy, understanding, and purpose of the leader. They write, "It is an account-giving and an explanation that is expected by important corporate stakeholders..." (p. 30). As a part of a firm's permanent record the text of this communication is viewed as the CEO's own words (Amernic & Craig, 2006) and, since access to the leader is limited, an avenue to understanding his/her beliefs and perceptions of the world.

CEO letters contain more than information about the operations of firms and their financials for one fiscal year. They contain subtle messages, not obvious on the surface, about outside events the firm and/or industry is facing (Prasad & Mir, 2002). These messages are critical in the stakeholders' understanding of the mission and goals of the organization and allow interested parties to challenge management if needed (Amernic et al., 2007). Framing the content of any communication by a business leader is important regardless of whether the purpose is to define, explain, or remedy a situation (Entman, 1993). Studies that have examined the content of CEO letters have looked at language (Amernic & Craig, 2007; Guo, 2014;), hubristic leaders (Craig & Amernic, 2018), forecasting ability (Demers & Yu, 2014), conformity (Amernic, Craig, & Tourish, 2007), reputation (Geppert & Lawrence, 2008), and performance (Craig, Mortensen, & Iyer, 2013; Howell-Hanano, 2017; Nelson, Wang, Smith, & Blackford, 2014; Ober, Zhao, Davis, & Alexander, 1999; Patelli & Pedrini, 2014). A common method of analyzing these documents is content analysis. Using coding to categorize the words in documents/speeches this method can be done manually or with a software package. Findings are used to draw inferences about the tone of these messages and whether the words of leaders are related to variables such as leadership style and firm performance.

Amernic & Craig (2007) examined the words used in CEO letters and recommend minimizing language that gives the impression the leader is narcissistic and reducing hyperbole which can indicate a CEO's sense of infallibility. They suggest using metaphors but only if they are realistic and help frame the story being told. Guo (2014) analyzed the public speeches of CEOs (large firms) to test if emotional language and investor reactions are related. Using word counts for the three components of emotional language, the findings showed a significant negative relationship between one component, 'vivid' words, and market returns. The author concluded that language in speeches given by CEOs has the potential to impact the response of investors to a firm's stock. Amernic et al. (2007) argue that in the CEO letters of Jack Welch (GE) there was a tone of certainty which was intentional – to produce conformity in the thinking of those around him. According to the authors the language used by Welch was intended to reduce debate and dissent and to convince the audience that the words in his message were the truth. In 2017, Howell-Hanano conducted a content analysis of the CEO letters from the S&P Small Cap 600 Index. Those with high ratings on any two of five characteristics (strategy definition, candor, ability to educate, clarity, and degree of entertainment) had stronger performance over a 1-year, 3-year, and 5-year period. The author concluded that messaging in CEO letters is positively related to performance.

One computer software package used to examine business text is DICTION software (Hart & Carroll, 2013). This program reviews the content of a written/spoken communication and then generates a summary set of scores on five characteristics. The focus of the current study involves three of these – Optimism, Certainty, and Realism. Below are the definitions of each (Hart & Carroll, 2013) followed by the findings of several studies using DICTION to link the language used in CEO letters to factors such as firm characteristics, leader qualities, and performance.

Optimism – "Language endorsing some person, group, concept or event, or highlighting their positive entailments" (p.1).

Certainty – "Language indicating resoluteness, inflexibility, and completeness and a tendency to speak ex cathedra" (p.

1).

Realism – "Language describing tangible, immediate, recognizable matters that affect people's everyday lives" (p. 1).

Craig & Amernic (2018) studied the language and tone of the letters to shareholders of three CEOs alleged to be hubristic. They found significantly higher levels of optimism and realism in two of the three but these levels were not significantly higher than levels in letters written by other CEOs of Fortune 500 and FTSE 100 firms. They concluded it was likely the case that all CEOs speak with optimism and realism; not just those with hubristic personalities. Patelli & Pedrini (2014) examined optimism in CEO letters as it relates to future return on assets. After controlling for several variables, they found a positive relationship and concluded that CEO letters with a more optimistic tone experienced better future performance.

Craig et al. (2013) attempted to uncover deceptive conduct by analyzing the annual letters from the Chair of an Indian multi-national firm. In the five years prior to his firm's failure there were increasingly higher ratios of extreme positive to extreme negative words. Using DICTION software, they found that certainty scores, while in the normal range, fell each year as the firm neared bankruptcy. The authors suggest that those who are deceiving the community follow a similar pattern in their messaging. They recommend coupling financial data with text analysis to uncover any wrongdoing or risky behavior by a firm's leaders. Demers & Yu (2014) used DICTION to analyze financial communication from firms and found that the greater the error in prior forecasts the less certain was the language used in communicating current forecasts. There was also greater volatility in a firm's stock price when there was less certainty in a firm's 3-day forecast announcement. The authors concluded that when managers are less certain in their public messaging the more unsure investors become and the more volatile the price of a stock. Ober et al. (1999) studied the level of certainty in the business communications of firms that had the largest profit increases and decreases. They found no significant difference between the two groups on this dimension. They did, however, find that levels of certainty were significantly higher in oral communication than written. They concluded that, regardless of financial results, "...business managers need to write and speak in clear, definite forward-looking language to their internal and external audiences" (p. 293). Geppert & Lawrence (2008) used DICTION software to study differences in levels of optimism, certainty, and realism in CEO letters to shareholders between high and low reputation firms. Based on t-Tests, the only significant difference between the two samples was on the realism score. High reputation firms scored higher on this variable which, the authors stated, reflected a greater matter-of-fact style of writing.

Based on this and the other studies identified in this literature review it is evident that the language used by business leaders continues to be of interest to researchers especially as it relates to organizational characteristics and performance.

HYPOTHESES

This study examines the tone of CEO letters to shareholders taken from annual reports authored by students in an undergraduate capstone class participating in a total enterprise simulation. A content analysis will measure the levels of optimism, certainty, and realism in these documents after which their relationship to firm performance will be studied. Considering that there has been limited research conducted using a similar population the null hypotheses is offered in this study of tone of language in CEO letters and performance.

$H1_o$: There is no relationship between the level of Optimism in CEO letters to shareholders and firm performance.

$H2_o$: There is no relationship between the level of Certainty in CEO letters to shareholders and firm performance.

$H3_o$: There is no relationship between the level of Realism in CEO letters to shareholders and firm performance.

METHODOLOGY

To test the relationships identified in the three hypotheses, the author extracted 86 CEO letters to shareholders from annual reports submitted as a requirement for an undergraduate business capstone class. All students are enrolled in a small comprehensive institution located in the mid-Atlantic region of the US. The simulation used for the course was Micromatic (Anderson, Kaliski, & Scott, 2013), a total enterprise package requiring marketing, operations, and finance decisions for a manufacturing firm. The number of class sections involved was 16 with each class configured as its own industry having three to seven firms. Each firm consisted of 3-4 students with the average number of firms in each industry at 5.4. Given the size of the university, the classes needed to reach a large enough sample span eight semesters. Each firm processed decisions for a minimum of eight quarters (two years). The annual reports from which the CEO letters were taken were written for Year 2 (quarters 5 through 8).

CEO letters were analyzed using DICTION software (Hart & Carroll, 2013), a text analysis package. One of the features of DICTION is its ability to evaluate a text against a set of norms, texts from specific classes of communication. Using sets of dictionaries developed from a database of previously reviewed texts, DICTION reveals patterns of word usage (Short & Palmer, 2008) and generates a reading of the general structure and complexity of the language based on word count (Soroka, 2014). The specific dictionary chosen for this study was 'Corporate Financial Reports', a selection of "...annual financial reports from a variety of Fortune 500 companies" (p.46). As argued by Short and Palmer in their 2008 work, text analysis is an acceptable method to analyze corporate communications and to link the tone of messaging by management to organizational performance. The current work generates scores on three elements of tone - optimism, certainty, and realism - for each CEO letter and relates them to past,

current, and future firm performance.

To measure performance, the author uses three indicators which are generated by the output file of the program - Net Profit, Return on Sales, and Stock Price. It is generally the case that students/teams using a simulation in a business class start the exercise with the same levels of Sales, Profits, and Assets. Once the competition begins and quarterly decisions are made differences in level of performance begin to occur. For this study, quarterly decisions were processed by firms with annual data extracted from the simulation's output files. Performance data were extracted for three time periods: the year of the CEO letter to shareholders, the year prior to the year of the letter, and the year after the year of the letter.

RESULTS

A listing of the descriptive statistics for the DICTION variables and performance measures is shown in Table 1.

TABLE 1
Descriptive Statistics

Master Variables	Mean	Median	Maximum	Minimum	Std. Dev.
1. Optimism (t)	57.4	56.9	78.1	48.6	4.23
2. Certainty (t)	52.7	53.3	61.5	23.11	4.60
3. Realism (t)	57.8	57.7	66.6	50.1	3.29
Performance Variables					
4. Net Profit (t-1)	($13,306)	$24,505	$163,548	($456,703)	$119,817
5. Net Profit (t)	$116,323	$54,820	$445,364	($1,001,450)	$272,101
6. Net Profit (t+1)	($52,497)	$31,590	$889,389	($1,886,138)	$383,184
7. ROS (t-1)	-0.45%	0.55%	2.90%	-11.60%	2.80%
8. ROS (t)	-2.92%	-1.05%	6.80%	-33.10%	6.36%
9. ROS (t+1)	-2.39%	0.55%	12.70%	-69.60%	10.45%
10. Stock Price (t-1)	$9.27	$11.10	$17.37	$1.00	$4.92
11. Stock Price (t)	$8.07	$4.60	$30.30	$1.00	$7.77
12. Stock Price (t+1)	$11.26	$5.06	$65.55	$1.00	$13.55

The DICTION master variables (optimism, certainty, and realism) reflect levels in the year the CEO letter to shareholders is prepared (t). Performance measures are collected for three years – the year the letter was prepared (t), the year prior (t-1), and the subsequent year (t+1). The first performance measure, Net Profit, is net income after taxes. The only year when average profits are positive is the year the CEO letter was written (t). In the prior and subsequent years, the average firm generated a loss. The greatest losses are experienced in the last year of the analysis, (t+1). Average Return on Sales (ROS) measures for all three periods are negative with a range of 15 percentage points in period (t-1) and 83 percentage points in (t+1). Average Stock Prices fell after the first year then rebounded in year three. As was the case for the other two performance measures the range continued to grow over time. In the Micromatic simulation the Stock Price for a firm cannot go below $1 so that, regardless of the loss in any period, the Stock Price will not drop below $1.00.

Correlations for the three DICTION master variables and performance measures are reported on Table 2. (see page ####)

Hypothesis 1 states there is no relationship between level of Optimism in CEO letters to shareholders and firm performance. This is supported as no performance measure – current, past, or future – shows a significant relationship (see Column 1). The relationship is positive for the current (t) and future (t+1) periods but it is not significant. However, when we look at the three measures of firm performance in the prior period (t-1) and the level of Optimism in the letters (t) all three correlations are negative but not significant (-0.14, -0.15, and -0.17).

Hypothesis 2 states there is no relationship between level of Certainty in CEO letters and firm performance. This is only partially supported. When we look at the correlations between levels of Certainty in the year of the CEO letter (t) and performance (Net Profit, ROS, and Stock Price) for that year (t) and the following one (t+1) the relationships are negative or non-existent but not significant. However, there is a significant positive relationship between two measures of performance, Net Profit and ROS, in the year prior to the letter (t-1) and Certainty in the text of the next year's letter. These results suggest that the stronger the performance in a given year the greater the level of certainty in the CEO letter in the subsequent year.

Hypothesis 3 states there is no relationship between level of Realism in CEO letters to shareholders and firm performance. This is not supported as a significant negative relationship was found between Realism in CEO letters and all three performance

TABLE 2
Correlations Between DICTION Software Master Variables and Firm Performance

	1	2	3	4 (n=86)	5 (n=86)	6 (n=83)	7 (n=86)	8 (n=86)	9 (n=83)	10 (n=86)	11 (n=86)	12 (n=83)
Master Variables												
1. Optimism (t)	1											
2. Certainty (t)	0.53***	1										
3. Realism (t)	-0.22*	0.11	1									
Performance Variables												
4. Net Profit (t-1)	-0.14	0.20*	-0.13	1								
5. Net Profit (t)	0.13	-0.06	-0.26*	0.30**	1							
6. Net Profit (t+1)	0.11	-0.03	-0.14	-0.05	0.71***	1						
7. ROS (t-1)	-0.15	0.21*	-0.13	0.99***	0.29**	0.04	1					
8. ROS (t)	0.10	-0.05	-0.25*	0.25*	0.98***	0.75***	0.25*	1				
9. ROS (t+1)	0.04	0.00	-0.12	-0.02	0.65***	0.94***	-0.03	0.74***	1			
10. Stock Price (t-1)	-0.17	0.13	-0.16	0.93***	0.34***	0.00	0.90***	0.29**	-0.06	1		
11. Stock Price (t)	0.14	-0.15	-0.24*	0.53***	0.78***	0.49***	0.50***	0.71***	0.38***	0.59***	1	
12. Stock Price (t+1)	0.19	-0.13	-0.16	0.36**	0.68***	0.68***	0.33***	0.60***	0.47***	0.36***	0.82***	1

*** $p < .001$ ** $p < .01$ * $p < .05$

measures in that same year (t). The weaker a firm's performance the greater the level of realism in the tone of the CEO letter that year. There are no other significant relationships but all correlations studying this relationship are negative suggesting that there is an inverse relationship between performance and tone of realism in the text of CEO letters.

ADDITIONAL ANALYSIS

To further understand the relationship between the language in CEO letters and performance an additional analysis was conducted using categorical data.

TABLE 3
Independent t-Test for Differences Between Profitable and Unprofitable Firms on the Diction Master Variables for the Year of the CEO Letter to Shareholders

Description	Optimism	Certainty	Realism
Profitable Firms			
M	57.8	52.3	57.5
SD	5.2	6.0	3.0
n	40	40	40
Unprofitable Firms			
M	56.8	53.1	58.1
SD	3.1	2.9	3.6
n	46	46	46
Difference	1.0	.8	.6
df	84	84	84
t	-1.15	.79	.79
p	0.25	0.43	0.43

The author conducted t-tests to compare differences in scores for the three DICTION variables and profitability. This was an attempt to see if levels of Optimism, Certainty, and Realism in the letters of firms that are profitable are different from those of firms that are unprofitable. As Table 3 shows, the independent t-tests show no significant differences between the groups on any of the three text characteristics. These findings suggest that profitability (Yes/No) is not related to the tone of CEO letters on the three dimensions analyzed.

DISCUSSION

This study examines the content of CEO letters to shareholders written by undergraduate business students participating in a total enterprise simulation. Using a text analysis software package, DICTION, the author studies the relationship between three characteristics of language – optimism, certainty, and realism – and firm performance. While there is literature on this topic for publicly held firms, this relationship has not been researched to any degree with undergraduate business students.

The data did not support rejecting $H1_o$ which states there is no relationship between optimism in CEO letters and performance. Regardless of the measures used (Net Profit, ROS, or Stock Price) there is no relationship between the level of optimism in the text of CEO letters to shareholders and performance (past, current, or future). This finding is consistent with the conclusion by Craig & Amernic in their 2018 work. They found no differences in the level of optimism among the letters they examined. They suggested that optimism is evident in all CEO letters and, therefore, would show no differences between leaders.

There is some support for rejecting the null hypothesis, $H2_o$, which states there is no relationship between certainty in the language of CEO letters and performance. Certainty is the use of language that reflects resoluteness and authority. In the current study firm performance in the year of the CEO letter is not related to the level of certainty in that year's document but there is a positive and significant relationship between certainty in the CEO letter and two measures of performance in the prior year. That is, the greater the Net Profit and ROS in the prior year, the greater the certainty in the messaging by CEOs in their letters the following year. This lagged effect of performance on levels of certainty in future communications, is consistent with work done by Demers & Yu (2014). They examined forecasting accuracy and found that the more accurate the financial forecast offered by a firm the higher

the level of certainty in the message from the CEO. They concluded that better forecasts "...make managers more confident, manifesting in a higher level of textual certainty in the discussions accompanying the current period forecast (p.115)." Their results and those of the current study suggest a lagged effect may exist between financial performance and certainty in the texts authored by CEOs.

There is also some support for rejecting H3$_o$ as well. This hypothesis states there is no relationship between realism in the language of CEO letters and performance. The findings here show a significant negative relationship between realism and all three measures of performance in the year the letter is written. That is, the weaker the firm's performance in a given year, the higher the level of realism in the tone of the CEO letter to shareholders that same year. It may be that during difficult times CEOs tend to be more specific, using language closely linked to current circumstances. What tends to be less evident in these letters are aspirational statements or images of what might happen in the future.

CONCLUSIONS AND FUTURE DIRECTIONS

Undergraduate teams of students at a mid-Atlantic University participated in a total enterprise simulation and prepared annual reports as part of their course requirements. The simulation, Micromatic, models a manufacturing firm and requires participants to make marketing, operations, human resources, and financial decisions over a number of periods. The goal for each team is to develop a strategy that is competitive in the market and profitable over time. Of interest in this study is one section of the annual report, the CEO letter to shareholders. As noted by Prasad & Mir (2002) CEO letters to shareholders contain more than information about the operations of the firm and its financials. What is hidden beneath the surface of these texts, such as the use of language and tone, is worth examining. Studying the messaging and word use of students preparing for business careers is a worthwhile exercise yet it has gotten little attention in the simulation literature. To build on the findings of this research future studies might examine the written texts of business students using other total enterprise simulation packages.

Using a text analysis software package such as DICTION allows for an in-depth examination of the word usage and messaging of individuals – in this case students preparing texts in their role as CEOs. One of the challenges of using text analysis as noted by Soroka (2014) is that this method does not capture the meaning of words within a context. DICTION adds the number of occurrences of words not the phrases that words are used in so the meaning of some of the text could be misrepresented or ignored. Developing a way to link words with context would benefit researchers as they continue to study the messages issued by top managers.

In the current study the three performance measures used were continuous variables. Including all firms in the statistical analysis may have meant the firms were not distinguished enough from one another to identify differences. Future researchers may want to compare strong and weak performers on the variables of interest rather than looking at all firms. Using quartiles to divide the firms for comparison purposes may lead to studying groups that are clearly different from one another resulting in more significant findings (Patelli & Pedrini, 2014). The current study used correlations and t-Tests to examine the variables of interest. More studies are needed that use multivariate analysis to uncover relationships between the tone of CEO texts, performance, and other variables.

This author agrees with the conclusion of Ober, et al. (1999) which states that educators of future mangers should insist that business writing be emphasized and that the language used in documents be clear and understandable. Achieving this goal will aid in both framing the messages of managers and providing certainty to the audience receiving the communication.

REFERENCES

Allio, R.J. (2003). Russell I. Ackoff, iconoclastic management authority, advocates a "systemic" approach to innovation. Strategy and Leadership 31(3), 19-26.

Amernic, J. & Craig, R. (2006). *CEO-speak: The language of corporate leadership*. Montreal: McGill Queen's University Press, 2006.

Amernic, J. & Craig. R. (2007). Guidelines for CEO-speak: Editing the language of corporate leadership. *Strategy & Leadership* 35(3): 25-31.

Amernic, J., Craig, R., & Tourish, D. (2007). The transformational leader as pedagogue, physician, architect, commander, and saint: Five root metaphors in Jack Welch's letters to stockholders of General Electric. *Human Relations* 60(12): 1839-1872.

Amernic, J. Craig, R., & Tourish, D. (2010). *Measuring and Assessing Tone at the Top Using Annual Report CEO L letters*. Edinburgh: Institute of Chartered Accountants in Scotland.

Anderson, P.H., Kaliski, J.A., & Scott, T.W. (2019). Micromatic: A business strategy simulation. Oak Tree Simulations, LLC.

Bloom, B.S., Englehart, M.D., Furst, E.D., Hill, W.H., & Krathwohl, D.R. (1959). Taxonomy of educational outcomes: The classification of educational goals. Handbook 1: Cognitive Domain, New York, NY: David McCay Company, Inc.

Boone, C.W., Van Olffen, A., & Van Whitteloostuijn, A. (2005). Team locus-of-control composition, leadership structure, information acquisition, and financial performance: A business simulation study. *Academy of Management Journal* 48, 889-909.

Brown, L. (2014). *The key elements of a company's annual report*. Retrieved from https://www.ideasbig.com/blog/key-elements-companys-annual-report/.

Cherukuri, V. & Cannon, H.M. (1988). Using a computer-based business plan assistant in conjunction with a marketing simulation game. *Development in Business Simulation & Experiential Exercises,* 15, 262-264.

Chesney, A.A. & Locke, E.A. (1991). Relationships among goal difficulty, business strategies, and performance on a complex management simulation task. *Academy of Management Journal* 34, 400-424.

Craig, R. & Amernic. J. (2018). Are there language markers of hubris in CEO letters to shareholders? *Journal of Business Ethics* 149: 973-986.

Craig, R., Mortensen, T., & Iyer, S. (2013). Exploring top management language for signals of possible deception: The words of Satyam's chair Ramalinga Raju. *Journal of Business Ethics* 113: 333-347.

Demers, E. & Yu, J. (2014). *Linguistic certainty in managerial announcements*. In R.P. Hart (ed) Communication and language analysis in the public sphere. Hershey, PA: IGI-Global Publishers, 109-121.

Early, P.C., Northcraft, G.G., Lee, C. & Lituchy, T.R. (1990). Impact of process and outcome feedback on the relation of goal setting to task performance. *Academy of Management Journal* 33, 87-105.

Ellis, A.P.J. (2006). System breakdown: The role of mental models and transactive memory in the relationship between acute stress and team performance. *Academy of Management Journal* 49, 576-589.

Entman, R.M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication* 43: 51-58.

Geppert, J. & Lawrence, J.E. (2008). Predicting firm reputation through content analysis of shareholders' letter. *Corporate Reputation Review* 11(4): 285-307.

Gladstein, D.L. & Reilly, N.P. (1985). Group decision making under threat: The tycoon game. *Academy of Management Journal* 28, 613-640.

Guo, W. (2014). *Executives' use of emotional language and investor reactions*. In R.P. Hart (ed) Communication and language analysis in the public sphere. Hershey, PA: IGI-Global Publishers, 198-215.

Hart, R.P. & Carroll, C.E. (2013). *DICTION 7.0: The text analysis program*. Austin, TX: Digitext, Inc.

Howell-Hanano, E.J. (2017). *Pearls of Wisdom: The best shareholder letters nobody is reading*. Retrieved from https://www.toptal.com/finance/equity-research-analysts/best-shareholder-letters.

Knight, D., Durham, C.C. & Locke, E.A. (2001). The relationship of team goals, incentives, and efficacy to strategic risk, tactical implementation, and performance. *Academy of Management Journal*, 44, 605-619.

Kurthakoti, R. & Halpin, A. (2016). STIB: The systemic thinking inventory for business. *Developments in Business Simulation and Experiential Learning*, 43, 250-257.

Malik, S.D., Howard, B.J., & Morse, K.D. (1997). Business plans, case studies and total enterprise simulations: A natural co-existence. *Developments in Business Simulation and Experiential Learning,* 24, 158-163.

Mathieu, J.E. & Schulze, W. (2006). The influence of team knowledge and formal plans on episodic team process-performance relationships. Academy of Management Journal, 49, 605-619.

Nelson, S.A., Wang, L., Smith, R.M., & Blackford, B. (2014). *Corporate personal and optimistic language in annual reports*. In. R.P. Hart (ed) Communication and language analysis in the public sphere. Hershey, PA: IGI_Global Publishers, 179-197.

Ober, S., Zhao, J.J., Davis, R., & Alexander, M.W. (1999). Telling it like it is: The use of certainty in public business discourse. *The Journal of Business Communication* 36(3): 280-300.

Patelli, L. & Pedrini, M. (2014). Is the optimism in CEO letters to shareholders sincere? Impression management versus communicative action during the economic crisis. *The Journal of Business Ethics* 124: 19-34.

Prasad, A. & Mir, R. (2002). Digging deep for meaning: A critical hermeneutic analysis of CEO letters to shareholders in the oil industry. *The Journal of Business Communication* 39: 92-116.

Romme, A.G.L. (2004). Perceptions of the value of Microworld simulation: Research Note. Simulation & Gaming 35: 427-436.

Short, J.C. & Palmer, T.B. (2008). The application of DICTION to content analysis research in strategic management. *Organizational Research Methods* 11(4): 727-752.

Smith, K.G., Mitchell, T.R., & Summer, C.E. (1985). Top level management priorities in different stages of the organizational life cycle. *Academy of Management Journal*, 28, 799-820.

Soroka, A. (2014). *Reliability and validity in automated content analysis*. In R.P. Hart (ed) Communication and language analysis in the public sphere. Hershey, PA: IGI-Global Publishers, 352-363.

U.S. Securities and Exchange Commission. (2019). sec.gov/fast-answers/answers-annrephtml.html.

Waller, M.J. (1999). The timing of adaptive group responses to non-routine events. Academy of Management Journal, 42, 127-137.