ABSTRACT

Title of Document: WORDS MATTER: ESSAYS ON THE RELATIONSHIP BETWEEN EXECUTIVE WORD CHOICE AND INVESTOR EVALUATION

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This dissertation examines the relationship between executive word choices and investor evaluations. Although the importance of language in organizations and the legitimating effect of language for new ventures has stimulated rich theoretical and empirical discussion, scholars still know little about whether, how, and when the language used by executives at established organizations influences external constituents (e.g., investors). I address these questions using two studies. In the first study, drawing from theories of persuasion and attitude change in social psychology, I examine the effect of emotional messages used by executives on investor evaluations and identify persuasion as one path by which executive language influences investors. In the second study, I combine two theoretical perspectives, the market signaling theory in economics and the construe-level theory in psychology, and investigate the effect of executives' use of realism words on

investor evaluations. The second study identified signaling as another path by which executive language influences investors. Hypotheses from both studies were tested using a sample of 4,324 verbatim transcripts of 694 organizations' executive presentations at investor conferences between 2004 and 2010. This dissertation contributes to the strategy literature by providing an alternative theoretical framework that focuses on the psychological effect of executives' word choice, and by identifying two paths by which the language of executives in established organizations influence investor evaluations.

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By

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CHAPTER 1
INTRODUCTION

The core research question of this dissertation is whether, how, and when executive word choice influences investor evaluation of a firm. It consists of two studies that empirically examine two different ways through which language impacts investor evaluation (see Table 1). Chapter 2 is the first study; it uses computerized content analysis to quantify executives' use of words to refer to their feelings (*feeling words*) in their presentations at investor conferences and examines the stock market reactions to such language. I draw from the social psychological literature on attitude change and persuasion to argue that investors will respond positively to executive use of emotional messages or messages with an affective appeal. In addition, I argue for a matching effect between the message appeal of executive presentation and investor basis of attitude. That is, the effect of emotional message on investor response will be strengthened if investor valuation of a firm is on a more subjective basis. I used a sample of 4,324 transcripts of presentations by executives of 694 organizations at investor conferences between 2004 and 2010. The results generally support the prediction that in addition to rational message, emotional message represents another effective way of influencing investor attitude. Moreover, the effect of emotional message on investors is stronger when the amount of intangible assets that a firm possesses increases. These results provide important insights to how language can be used strategically by executives to influence investors, thereby contributing to research that focuses on the impact of executives and their actions on organizational outcome.

Chapter 3 is the second study; in this study I consider how differences in the extent to which executive language is concrete and realism-based can influence investor

evaluation of a firm. Specifically, drawing on the market signaling theory, I hypothesize and find that executive use of realism—choices that are structured by the conditions of the firm—can signal firm value to investors. I also extend the theory to consider the substitution relationship between a firm's qualitative and quantitative signals of quality and thus find that the association between realism and investor response is strengthened when other quantitative signals of firm value are less informative. While language is often viewed as a tool free for all to use, this study presents new evidence suggesting that the use of certain type of language (e.g., realism) is not free for all, and in the financial setting, language may contain useful information about a firm's quality, which is consequently responded to by investors and analysts as a signal of quality above and beyond other quantitative signals of quality (e.g., earnings).

In summary, chapter two of this dissertation focuses on how emotional message that is not systematically linked to firms' fundamental value can be used as a strategic tool to influence investor evaluation due to its effect on persuasion; on the other hand, chapter three focuses on how the use of realism words can be interpreted as a signal of unobserved firm quality by outside investors because how much concrete details that one is able to give when discussing an object or event depends on the person's psychological distance from the object or event. In other words, this dissertation proposes two different paths for language to impact investors.

Table 1.1 Dissertation Structure

	Essay 1	**Essay 2**
What?	Feeling words	Realism words
How?	Persuasion	Signal of quality
When?	Subjective firm valuation	High firm uncertainty

CHAPTER 2
THE POWER OF FEELINGS: EXECUTIVES' USE OF EMOTIONAL MESSAGE AND STOCK MARKET REACTION

ABSTRACT

This paper will use computerized content analysis to quantify the use of feeling words by executives during their presentations at investor conferences and to examine the stock market reactions to such language use. I draw from the social psychological literature on attitude change and persuasion to suggest that investors will respond positively to executives' use of emotional messages, in this case feeling words. In addition, I argue for the existence of a matching effect between message appeal and investors' basis of attitude. That is, the effect of emotional message on investors will be strengthened if investors' valuation of a firm is more subjective. Using a sample of 4,324 transcripts of 694 organizations' executive presentations at investor conferences between 2004 and 2010, results generally support the prediction that affective persuasion represents another effective way of influencing investor attitude. These results provide important insights to how executives can use language strategically to influence investors' attitude toward a firm, thereby contributing to research that focuses on the effect of executives' actions on organizational outcomes.

INTRODUCTION

From a sociological perspective, language and narratives have long been argued as important legitimating strategies for new ventures (e.g., Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001; Pfeffer, 1981). For example, Aldrich and Fiol (1994) suggest that due to their lack of external validation, new ventures that use more encompassing language to frame their innovations broadly and that use more internally consistent stories will appear more credible and legitimate and, thus, have better access to capital, market, and governmental protection. Similarly, Lounsbury and Glynn (2001) argued that in the descriptions of their business, new ventures that put more emphasis on their distinctiveness when the industry is more legitimate and when their invention is competence-destroying to extant industry practices will be perceived as more legitimate and have better access to resources.

While the legitimating effect of language for new ventures prompted rich theoretical discussions and received some empirical support (Martens, Jennings, & Jennings, 2007), we knew little about whether, how, and when language can be used by corporate executives in public firms to influence external constituents. Corporate executives devote a significant amount of time and energy to informing external constituents about the firm's activities to ensure their understanding and satisfaction regarding what the firm is doing and continued support for the organization (Jackson, 2007). For example, JoAnn Reed, chief financial officer of Medco Health Solutions, one of America's Most Shareholder-Friendly Companies, said that approximately 25% of her time is spent informing and communicating with investors (Reed, as cited in Jackson, 2007). Despite the importance and regularity of executive communication with investors,

the effect of executive language on investor attitude represents a fairly nascent and uncharted territory. Since prior research has focused more extensively on the legitimating effect of language for new ventures, it has offered little insight about whether, how, and when language can be used strategically by corporate executives to influence external constituent evaluations. As a result, the psychological effects of executive language—such as word choice—on investor attitude and persuasion remain unexplored.

To begin addressing these important questions, I draw from decades of research on attitude change and persuasion in the field of social psychology to provide a theory that explains why and when executive use of emotional message influences investor evaluation. Attitude is commonly defined as "a combination of an individual's evaluative judgments about a given object" (e.g., a person, an organization, or an issue) (Crites, Fabrigar, & Petty, 1994: 619; Petty, Wegener, & Fabrigar, 1997; Thurstone, 1928). The process of changing an individual's attitude toward an object through exposure to a message or argumentation is considered persuasion (Bohner & Dickel, 2011). Because outside investors rarely can observe a firm's operations directly, executive descriptions of firm activities represent an important source of information for them. In addition, executives are motivated to create a favorable investor attitude toward the firm and have a relatively high amount of control and flexibility over the language they use to describe firm activities. The process through which executives provide descriptions of firm activities to external investors with some interest to change investor attitude toward the firm can be viewed as a process of persuasion. Research in persuasion has shown that emotional message or messages based on an affective appeal are a well-known means to achieve persuasion (e.g., Becker, 1963; Knepprath & Clevenger Jr, 1965; Ray & Batra,

1982; Ruechelle, 1958). Emotional messages refer to statements based on the sender's subjective feelings and emotions, which may or may not be based on factual information. Therefore, this study quantifies executives' use of feeling words to refer to their subjective feelings and emotions in their speech as a proxy for emotional messages and examines the effect of this language use on investor attitude. Moreover, because the various conditions under which executive language influences investors has not been examined systematically, I also investigate the effect of three organizational conditions (e.g., firm asset composition, profitability, and sales growth) on the relationship between executive language and investor reaction.

Corporate executives disseminate a large amount of information, both quantitative and qualitative, about their actions and performance on a mandatory and voluntary basis through various avenues, such as press releases, quarterly and annual reports, shareholder meetings, and investor conferences. Given that the identification of authorship of language is crucial to a study of language use, this study focuses on executive verbal presentations at investor conferences because it allows for relatively better identification of authorship than other written forms of communication (e.g., annual reports and press releases). Research in finance has also shown that investor conferences have emerged to be an important form of voluntary communication to convey information to investors (Bushee, Jung, & Miller, 2011).

This study makes several empirical and theoretical contributions to the strategy literature. First, by incorporating the insights from social psychology about persuasion and attitude change, this study provides an alternative theoretical framework for understanding the role of language in organizational settings. While prior literature has

provided a rich understanding of the legitimating effect of language for new ventures from a sociological perspective, this study focus on language used by executives at public firms and how it can be used strategically to achieve persuasion and to influence investor attitude. By integrating the knowledge from social psychology, this study broadens our understanding about the ways that language can be used strategically by organizations to influence key stakeholders.

Second, this study contributes to the strategy literature by providing empirical evidence regarding the effect of emotional messages on investor attitude and how this effect will vary under three organizational conditions: high asset intangibility, low profitability, and low growth. While the power of language in terms of helping nascent ventures obtain legitimacy and investor support has been documented (Martens et al., 2007), empirical examination of how executive language (beyond tenor) influences investors remains scant. To the best of my knowledge, this is the first study that empirically examines the effect of executives' emotional messages on investors.

Third, organization and strategy scholars have long been interested in how the behavior of corporate executives affects critical organizational outcomes (see Carpenter, Geletkanycz, & Sanders, 2004 for a review; Finkelstein, Hambrick, & Cannella, 1996; Hambrick & Mason, 1984). Although there is a growing body of research that explores the implications of executives' actions in the financial market (e.g., Certo, 2003; Cohen & Dean, 2005; Higgins & Gulati, 2006; Wade, Porac, & Pollock, 1997; Westphal & Zajac, 1998; Zhang & Wiersema, 2009), the effect of executive language on investor attitude represents a fairly nascent and uncharted territory. This study contributes to this

literature by identifying and empirically demonstrating another important channel—executive language—through which executive action influences investor evaluation.

Finally, by relaxing the strong assumption regarding market efficiency, this study takes a psychological perspective and focuses more on the general tendency of human beings to react favorably to certain types of persuasive language when processing new information. While some prior studies have focused on the effect of executive language from a more rational perspective, which means that financial market participants respond to executive language because it contains information regarding a firm's fundamental value (e.g., Demers & Vega, 2008; Tetlock, Saar-Tsechansky, & Macskassy, 2008), I develop a theory to suggest that investors are motivated to collect and process all information (quantitative or qualitative) that they consider relevant to firm valuation to improve the accuracy of their beliefs. Emotional messages that discuss executives' feelings influence investors because they may be perceived as containing information and may evoke similar feelings from investors, even if they contain no real information regarding the firm's fundamental value.

THEORY AND HYPOTHESES

Persuasion and Investor Behavior

Although standard economic theory would suggest that financial decision-making should be rational and investors should ignore subjective verbal communication (e.g., persuasion), an emerging stream of research in strategy, finance, and accounting has documented that substantial movements in firms' stock prices seem to correspond to qualitative measures of managerial language, such as tenor and argument quality (e.g., Davis & Tama-Sweet, 2011; Demers & Vega, 2008; Feldman, Govindaraj, Livnat, &

Segal, 2010b; Loughran & McDonald, 2009; Martens et al., 2007; Tetlock et al., 2008; Wade et al., 1997; Westphal & Zajac, 1998).

Persuasion research focuses on how an individual's attitude can be changed through exposure to a message or argumentation (Bohner & Dickel, 2011). Because very few investors of public firms can directly observe firm operations, the majority of them have to rely on secondary information to make their evaluations. Investors have three main sources of information: security analysts' forecasts, publicly available accounting performance numbers, and corporate executives' descriptions of the firm's current and future activities (Tetlock et al., 2008). While analysts' forecasts and accounting numbers arise from complex processes largely outside the control of corporate executives, these executives do have a significant amount of control and flexibility over the linguistic descriptions that they provide to investors. In addition, a persuasive act takes place when "a message is provided by one agent (a sender) with at least a potential interest in changing the behavior of another agent (a recipient)" (DellaVigna & Gentzkow, 2009: 644). In the financial setting, corporate executives communicate with external constituents (e.g., investors) on a regular basis to provide information about the firm's activities and performance for the purpose of seeking and maintaining support from those constituents. Thus, every time executives speak to investors, it can be seen as a persuasive act because it is a speech delivered by a sender (i.e., the executive) to a specific audience (i.e., investors and analysts) with the purpose of influencing their attitude toward the firm. Of course, investors may recognize that the descriptions provided by corporate executives are not as objective as some other sources (e.g., financial analysts and government agencies) because executives themselves have an

interest in the outcome, but they are still likely to attend to these descriptions due to their lack of first-hand information. Therefore, in this paper, I view the forming and changing of investor attitude toward a firm as a persuasion process, whereby executives need to persuade investors regarding the value of the firm.

Persuasion and Attitude Change

Attitude change is perhaps one of the most important areas of inquiry within social psychology (Allport, 1935; see Bohner & Dickel, 2011for a most recent review). Attitude is commonly defined as "a combination of an individual's evaluative judgments about a given object" (e.g., a person, an organization, or an issue) (Petty et al., 1997). Persuasion is defined as "the formation or change of attitudes through information processing in response to a message about the attitude object" (Bohner, Erb, & Siebler, 2008: 403).To explicate the process of persuasion, I adopt the unimodel of persuasion (Kruglanski & Thompson, 1999) from social psychology. This theory asserts that in any given situation, an information recipient's cognitive resources are limited and therefore cannot process every persuasive message they receive in detail. Thus, the amount of processing effort they give to a persuasive message influences how likely they are to be persuaded by the message. Their processing effort, in turn, is determined by the recipients' motivation (i.e., whether the topic or object is of high or low personal relevance), cognitive capability (i.e., whether they possess relevant knowledge to process the information), and cognitive capacity (i.e. the amount of cognitive resources available for use) (Kruglanski & Thompson, 1999). The unimodel of persuasion views the process of persuasion as a motivated process during which "beliefs are formed or changed on the basis of appropriate evidence" (Kruglanski & Thompson, 1999: 89). What qualifies as

appropriate evidence is determined by what recipients believe to be the basis for their judgment. For example, an individual may believe that when an executive speaks with confidence and certainty, it suggests that his or her firm is doing well and is likely to have a good future prospect. Thus, in this individual's perspective, the level of confidence and certainty that an executive displays in communication becomes appropriate evidence for the firm's expected performance. However, if one has no such belief, one may simply treat the information regarding the executive's confidence and certainty as irrelevant.[1]

Message Appeal and Persuasion

Although there are various means to change an individual's attitude toward an object, message-based persuasion has been established as one of the most important means to achieve attitude change (Wood, 2000). The means of message-based persuasion can be classified into two main types: fact-based cognitive or rational appeal and non-fact-based affective or emotional appeal (e.g., Becker, 1963; Knepprath & Clevenger Jr, 1965; Ray & Batra, 1982; Ruechelle, 1958). In attitude research, cognition has been used to describe an individual's beliefs about the positive and/or negative attributes of an attitude object (e.g., Crites et al., 1994; Fabrigar & Petty, 1999; Ostrom, 1969). Thus, a message based on rational appeal typically contains arguments based on the positive

[1]Persuasion research in social psychology was guided mainly by two types of models: dual-process models, such as the *Elaboration Likelihood Model* and the *Heuristic Systematic Model*, and the unimodel of persuasion. The effectiveness of these different models is still debated within persuasion literature. Because this debate is beyond the current study's scope and the findings in this paper will not inform this debate, the unimodel has been selected because it fits the empirical context more closely. The nature of the process by which investors determine the value of a firm is highly complex, and the investment community consists of many individual and institutional investors with various levels of prior knowledge and various beliefs. The unimodel of persuasion views the process of persuasion as a motivated process during which "beliefs are formed or changed on the basis of appropriate evidence"(Kruglanski & Thompson, 1999: 89) (Kruglanski & Thompson, 1999: 89), and it does not assume that information recipients use two qualitatively different routes to process issue-relevant information (i.e., the content of the message) and issue-irrelevant cues (i.e., the source of information, the feelings disclosed).

and/or negative attributes of an attitude object and provides relevant details, facts, and figures (e.g., Liebermann & Flint-Goor, 1996; Ray & Batra, 1982). For example, an advertisement for a new automobile that uses a rational appeal may highlight the size of the engine and the amount of space in the trunk, discuss the value of track and pinion steering, and emphasize the car's performance on different road surfaces. In other words, a message with a rational appeal is trying to persuade recipients concerning the value of an object by using reasoned arguments to appeal to their logic.

According to the unimodel of persuasion, the amount of processing effort that recipients give to a persuasive message influences how likely they are to be persuaded by the message. Thus, some research has demonstrated that a message based on a rational or cognitive appeal increases persuasion because it increases recipients' effort to process the message by increasing the number of cognitive elaborations that he or she generates (e.g., Chaiken, Liebermann, & Eagly, 1989; Petty & Cacioppo, 1986; Rosselli, Skelly, & Mackie, 1995). Cognitive elaboration refers to the extent to which a person carefully thinks about issue-relevant information, and it is typically operationalized as the number of issue-relevant thoughts generated by recipients when given a persuasive message (Petty & Cacioppo, 1986). In short, a message based on rational or cognitive appeal enhances persuasion because it increases the amount of thinking effort that an individual assigns to the attitude object. Other research has argued that the acceptance of a persuasive message depends on the presence of incentives to accept the advocated conclusion. Rational and logical reasons are considered critical incentives (Hovland, Janis, & Kelley, 1953). Therefore, this research suggests that by providing more logical reasons to support an advocated conclusion, messages based on cognitive appeal will

enhance persuasion. Empirical evidence in support of the persuasion effect of a message based on rational or cognitive appeal is abundant (Chaiken et al., 1989; Edwards, 1990; Fabrigar & Petty, 1999; Petty & Cacioppo, 1986). For example, using qualitative analyses of initial public offering prospectus documents, Martens et al. (2007) have demonstrated that firms received more favorable investor evaluations and, thus, better initial public offering outcomes when they are able to elaborate the logic behind the proposed means of exploiting opportunities more. In addition, a growing body of finance and accounting research has examined the use of positive words to highlight the firm's positive achievements, successes, progress, and performance results in various corporate communications, and it showed a significant and positive relationship between the use of more positive words and financial market reactions (e.g., Demers & Vega, 2008; Loughran & McDonald, 2009; Tetlock et al., 2008).

While reasoning is a highly effective way to achieve persuasion, it is by no means the only method. "Affect" in attitude research has been used to refer to the positive and/or negative feelings and emotions that individuals associate with an attitude object (e.g., Breckler, 1984; Crites et al., 1994; Fabrigar & Petty, 1999; Ostrom, 1969). A persuasive message based on affective or emotional appeal may contain statements based on the sender's subjective feelings and emotions, which may or may not be based on factual information. For example, another example of automobile advertisement might depict the automobile as fun, comfortable, sexy, or exciting to elicit a positive feeling toward the product and/or brand. This persuasive message focuses on the sender's subjective opinions or feelings of what the product symbolizes and does not rely on any specific attributes of the car to make the argument. This type of message attempts to achieve

attitude change by evoking and influencing the emotions or feelings of the information recipient (Batra & Ray, 1986; Edwards, 1990).

The influence of affectively based persuasion on attitudes has also been well established in attitude research (e.g., Chên, 1933; Eldersveld, 1956; Hartmann, 1936; Knower, 1935; Mayer & Tormala, 2010; Menefee & Granneberg, 1940). Research that investigated the process through which persuasive communication changes attitudes found that messages based on cognitive or affective appeal influence attitude through different mechanisms (Pallak, Murroni, & Koch, 1983; Rosselli et al., 1995). For example, Rosselli, Skelly, and Mackie (1995) asked recipients of persuasive messages to write any and all of the reactions they had, including both thoughts and feelings, while reading the presented information (regardless of relevance to the message). Using path analyses, they found that while the effect of rational messages is mediated by only cognitive elaborations, the effect of emotional messages is mediated by both cognitive and affective elaborations. Affective elaborations refer to the amount of feelings generated by the recipient following the presentation of the message (Rosselli et al., 1995). In other words, when presented with a feelings-based message, besides more rational thoughts, recipients generated more feelings toward the attitude object, which in turn, enhanced persuasion.

In addition, feeling is not free of thoughts (Zajonc, 1984) and therefore may contain novel information for investors. While subjective in nature, executives' feelings arise in part from their cognitive evaluations and interpretations of organizational events and situations. The appraisal theory of emotion suggests that emotions are elicited by evaluations or appraisals of events and situations (e.g., Arnold, 1960; Roseman, Spindel,

& Jose, 1990). For example, a positive and optimistic feeling is likely to be elicited by successful outcomes, such as winning a contract, increasing revenue, or being chosen as the partner of a prestigious institution. In contrast, a negative feeling is likely to be elicited by less than ideal outcomes, such as financial losses, frustrations with losing a contract to competitors, or the loss of a valuable customer. Corporate executives who are immersed in the daily operations of an organization will develop feelings and opinions regarding the current and future prospects of the firm. Given their closeness to the operations of an organization, executives are believed to have information superior to that of investors regarding the prospects of the firm or the real quality of the firm (e.g. Benabou & Laroque, 1992). Therefore, while messages based on affective or emotional appeal are highly subjective, they contain information about executives' feelings or subjective opinions about the firm's situation. Some investors may view these feelings as conveying executives' private information about the future value of the firm and, consequently, incorporate this novel information into their valuation of the firm. For instance, Demers and Vega (2008) have demonstrated that investors react to qualitative language information in earning announcements (e.g., the tenor of managerial language) above and beyond the simultaneously released hard information (e.g., earnings). Mayew and Venkatachalam (2012) found that the stock market reacts to subtle differences in the amount of positive and negative affect displayed in executives' voices when managers are scrutinized by analysts during earnings conference calls.[2]

[2] Here, I assume that given the high level of monitoring on public firms and their management by third parties (e.g., security analysts, media, and government agencies) and the severe legal consequences for deceptive communication because of the Sarbane-Oxley Act of 2002, outright lying is personally and financially costly to executives and their firms. Therefore, executives face disincentives to providing obviously misleading statements.

Research on emotional contagion also provides another reason why emotional messages may influence investor attitude. This research suggests that exposure to an individual (e.g., an executive) expressing positive or negative emotions or feelings can produce corresponding emotions or feelings in the observer (e.g., investors), either consciously by imitation or subconsciously. Emotional contagion is defined as "a process in which a person or group influences the emotions or behaviors of another person or group through the conscious or unconscious induction of emotion states and behavioral attitudes" (Schoenewolf, 1990: 50). In other words, a person's emotional state and behavioral attitudes when perceived by a receiver may activate the same emotional state and behavioral attitudes in the receiver. A large amount of empirical studies in this area have documented that exposure to a positive mood (e.g., images of an individual smiling, a smiling customer service worker) produced congruent changes in the subjects' own facial expressions and physiological and self-report measures of emotion (Barsade, 2002; Hatfield, Cacioppo, & Rapson, 1994; McHugo et al., 1985). Hence, the subjective feelings expressed by executives during their presentations, although perhaps not fact-based and, thus, not strictly informative, if positive in nature, may evoke similar positive feelings and emotions in the investors and analysts regarding the prospects of the firm. In summary, prior research suggests that in addition to a message with rational or cognitive appeal, investors may also respond positively to executives' use of messages based on an affective or emotional appeal. Stated formally:

> *H1: The use of emotional messages by executives will be positively associated with stock returns.*

Matching Affective Appeal with Affect-based Attitude

Within the attitude literature, the affect and cognition distinction has also been an important way to distinguish the basis of attitudes (e.g., Insko & Schopler, 1967; Ostrom, 1969). An attitude is considered affect-based when it primarily includes emotions, feelings, or drives; whereas, an attitude that includes more cognitive components, such as judgments, thoughts, or evaluations, is considered cognition-based (Edwards, 1990). Affect-based attitudes are initially acquired with minimal cognitive appraisal and are primarily influenced by individuals' affective reactions. On the other hand, for cognition-based attitudes, cognitive appraisal comes first and affective processes only play a minimal role in shaping the attitude development. For example, consider an individual interested in buying a new car. If the person reads *Motor Trends* and J.D. Power's automotive ratings, asks friends for advice, and test drives different models to collect information about the pros and cons of different car models, when this individual comes to a final evaluation that Model X is the best car on the market, he or she is considered to hold a more cognition-based attitude; his or her attitude is based on careful evaluation of the pros and cons of the object. However, if this individual saw an advertisement of Model X on TV, resonated with the image that was created in the commercial, and developed a strong feeling for Model X, his or her attitude would be considered more affect-based.

Research suggests that a persuasive message will be more effective to the extent that it matches the basis of recipients' attitude (e.g., Edwards, 1990; Edwards & Von Hippel, 1995; Fabrigar & Petty, 1999; Mayer & Tormala, 2010). For example, messages with an affective appeal will be more effective at persuasion when matched with affect-

based attitudes. The rationale for the matching effect is that matching message appeal to recipients' attitude structure can boost involvement and, thus, message elaboration. Recall that an affectively based persuasive message is mediated by both cognitive and affective elaborations, the matching effect suggests that when recipients who have developed an attitude toward an object based on emotions and feelings are given a persuasive message that appeals to their feelings and emotions, they will be able to generate more affective elaborations (e.g., congruent feelings) and thus be more likely to be persuaded by this message. Although some conflicting empirical results arose in earlier years regarding this matching effect (e.g., Edwards, 1990; Messe, Bodenhausen, & Nelson, 1995; Millar & Millar, 1990), Fabrigar and Petty (1999) resolved the methodological issues in prior research and reconciled prior findings. They showed that affective persuasion was more effective in changing attitudes based on affect than attitudes based on cognitions; however, the opposite prediction that cognitive persuasion will be more effective in changing cognition-based attitudes was not supported. Thus, there seems to be theoretical and empirical reasons to believe that executives' use of affective messages will be more persuasive when investors' attitudes toward a firm are affect-based.

The terms "emotions," "gut feeling," and "sentiments" are not uncommon in studies of investor behaviors (e.g., Baker & Wurgler, 2006; Cao & Wei, 2005; Hirshleifer & Shumway, 2003; Shiller, 1987). For example, Shiller (1987) surveyed 2,000 individual investors and 1,000 investment managers and asked them to predict market conditions. Of the individual investors surveyed, 29.2% attributed their prediction to "intuition" or "gut feeling," while 28% of all institutional investors surveyed responded that their

predictions were based on "gut feel" and "market psychology" (Shiller, 1987). Baker and Wurgler (2006) also presented empirical evidence that investor sentiment may have significant effects on stock prices. Thus, despite the fact that financial advisors often advise investors to take emotions out of their investment decisions, many investment decisions are based on emotions and feelings. Some even suggest that "gut feeling" and intuition are important trading and investing strategies. While to some extent all investment decisions are based on emotions and feelings, some investments are considered higher in subjectivity of their valuations. For instance, consider the value of a young firm with intangible assets, low profitability, no dividends, and ample growth opportunities. The lack of a long history of earnings and proven performance track record, combined with the presence of high growth potentials may allow some investors, especially the unsophisticated ones, to argue almost equally well for a wide spectrum of valuations, from low to high, depending on what fits their feelings or intuitions. In contrast, the value of a firm with a long earning history, more tangible assets, high profit and growth, and stable dividends will be much less subjective. Thus, the extent to which a firm's valuation is more subjective could be a good indication for when investors' attitudes toward a firm are more affect-based. For that reason, I expect that the effect of executives' use of affective messages on stock market return will be stronger when a firms' valuation are more subjective.

Because no single commonly agreed upon scale or variable represents the level of subjectivity in firm valuation, I followed prior research (e.g., Baker & Wurgler, 2006) and used multiple firm and security characteristics to proxy the level of subjectivity in firm valuation: asset intangibility, profitability, and sales growth. Increase in asset

intangibility increases the difficulty of firm valuation; therefore, it is used as a proxy for subjectivity in firm value. In addition, I used a firm's level of profitability and sales growth while controlling for other performance measures to determine how increases or decreases in sales growth will influence the effect of emotional messages on investors and vice versa. For example, research in adverting found that when promoting services, which is more intangible, affective message appeal is more effective at persuasion (e.g., Albers-Miller & Stafford, 1999; Liebermann & Flint-Goor, 1996). This research argues that compared to products, services are more intangible and thus advertisers may encounter difficulties to base their persuasive message on direct features or attributes of the services; often, "the service advertiser is left with describing the invisible, articulating the imaginary, and defining the instinct" (Unwin, 1975). As a result, messages based on affective appeal are more effective. Moreover, recall that rational messages achieve persuasion through cognitive elaborations and evoke more issue-relevant thinking; thus, when strong and valid arguments are presented, rational messages will be highly persuasive (Petty & Cacioppo, 1986; Rosselli et al., 1995). However, when the argument is weak or less than strong, the use of a rational argument might backfire and lead to more cognitive elaborations that recognize the shortfalls and gaps in reasoning. Therefore, when firms are facing less than ideal situations, such as low profitability or low growth potential, rational arguments may lead investors to recognize the growth opportunities as well as the lack of profit stream. On the other hand, when presented with affectively based persuasive messages that focus more on feelings, investors may focus more on their feelings and intuitions toward the firm and situation to make evaluations. Thus, I expect:

H2a: The effect of emotional messages on investor reaction will be strengthened as a firm's level of intangible assets increase.

H2b: The effect of emotional messages on investor reaction will be strengthened as a firm's level of profitability decreases.

H2c: The effect of emotional messages on investor reaction will be strengthened as a firm's level of growth potential decreases.

METHODOLOGY

Data

To test the hypotheses, I obtain stock returns, trading volume, capitalization, book-to-market ratio from the Center for Research in Security Prices (CRSP) database and historical accounting data (such as return on equity, percentage of intangible assets) from Compustat database. Security analysts' forecasts were obtained from IBES analyst forecasts. I obtained 8,990 verbatim transcripts of executives' presentations from 844 US public firms in 23 industries between January, 1 2004 and December 31, 2010 available on the Thomson Reuters StreetEvents database. I removed 1,516 observations for which Thomson Reuters does not have a record of the presentation and only provides the Questions and Answers (Q&A) session. I further removed 353 duplicate observations because either a small part of the presentation was mistakenly coded as a separate presentation and thus resulted in duplicate copies, or because two identical presentations were captured by Thomson Reuters twice (e.g., same conference, same date, same speaker, and same word count). More importantly, I removed observations of different executives from the same firm presenting at more than one conference on the same day, because these same-day presentations could be confounding events for each other that are hard to disentangle. I next removed 1,305 observations for which the absence of data on

CRSP, Compustat, or I/B/E/S prevents the construction of variables needed for the empirical tests. Finally, some firms attended more than one conference each quarter, since firm performance data are at the quarterly level, I only keep each firm's first presentation in any quarter. Thus, the final sample consists of 4,324 observations of conference presentations for 694 firms in 23 industries. Descriptive information for the sample is presented in Table 2.3. Panel A shows the composition of the industries in the sample. Panel B is a list of the top 15 conference organizers to provide you an idea of the types of conferences used for this study. Panel C provides an overview of the characteristics of the industries included in the sample.

Dependent Variables

Abnormal stock return. To measure the contemporaneous stock market reaction to executives' use of emotional messages in their presentations at investor conferences, I used an event study method to calculate a firm's abnormal stock return after the presentation. Market model return is calculated as 2-day cumulative abnormal returns measured around the conference date, including the date of the conference (day 0) and the day after (day 1). The event study method is a widely used and accepted method in the field of finance to measure abnormal stock return since the early 80s (Brown & Warner, 1985; Campbell, Lo, & MacKinlay, 1997). The rationale behind this method is that if investors react to the use of emotional message in executive presentations, they will trade the company's stock resulting in a decrease or increase in the price of the security. Thus, the difference between a firm's expected return and its observed return provides information on whether investors reacted positively or negatively to the use of emotional message. This difference is known as the abnormal return and reflects the

extent to which investors perceived the event as providing novel information about the value of firm (Brown & Warner, 1985).

Two approaches are commonly used to calculate expected returns. In the first method, using the EVENTUS program available on Wharton Research Data Services, I calculated expected returns based on the OLS market model. The OLS market model predicts a firm's expected return using regression analysis that relates a firm's return to that of a market portfolio (in this case, the NYSE and NSDQ equally weighted index). Using daily returns, I estimated a regression equation for each firm based on its relationship with the market portfolio over the estimation period (ending 45 days before the conference and extending back to 255 days prior to the conference). The estimation period ends 45 days before the event of interests so that returns at the time of the event will not influence the parameters of the model. I then used the resulting regression coefficients to calculate a firm's expected return and subtract this expected return from a firm's observed return to compute abnormal returns for each firm for the event window, which is on the day of the conference and 1 day after the conference. While the OLS market model has shown to be well specified under a variety of conditions, I also calculated the expected returns using a market-adjusted model to show the robustness of the results. The market-adjusted model is also a common approach to calculate a firm's abnormal return. In this model, a firm's abnormal return is calculated by subtracting the return of a market portfolio (e.g., NYSE or NSDQ equally weighted index) during each day of the event period from the firm's observed returns on those days. I have chosen a short event window to reduce the likelihood that extraneous organizational events during the period will contaminate the stock return information.

Independent Variables

Two main methods have been used in prior research to quantify language in text, which are judge-based content analysis approach and word count approach. The judge-based approach involves human judges who identify the presence of critical thematic references in texts on the basis of empirically or theoretically developed coding systems (Smith, 1992). The word count approach, on the other hand, uses computerized content analysis software to count the number of words in a text document that belongs to a pre-defined category of words. While both the judge-based and word count approaches provide equally valid count of information in a text, because the word count approach does not involve subjective human judgment, the resulting word count measures are considered to be more "parsimonious, objective, replicable, and transparent " (e.g., Pennebaker, Mehl, & Niederhoffer, 2003; Tetlock et al., 2008: 1440).Moreover, quantitative approach to text analysis, such as word count, has gained increasing popularity over the past decade in various fields (Pennebaker et al., 2003; Popping, 2000; Smith, 1992; West, 2001). Therefore, this paper adopted the word count approach and reply on predetermined dictionaries that was developed through extensive psychological research.

Feeling words. Feeling words are calculated as the fraction of total words in a presentation that refer to the speaker's subjective impression of an object or issue, such as his or her feelings, opinions, and beliefs. Example of key words in this dictionary are "feel", "feeling", "opinion", "view", "belief" (see Table 2.1 & 2.2 for a detailed word list and example statements). This dictionary is constructed based on the Linguistic Inquiry Word Count's (LIWC) dictionary of feeling processes words. LIWC (Pennebaker,

Francis, & Booth, 2001) was originally developed to study individual's emotional writing and to discover which features of writing about negative life experiences could predict subsequent health improvements (Pennebaker et al., 2001). This program has been widely used to analyze word use in emotional narratives (see Tausczik & Pennebaker, 2010 for a review) and has demonstrated predictive validity of numerous psychological measures (Pennebaker & King, 1999; Pennebaker et al., 2003).

Specifically, each word in a given text is compared with the LIWC dictionaries. A dictionary refers to the collection of words that define a particular category. For example, if LIWC were analyzing a line in the presentation by Bob Fernaro, the CEO of AirTran Holdings, Inc on February 04, 2010:

"*This is our view of what the costs are for 2009*".

The program would first look at the word "this" and then see if "this" was in the dictionary. It is and is coded as a function word, a pronoun, and an impersonal pronoun. Next, the word "is" would be checked and would be found to be associated with the categories of verbs, auxiliary verbs, and present tense verbs. After going through all the words in the presentation transcript, LIWC will calculate the percentage of each LIWC category. For example, if I have a transcript with a total of 3,821 words, I will discover that 240 of all words in a transcript were coded as impersonal pronouns, which correspond to 6.3% of the total words. The LIWC output file lists all LIWC categories and the corresponding percentage of each category in a given text. LIWC include 80 different categories or dictionary of words. Some of the categories are straightforward. For example, the dictionary of articles includes "a", "an", and "the". Other dictionaries are more subjective. These subjective dictionaries are developed by using word

candidates from dictionaries, thesauruses, questionnaires, and lists and then groups of three judges independently rated whether each word candidate was appropriate to each word category. The percentage of judge agreement ranged from 93% to 100% agreement.

Net positive words. A message based on a rational or cognitive appeal focuses on the positive and/or negative attributes of an object. In the financial setting, positive and negative attributes of a firm is closely related to the accomplishments, successes, and failures in a firm's various activities. Firms typically discuss these activities as it relates to a firm's financial health. Thus, the use of positive and negative financial terms can be used as a proxy for the use of message with rational or cognitive appeal. I used the dictionary of financial negative and positive words developed by Loughran and McDonald (2009) to measure the fraction of total words that are negative and positive in financial setting and then calculate the use of net positive words by subtract the percentage of negative financial words from the percentage of positive financial words:

$$\textit{Net positive words} = \frac{Financial\ positive\ words}{Total\ words} - \frac{Financial\ negative\ words}{Total\ words}$$

Although several prior studies have used the Harvard IV-4 dictionary to measure negative and positive words (e.g., Tetlock, 2007; Tetlock et al., 2008), Loughran and McDonald (2009) demonstrated that word list, such as the Harvard-IV-4 dictionary, which are developed for psychology and sociology may not translate well into the realm of financial settings. For instance, words, such as tax, cost, and liabilities, are included in the Harvard dictionary of negative words but do not have a truly negative meaning in the context of financial markets and are simply used to describe a firm's operations. These misclassified words will add noise to the measurement of underlying financial tone. Therefore, given that the setting of this paper is financial disclosure, I used the alternative

positive and negative word list developed by Loughran and McDonald (2009) to better reflect the tone of financial text.

Intangible assets. This variable is measured as the percentages of a firm's total assets that are considered intangible. An asset that is not physical in nature, including corporate intellectual property (e.g., patents, trademarks, or copyrights), goodwill, and brand recognition, are all recognized as intangible assets. Therefore, this variable captures the proportion of a firm's total assets that are considered intangible in nature.

Profitability. Profitability is measured by return on equity, which is the ratio of operating income to shareholders' equity.

Sales growth. Sales growth is measured as the differences between total sales in the quarter before the conference and total sales a year ago, divided by total sales a year ago.

Other controls. I also included a number of control variables to rule out some alternative explanations. First of all, I control for whether security analysts made a forecast revision after the conference. Using analysts' forecast of sales revenue provided by I/B/E/S, I calculated the percentage of changes in the mean analyst forecast of sales revenue as the differences between the most recently reported forecast after the conference and the most recently reported forecast prior to the conference (*forecast Revisions*), divided by the reported forecast prior to the conference.

$$\textit{Forecast Revisions} = \frac{Post{-}conference\ forecast - Pre{-}conference\ forecast}{Pre{-}conference\ forecast}$$

Another alternative explanation to language effect is that investors are simply responding to changes in performance of the firm before the conference. An important criteria that investors use to judge the performance of a firm is whether or not the firm has met

analysts' forecasted performance (e.g. Burgstahler & Eames, 2006; Kinney, Burgstahler, & Martin, 2002a).Therefore, I calculated the difference between the firm's actual announced sales revenue and analysts' forecasted sales revenue before the conference (*earnings surprises*$_{t-1}$). This variable will be positive if the firm achieved sales revenue higher than analysts expected or negative if the firm failed to meet the expectation.

$$Earnings\ Surprises_{t-1} = \frac{Actual\ sales - Analysts' forecasted\ sales}{Analysts' forecasted\ sales}$$

To control for firm size, I measure a firm's total market capitalization (*log (market equity)*) at the end of preceding quarter prior to the conference. I also control for the total amount of words (*log (total words*) in each presentation and included year-dummies to capture the effect of time.

Analysis

Because the data extended over seven years and I had multiple observations for each firm, the observations were not independent and therefore not appropriate for analysis with a simple ordinary least square regression. I used a fixed-effect model to control for constant unmeasured differences across firms and across years that may explain differences in the dependent variables. Fixed-effects models are considered conservative because only changes in independent variables within a firm can produce significant effects. Thus, a positive coefficient in these models can be interpreted as indicating that a positive change in an independent variable within a firm is associated with a positive change in the dependent variable within that firm. Table 2.4 reports descriptive statistics for all the variables in the sample. The mean feelings statement is 0.002, indicating on average executives used feelings statements 0.2% of the time during their presentation. If I take the average length of presentations in this sample, which

contains 3,625 words, this means on average executives use words, such as "I feel", "my view", "my belief", about 7 to 8 times during their speech. In contrast, the mean of rational statements is 0.008. It means that on average executives used rational statements to refer to their positive financial attributes and accomplishments about 0.8% of the time and 29 times during their presentations. The sample firms have an average (median) quarterly return on equity ($Profitability_{t-1}$) -0.42% (0.28%) and market value of equity of $14.98 ($15.08) billion. The mean (median) firm has revenues of $2,909 million ($829 million). Thus, the sample in this paper is predominantly consists of large firms.

RESULTS

First of all, results in table 2.5 and 2.6 show that most of the control variables are not significant at predicting stock returns following the conference. The insignificant result for most of the control variables is not surprising because the dependent variable is firm abnormal stock returns following investor conferences. Since the occurrence of these investor conferences are not systematically related to firms' release of accounting performance and thus most of the firm characteristics, such as firm size, market equity, and book-to-market ratio, will not change from one conference to another. In addition, consistent with prior research on rational statements (e.g., Marten et al, 2007), I find a statistically significant positive relationship between rational statements and contemporaneous return (Table 2.5, Model 2: coefficient = 0.35, $p < 0.05$).

I assess whether investors respond to executives' use of emotional messages by examining the contemporaneous stock market reaction to executives' use of feelings words. I tested Hypothesis 1 in Table 2.5 Model 2. I observe a significantly positive relation between feelings words and stock returns (coefficient = 0.91, $p < 0.01$). This

results is consistent when I used market-adjusted model of contemporaneous return as well (Table 2.5, Model 4: coefficient = 1.11, $p < 0.01$). These results indicate that, on average, investors perceive positive information from executives' use of feeling words above and beyond the positive information they perceive from executives' use of rational words. Thus, Hypothesis 1 is supported.

In Hypotheses 2a, 2b, and 2c, I argued for the moderating role of attitude base on the relationship between feelings words and stock returns. In Table 2.6 Model 2, I test Hypothesis 2a, which predicts that the amount of intangible assets that a firm holds will positively moderate the relationship between feeling words and stock returns. Consistent with Hypothesis 2a, I observe a marginally significant and positive association between the interaction term between feelings words and a firm's level of intangible assets (Table 2.6, Model 2: coefficient = 2.20, $p < 0.10$). Next, I introduced the interaction term of feeling words and firm profitability. I find that the relationship between the interaction term of feeling words and firm profitability is negative and marginally significant (Table 2.6, Model 3: coefficient = -38.55, $p < 0.10$). Thus, I received some support for Hypothesis 2a and 2b. In Table 2.6 Model 4, I tested the interaction effect of feelings words and firm sales growth. I observe a significantly negative relationship between the interaction term of feeling words and firm sales growth (coefficient = -4.90, $p < 0.05$), thus supporting Hypothesis 2c. Although a firm's level of intangible assets, profitability, and sales growth are only proxies of the subjectivity of a firm's valuation, the results for these three hypotheses together provide some evidences supporting the idea that market participants respond more positively to executives' use of emotional messages, in this case feeling words, when the firm's valuation is more subjective (see figure 2.1, 2.2, and

2.3).

Robustness Analyses

A number of alternative explanations can also explain the positive relationship between executives' use of feeling words and stock returns. In this section, I ruled out several of the alternative explanations. First, an alternative explanation to the positive effect of feeling words on stock returns is that executives' use of feeling words is determined by the firms' conditions, in particular performance, prior to the conference, which also influence firms' contemporaneous stock returns. In Table 2.8 Model 1, I examined the relationship between various firm characteristics and executives' use of feelings statement. While I do observe a negative relationship between executives' use of feelings and firm market capitalization, book-to-market ratio, intangible assets, and prior profitability, none of these relationships are statistically significant, providing some evidences that executives' use of feeling words are not systematically determined by firm characteristics. In addition, I observe a significantly negative relationship between executives' use of rational statement and firm's book-to-market ratio (Table 2.8, Model 2: coefficient = -0.001, $p < 0.05$) and forecast dispersion (coefficient = -0.02, $p < 0.05$). Since a low book-to-market ratio is typically seen as representing a higher growth potential of the firm in the eyes of investors and forecast dispersion represents that amount of uncertainty regarding the firm's future performance, these results suggest that executives are more likely to use to rational statements when they have higher growth potential and lower uncertainty. This finding is not surprising given that in the financial setting, executives' ability to use rational arguments to highlight their positive attributes

and accomplishments is closely connected to the level of performance they are able to achieve.

Another alternative explanation to Hypothesis 1 is that the positive relationship between executives' use of feelings and stock returns is caused by a positive relationship between the use of feelings and a firm's future performance. In the other words, investors respond positively to affective statement because it is a signal of a firm's future performance. In Table 2.8 Model 3 and 4, I examine the relationship between executives' use of feelings and firm future performance, including future profitability (next quarter ROE) and future earnings surprises (amount of earnings above analysts' forecasts). However, inconsistent with this alternative explanation, I observe no systematic relationship between executives' use of feelings and firm future performance.

To better understand the nature of information contained in executives' feelings words, I also examined the relationship between feelings words and a firm's long-term stock returns and whether and how experts, in this case security analysts, will respond to executives' use of feeling words. If feelings words are just executives' persuasive attempts to generate a more favorable attitude toward their firms without a systematic relationship to firm performance, I would expect experts to see through these non-value related persuasive statements. In the financial setting, unlike most of the investors, security analysts are considered experts in firm valuation with an extensive amount of knowledge about the industry and firms that they follow. Prior research in attitude shows that people who had previous knowledge or experiences about an attitude object were less attentive to the persuasive argument than people who had no prior experience, which suggested that prior knowledge reduced the need for further information (e.g., DeBono &

Harnish, 1988; DeBono & Klein, 1993; Petty & Cacioppo, 1986). To examine analysts' reactions, I use analysts' forecast revisions as dependent variables instead of stock returns in Table 2.9 Model 4. Forecast revision is measured as the differences between the last reported forecasts of firm sales revenue prior to conference and the next reported forecasts after conference, divided by last reported sales forecasts. Consistent with the idea that experts are more likely to see through persuasive attempts, I found no association between executives' use of feelings and analysts' forecast revision activity.

Last but not least, if executives' affective message are persuasive in nature and contain no value relevant information, and yet I find the stock market to react positively to executives' use of feelings, I should expect the market to correct itself in the long run. In Table 2.9 Model 2, I examine whether the market adjust the valuation of a firm in the long run by examining the relationship between executives' use of feelings and the firm's cumulative stock returns 30 days after the conference. I observe a marginally significant negative relationship between executives' use of feelings statement and cumulative stock returns 30 days after conference (coefficient =-2.62, $p < 0.10$). This result provide some initial evidence supporting the idea that in the long run, the market will correct the inaccurate positive beliefs of the firm induced by executives' persuasive attempt.

DISCUSSIONS

The results suggest that stock investors react positively to executives' use of emotional message. In addition, there is some evidence suggesting that the basis of investors' attitude toward a firm influences how they perceive or interpret the use of emotional message by executives. When investors' attitude toward a firm is more subject, the positive effect of emotional message is strengthened. In robustness analyses, I also

found that executives' use of emotional message in conference presentations is not predictive of the firm's future performance. Combined with the main results, it seems to suggest that although executives' choices of emotional message are not systematically related to a firm's past or future performance, investors do perceive executives' use of feeling words as containing novel information and respond to it.

A key part of corporate executives' job is to communicate with external constituents to report and explain the activities and performance of their firm, thus the findings in this study have important implications for executives. Although executives' use of feeling words is not driven by firms' past or future performance, investors do attend to and interpret their choices of this type of language as novel information and respond to it. This suggests that executives need to be very cautious about their choices of words when communicating with investors and avoid communicating information that they do not intend. Alternatively, executives can also view the use of emotional message as a strategic tool in the future to communicate their private assessment of the firm. This is especially true for executives who might be constrained by the firm's current situation to make a strong rational argument. Furthermore, these findings also suggest that while some firms and executives may do well and achieve favorable responses from investors with their use of emotional message (e.g., Steve Jobs at Apple), this strategy may not fit all firms. For example, when investors' attitude toward a firm less subjective, or more value based, investors react less to executives' use of emotional messages.

Consistent with prior studies that have examined investors' response to qualitative features of managerial language (e.g., tenor) (Demers & Vega, 2008; Feldman, Govindaraj, Livnat, & Segal, 2010a; Hales, Kuang, & Venkataraman, 2011a; Loughran

& McDonald, 2009; Tetlock, 2007; Tetlock et al., 2008), I also found evidence that movement in firms' stock prices seem to correspond to qualitative measure of managerial language. However, while prior studies have focused more on quarterly earning calls and annual reports, this paper focused on managerial presentations at investor conferences, a form of voluntary and direct face-to-face communications between corporate executives and investors that is becoming an increasingly important communication mechanism between organizations and investors. The focus on the use of persuasive message based on affective appeal in this paper also differs from these prior studies.

I also acknowledge the limitations of this study and suggest ways in which future research can address these shortcomings. First, findings in this study may not generalize to other contexts, such as initial public offerings. It is possible that if I had conducted the study using other written communication between executives and investors, such as annual reports or if I had conducted the study using the prospects of initial public offering firms, I might have found different results, since the use of persuasive message might be less prevalent and noticeable in written format. Future research might advance our understanding in this area by addressing these alternative explanations and examining the effect of emotional language in the setting of initial public offering and compare and contrast the characteristics of managerial language used in written versus verbal communications and how investor responses vary depending on the communication mechanism. Second, there is always the possibility that the identified characteristics of managerial language in this study might be correlated with unobservable characteristics of the organizations and the presenting executives. While I have tried to limit the influence of firm characteristics on executives' choice of words by testing hypotheses

using a firm and year fixed-effect model and thus holding time invarying characteristics of firms and year constant and compare the use of language by the same firm across time and by controlling for many conventional firm characteristics that have been identified by prior literature to influence stock market reaction, I nevertheless were unable to rule out this possibility entirely.

Third, the study of persuasive message only represents one of the many ways that an individual can achieve persuasion. Communication experts generally agree that beside verbal content, there are various nonverbal attributes (e.g. facial expression and gestures) and vocal attributes (e.g. voice intonation, speed, and volume) that may influence persuasion (e.g. Mehrabian, 1971). For instance, Mayew and Venkatachalam (2012) have demonstrated that investors do incorporate managerial expression of emotional states via vocal cues (e.g. voice) into stock prices. Thus, another fruitful avenue for future research might be to explore how nonverbal cues of emotional information in investor presentations influence stock reaction. Fourth, the sample of firms included in this study are either firms who have been invited by Thomson Reuter to be covered in their StreetEvent service because of its important role in an industry or firms who were covered through the request of the firm or institutional investors to Thomson Reuters, thus represent a group of firms that are larger in size and with a higher level of performance than average firm. As a result, this may limit the generalizability of the findings in this study to other smaller and less successful firms.

Table 2.1 Word List for Rational and Emotional Message

Panel A. Example of key words in research context

Feeling words	Feel/felt/feeling, point of view, opinion, belief, believed
Net positive words	Able, abundant, accomplish, achieve, advantage, assure, attain, attractive, beautiful, benefit, better, collaborate, compliment/complimentary, delighted, despite, diligently, distinction, easy, effective, efficiencies, enable, enhance, enjoy, excellence, exceptionally, excited/exciting, exclusive, favorable, gain, good, great, happy, impressive, improve, innovating/innovation, leadership, leading, opportunities, outstanding, pleased, pleasure, positive, profitability, progress, satisfaction, stabilize, strength, strong, success, superior, tremendous, win/winning worthy

Panel B. Examples of keywords and before or after

Feeling words	We actually/certainly/definitely/clearly/always **feel**…; We all feel…; I/We also feel…; We really do feel…; We now feel…; We obviously feel…; I don't/didn't feel…; We continue to feel…; …makes us all feel…; Our **belief** is…; It is our belief that…; My personal belief is that…; We've always **believed**…; We certainly believed…; Nobody else believed in…; We never really believed…; We are a company that believes…; In our /my **opinion**…; It's my/our opinion that …; I **personally** think…; I personally believe…; From/in my/our **point of view**…; We/I view…; Our current view…;
Net positive words	An/another **advancement** in …; Make significant/substantial advancement in…; Has made continuing advances in …; With significant advances in …; We are advancing..; An **advantage** in/for us …; We've got/we have an advantage…; This give us an advantage…; We have a competitive advantage …; …give/provide us a competitive advantage…; **Attractive** market/position/service/growth profile/business model/in the US market/price/opportunities/businesses We have become more **efficient**…; …allow us to be more efficient…; **Enhance** network/quality/market position/margin/ability to/our competitiveness

in/actions

We always/already/do/will be able to/continue to/are fortunate to /are well-positioned/ to **enjoy**…; …allowed/enabled us to enjoy…;

We have done/we're doing a **good** job in/with/of…; We are going to have pretty good…; We are in pretty good…;

We did/are doing/has done a **great** job in…; It's been a great…; …which has been a great …; It turned out being a great…;

We have the **highest**…; …that is the highest…; …is one of the highest…; It's probably the highest…;

Improving product/quality/performance/operations/gross margins/cost structure/efficiency/

We have …strong/successful/technical **innovation** …;

We are the **leading**…;

We do have/still got **opportunities** in …; …give us additional opportunities…; We see opportunities…; …building opportunities to …;

We have been very **pleased** with …;

We will/continue/ to have a **positive** outlook/impact/effect/growth/sign

Our effort to **strengthen**…; We continue/we're going to strengthen…;

We maintain a **strong**…; We are very strong in …; …continue to be strong …; …because of our strong…;

We're having/seeing/have seen a lot of **success** in…; …a track record of success…;

Tremendous improvement/success/growth/amount of opportunity/value/sure

We are going to/have to **win**…; we are winning…;

Table 2.2
Examples of Persuasive Messages

Emotional Message

So a better macroeconomic climate, which is translating to better pricing throughout the industry, along with our own ability to help ourselves with how we manage our capacity makes **us feel very optimistic** about 2010.

I think a year ago at this time we were growing double-digit and oil was around $90 and we didn't know which way it was going. Certainly a lot has changed since then, and I can tell you, **we feel heck of a lot better** today **s**tanding up here and looking out than I did once before, as I did it a year ago.

If you look at the chart, I mean including the premiums, with the premiums, we are somewhere between $65 and $80 on 40% of our fuel. And **we feel pretty good** about it.

When we sell a box, there's service associated with it. Our attach rate on the initial service sales is over 90%, on renewals it's over 80%. And this deferred revenue gives me the picture of the future. That's what **makes me feel very confident,** since I'll be recognizing this 160 million, the bulk of it, over the next 12 months, confidence in our growth continuing on the service side.

From a macro standpoint, **we feel good** about the positioning of the majority of the portfolio.

We **feel very good** about the strength of the leadership that we have in this business.

From the standpoint of the engineering spend, the visibility that we have in terms of the forward profitability that we will get out of 77, **we feel** that we've done an absolutely outstanding job compared to the peers.

When we had our restructuring back in 2003, I think **we and our various constituencies felt** like we had done the right thing and unfortunately shortly thereafter, everybody else tumbled into bankruptcy and took their labor costs that much lower.

In terms of our outlook, first-quarter capacity is up 7 to 8%; for the year, 3 to 4. Our unit revenue of projection or outlook for the first quarter is 2.5 to 3.5%. We **certainly believed** it would be much higher than that in the second quarter.

We **feel** good about the progress we are making; we **feel** good in general about the state of end market conditions and our ability to perform and execute in this environment. We have talked about aerospace. What is really driving that of course is the strength of the recovery. The other thing we are benefiting from is the investments that we made through the down cycle.

We **feel** we are very, very well-positioned for that recovery. Now just a near-term performance, but something we think can be sustained.

If you look at our first **advantage**, it's cost. We have a 20 percent cost **advantage** over Delta, and 35 over US Air, as reported by the DOT. If you normalize that for a 600-mile stage length (ph), which is our average stage length, that cost **advantage** goes to 35 percent over Delta, 50 percent over US Airways -- and this is after US Airways have restructured their costs in the bankruptcy courts.

Another key to our **success** is **great** labor relations -- I won't go into a lot of detail here, but we have contracts in place with the pilots and mechanics into 2005. We are in current negotiations with the flight attendants. We actually reached an agreement with them last year.

We have invested a lot of money in technology, kiosks, and other systems across our network. We have **superb** labor relations, which is something radically different than any of the other -- most of the other -- airlines could claim. And in 2003, we did a **pretty remarkable** job of **improving** our balance sheet and our liquidity position. So we are in **very good steps** (ph) to continue ramping up our growth.

At the end of the third quarter '08, we reached $376 million -- in putting it in relative terms that's about 31% of last 12 months revenue, so we have a **very strong** liquidity position, and on a relative basis when you look at it versus other airlines, also looks **quite strong**. Then, on financing, and we are all I think facing a tighter market, we have **improved** our leverage indicators.

For the quarter, you can see Delta's financial **strengths** exhibited in its pretax results and its underlying drivers of those pretax results, obviously, **the strong** cost discipline at Delta that we've maintained throughout the year and for several years, **the strong** liquidity balance Delta maintains, $5.8 billion at September 30th, and very important, **achievement** of the merger synergy **benefits**. We hit our 2009 goal of $500 million of **benefit** three months early in the September quarter.

Table 2.3
Sample Description

Panel A: Industry Composition

IID	# of Industries	# of Companies	# of Transcripts
01	Aerospace & Defense	41	524
02	Airlines	19	119
03	Automobile	10	101
04	Beverages	14	97
05	Biotechnology	100+	1446
06	Communication Equipment	69	810
07	Electric Utilities	21	311
08	Electrical Equipment	41	253
09	Electrical, Instruments, & Components	61	443
10	Food & Staples Retailing	16	224
11	Food Products	42	324
12	Health Care Equipment & Supplies	100+	1056
13	Health Care Providers & Services	NA	366
14	Health Care Technology	14	80
15	Household Durables	31	347
16	Household Product	10	160
17	Insurance	79	634
18	Internet Retailing & Internet Software	NA	267
19	Metals & Mining	35	95
20	Multiline Retail	15	173
21	Multi-utilities	23	372
22	Pharmaceuticals	89	775
23	Water Utilities	2	13
	Total	**632**	**8990**

Panel B: Conference Organizers

Top 15 Conference Organizers	Frequency	Percent of Sample
JPMorgan	107	8.29
Morgan Stanley	98	7.59
Credit Suisse	85	6.58
Bank of America	71	5.5
Deutsche Bank Securities	69	5.34
Cowen and Company	53	4.11
Smith Barney Citigroup	51	3.95
UBS	50	3.87
Raymond James	49	3.8
Goldman Sachs	46	3.56

Barclays	31	2.4
Thomas Weisel Partners	28	2.17
Bear, Stearns & Co	27	2.09
Merrill Lynch	27	2.09
All Other Investment Banks Combined	459	9.91
Industry Association	40	3.1
Total	**1,291**	**100**

Panel C. Industry Characteristics

		Industry Level Uncertainty[1]				
		High			**Low**	
Industry R&D Intensity[2]	**High**	Electrical Equipment	41	253	Pharmaceuticals	89	775
		Electrical, Instruments, & Components	61	443	Automobile	10	101
		Aerospace & Defense	41	524	Household Durables	31	347
		Biotechnology	100+	1446	Household Product	10	160
		Total	**143**	**2666**	**Total**	**140**	**1383**
	Low	Health Care Equipment & Supplies	100+	1056	Electric Utilities	21	311
		Health Care Providers & Services	NA	366	Multi-utilities	23	372
		Health Care Technology	14	80	Water Utilities	2	13
		Metals & Mining	35	95	Beverages	14	97
					Food Products	42	324
					Communication Equipment	69	810
		Total	**49**	**1597**	**Total**	**171**	**1927**

*Industry uncertainly and R&D intensity are ranked based on Folta, Johnson, & O'Brien (2006)
[1]Industry uncertainty is calculated as the random variances in the stock market indices in these industries between 1950 and 2000;
[2]Industry R&D intensity is calculated as total industry R&D spending divided by total industry sales

Table 2.4
Means and Correlations

		Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Market model returns	0.003	0.04	-0.54	0.46	1.00															
2	Market-adj. Returns	0.003	0.04	-0.54	0.46	0.94															
						(0.00)															
3	Long-term returns	0.001	0.17	-0.99	3.50	0.11	0.07														
						(0.00)	(0.00)														
4	Feelings words	0.002	0.001	0.00	0.01	0.01	0.01	-0.01													
						(0.33)	(0.37)	(0.67)													
5	Net positive words	0.008	0.01	-0.02	0.06	0.06	0.05	0.01	-0.01												
						(0.00)	(0.00)	(0.31)	(0.66)												
6	Log (Total Words)	8.059	0.66	3.58	9.56	-0.02	-0.01	0.00	0.07	0.03											
						(0.16)	(0.38)	(0.87)	(0.00)	(0.05)											
7	Log (Market equity)	14.98	1.90	8.74	19.45	-0.01	0.00	-0.05	0.04	0.24	-0.02										
						(0.71)	(0.84)	(0.00)	(0.00)	(0.00)	(0.29)										
8	Book-to-market	0.535	0.43	-0.23	1.73	0.03	0.02	0.10	0.04	-0.10	0.01	-0.12									
						(0.03)	(0.08)	(0.00)	(0.01)	(0.00)	(0.57)	(0.00)									
9	Forecast Dispersion	0.005	0.02	0.00	0.53	-0.03	-0.06	0.01	0.02	-0.10	0.02	-0.24	0.13								
						(0.04)	(0.00)	(0.38)	(0.30)	(0.00)	(0.23)	(0.00)	(0.00)								
10	Forecast Revisions	0.016	0.23	-1.00	9.23	0.00	-0.00	0.03	0.01	-0.01	0.01	-0.04	-0.04	0.02							
						(0.89)	(0.75)	(0.02)	(0.64)	(0.52)	(0.37)	(0.01)	(0.00)	(0.25)							
11	Intangible Assets	0.196	0.20	0.00	0.58	0.01	0.01	0.02	-0.10	0.17	-0.06	0.21	0.01	-0.14	-0.01						
						(0.58)	(0.46)	(0.21)	(0.00)	(0.00)	(0.00)	(0.00)	(0.34)	(0.00)	(0.69)						
12	Profitability	0.015	0.02	0.00	0.56	-0.01	-0.01	0.00	-0.05	0.07	-0.03	0.21	-0.21	0.01	0.18	0.05					
						(0.52)	(0.54)	(0.82)	(0.00)	(0.00)	(0.04)	(0.00)	(0.00)	(0.35)	(0.00)	(0.00)					
13	Sales Growth	0.074	0.37	-6.73	1.45	0.01	0.02	0.01	0.02	-0.07	0.01	-0.15	-0.01	0.04	0.11	-0.01	0.05				
						(0.34)	(0.11)	(0.32)	(0.09)	(0.00)	(0.34)	(0.00)	(0.67)	(0.00)	(0.00)	(0.62)	(0.00)				
14	Future Profitability	-0.17	9.08	-625.50	24.29	0.00	-0.00	-0.01	0.00	0.02	-0.02	0.03	0.02	-0.01	0.00	0.02	0.01	0.00			
						(0.81)	(0.96)	(0.43)	(0.74)	(0.12)	(0.26)	(0.03)	(0.24)	(0.58)	(0.82)	(0.21)	(0.48)	(0.75)			
15	Prior Profitability	-0.04	2.19	-121.94	38.83	-0.02	-0.03	-0.01	-0.01	0.03	-0.01	0.05	0.00	-0.01	-0.02	0.03	0.03	0.00	0.01		
						(0.14)	(0.02)	(0.33)	(0.36)	(0.03)	(0.67)	(0.00)	(0.80)	(0.39)	(0.30)	(0.06)	(0.05)	(0.95)	(0.47)		
16	Future Earnings Surprises	0.044	0.95	-2.47	54.12	-0.01	-0.01	0.02	0.01	-0.02	-0.00	-0.06	-0.01	0.04	0.01	-0.03	0.07	0.10	-0.00	-0.00	
						(0.52)	(0.53)	(0.25)	(0.44)	(0.10)	(0.96)	(0.00)	(0.37)	(0.01)	(0.52)	(0.05)	(0.00)	(0.00)	(0.95)	(0.89)	
17	Prior Earnings Surprises	0.066	0.26	-0.61	0.94	0.01	0.01	0.03	0.01	-0.05	0.02	-0.18	0.09	0.08	0.15	-0.05	-0.04	0.20	0.01	-0.00	0.27
						(0.64)	(0.56)	(0.02)	(0.42)	(0.00)	(0.26)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.72)	(0.79)	(0.00)

Table 2.5
The Association between Executives' Use of Feeling Statements and Stock Returns

This table reports firm-fixed effect regression estimations of the association between the fractions of feeling words (*feeling words*) in executive presentations at investor conferences and firms' cumulative abnormal stock return on the day of the conference and the day after. The two different dependent variables are the firm's abnormal stock returns predicted using the market model (*market return*) and market-adjusted model (*market-adj return*). I used the market model with a [-255, -45] trading day estimation period relative to the day of conference as the benchmark for expected returns. The key independent variable is *feeling words*, the fractions of total words in an executive's speech that refer to his or her feelings. The key control variable is the fractions of financial positive words minus financial negative words in a presentation (*net positive words*). This variable is used to proxy the use of rational message. Each regressions also includes a number of other control variables, such as the length of presentations (*log(total words)*), firm size (*log(market equity)*), the ratio of book equity to market equity at the end of the preceding quarter (*book-to-market*), the standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*forecast dispersion*$_{t-1}$), analysts' revision of earnings forecast immediately following the conference as compared to earnings forecasts reported prior to the conference (*forecast revisions*$_{t+1}$), the fraction of the firm's total assets that are intangible (*intangible assets*), firms' profitability in the most recent quarter prior to the conference (*profitability*$_{t-1}$), and the amount of changes in firms' sales from one quarters preceding the conference to the current quarter (*sale growth*). Year dummies are also included as controls (*year fixed effects*). Standard errors clustered by industry sectors are presented in parentheses. **, * , +: significant at 0.01, 0.05, and 0.10 level, respectively in a two-tailed test.

	Market Return	**Market Return**	**Market-adj. Return**	**Market-adj. Return**
	(1)	**(2)**	**(3)**	**(4)**
Feeling words		0.905**		1.111**
		(0.172)		(0.204)
Net positive words	0.354*	0.346*	0.297+	0.288+
	(0.138)	(0.137)	(0.150)	(0.147)
Log (Total words)	-0.001	-0.001	0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
Log (Market equity)	-0.004	-0.004	-0.002	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Book-to-market	0.009	0.009	0.010	0.011
	(0.014)	(0.015)	(0.010)	(0.010)
Forecast Dispersion$_{t-1}$	-0.030	0.016	-0.016	0.058
	(0.115)	(0.081)	(0.155)	(0.079)
Forecast Revisions$_{t+1}$	-0.002	-0.002	-0.001	-0.002
	(0.006)	(0.006)	(0.005)	(0.005)
Intangible assets	0.001	0.001	-0.004	-0.005
	(0.005)	(0.005)	(0.004)	(0.004)
Profitability	-0.037	-0.037	-0.041	-0.039
	(0.027)	(0.028)	(0.031)	(0.031)
Sales growth	0.002	0.002	0.003	0.003
	(0.004)	(0.004)	(0.004)	(0.004)
Fixed Effects				
Firm	Y	Y	Y	Y
Year	Y	Y	Y	Y
Constant	0.061	0.062	0.029	0.023
	(0.043)	(0.046)	(0.041)	(0.042)
Observations	4,377	4,324	4,377	4,324
R-squared	0.01	0.010	0.010	0.012
Number of Firms	713	694	713	694

Table 2.6
The Association between the Interactions of Executives' Feeling Statements and Stock Returns

This table reports firm-fixed effect regression estimations of the association between the interaction between feeling words and intangible assets (*feelings*intangible assets*), the interaction between feeling words and profitability (*feelings*profitability*), and the interaction between feeling words and sales growth (*feelings*sales growth*), and the firms' cumulative abnormal stock return on the day of the conference and the day after. The two different dependent variables are the firm's abnormal stock returns predicted using the market model (*market return*) and market-adjusted model (*market-adj return*). I used the market model with a [-255, -45] trading day estimation period relative to the day of conference as the benchmark for expected returns. Each regression controls for the direct relationship between the fractions of feeling words (*feeling words*), the fractions of financial positive words minus financial negative words (*net positive words*), the fraction of firm's total assets that are intangible (*intangible assets*), firms' most recently announced profitability prior to the conference (*profitability*$_{t-1}$), and the amount of changes in firms' sales from one quarters preceding the conference to the current quarter (*sale growth*), and stock returns. Each regressions also includes a number of other control variables, such as the length of a presentation (*log(total words)*), firm size (*log(market equity)*), the ratio of book equity to market equity at the end of the preceding quarter (*book-to-market*), the standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*forecast dispersion*$_{t-1}$), and analysts' revision of earnings forecast immediately following the conference as compared to earnings forecasts reported prior to the conference (*forecast revisions*$_{t+1}$). Year dummies are also included as controls (*year fixed effects*). Standard errors clustered by industry sectors are presented in parentheses. **, * , +: significant at 0.01, 0.05, and 0.10 level, respectively in a two-tailed test.

	Market Return (1)	**Market Return (2)**	**Market Return (3)**	**Market Return (4)**	**Market Return (5)**	**Market-adj. Return (6)**
Feeling words	0.905**	0.484*	1.520**	1.074**	1.121*	1.298+
	(0.172)	(0.191)	(0.281)	(0.303)	(0.386)	(0.605)
Intangible assets	0.001	-0.002	0.001	0.001	-0.002	-0.008+
	(0.005)	(0.004)	(0.005)	(0.005)	(0.004)	(0.003)
Profitability	-0.037	-0.037	0.019	-0.035	0.009	0.013
	(0.028)	(0.028)	(0.049)	(0.027)	(0.047)	(0.041)
Sales growth	0.002	0.002	0.003	0.011**	0.011**	0.013**
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)
Feelings*Intangible assets		2.200+			2.237+	2.889*
		(1.126)			(0.957)	(1.242)
Feelings*Profitability			-38.547+		-30.348	-34.305*
			(19.231)		(18.857)	(11.673)
Feelings*Sales growth				-4.898*	-4.641+	-5.621*
				(2.010)	(2.006)	(2.229)
Net positive words	0.346*	0.351*	0.344*	0.350*	0.352*	0.295+
	(0.137)	(0.137)	(0.137)	(0.135)	(0.135)	(0.144)
Log (Total words)	-0.001	-0.001	-0.001	-0.001	-0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Log (Market equity)	-0.004	-0.004	-0.004	-0.004	-0.004+	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Book-to-market	0.009	0.009	0.009	0.008	0.008	0.011
	(0.015)	(0.015)	(0.015)	(0.014)	(0.014)	(0.010)
Forecast Dispersion$_{t-1}$	0.016	0.017	0.016	0.010	0.011	0.053
	(0.081)	(0.081)	(0.080)	(0.075)	(0.074)	(0.073)
Forecast Revisions $_{t+1}$	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002
	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)	(0.003)
Fixed Effect						
Firm	Y	Y	Y	Y	Y	Y
Year	Y	Y	Y	Y	Y	Y
Constant	0.062	0.062	0.060	0.068	0.067	0.029
	(0.046)	(0.046)	(0.045)	(0.043)	(0.042)	(0.037)
Observations	4,324	4,324	4,324	4,324	4,324	4,324
R-squared	0.010	0.011	0.011	0.013	0.013	0.016
Number of firms	694	694	694	694	694	694

Figure 2.1: The Interaction Effect of Feeling Words and Intangible Assets on Stock Returns

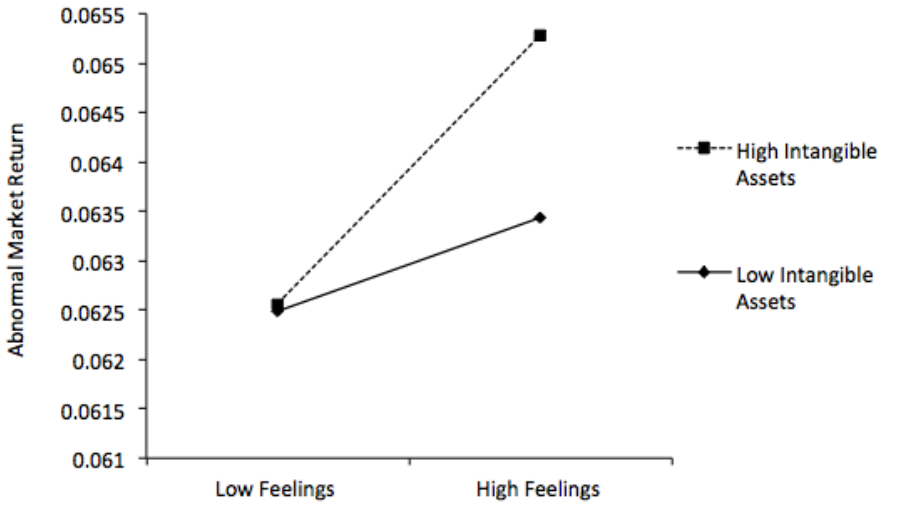

Figure 2.2: The Interaction Effect of Feeling Words and Profitability on Stock Return

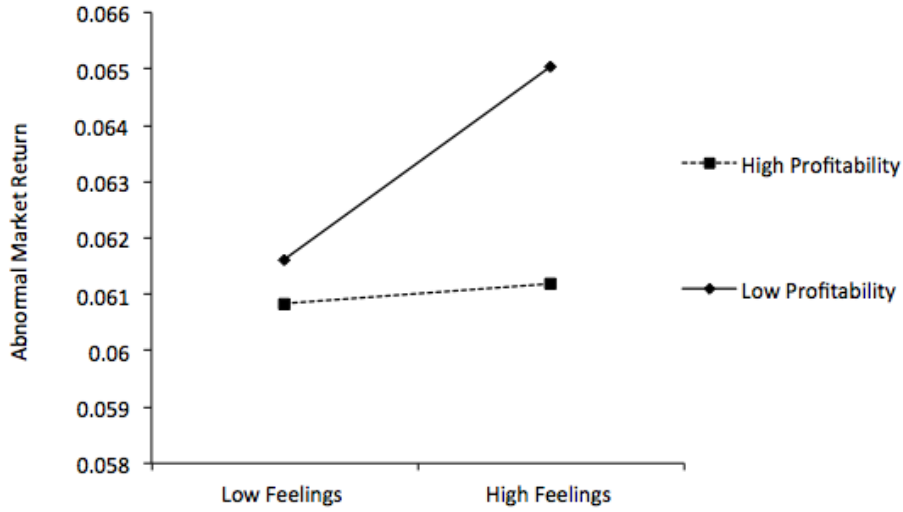

Figure 2.3: The Interaction Effect of Feeling Words and Sales Growth on Stock Return

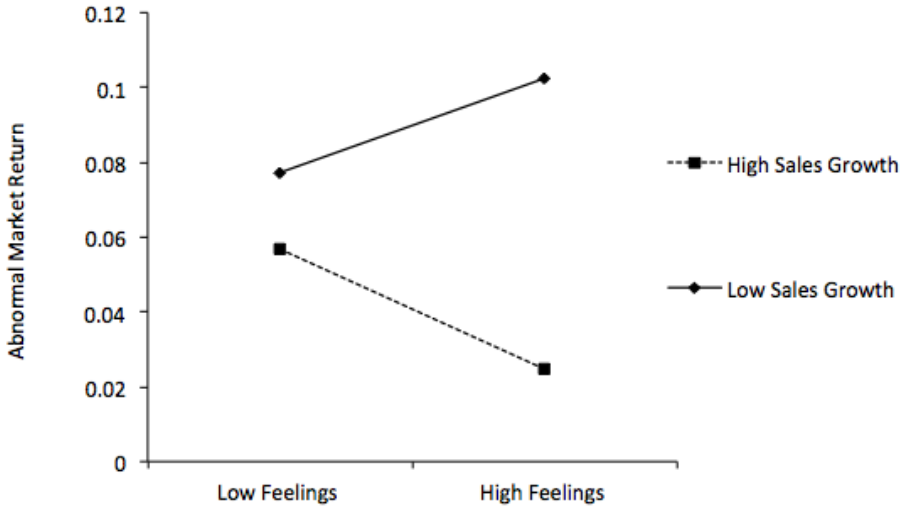

Table 2.7
Economic Significance of Feeling and Rational Statements

This table reports the economic significance of the effect of feeling words (*feeling words*), net positive words (*net positive words*), and the interactions between feeling words and intangible assets (*feelings*intangible assets*), profitability (*feelings*profitability*), and sales growth (*feelings*sales growth*), on abnormal stock returns predicted using the market model (*market return*) and market-adjusted model (*market-adj. return*). Economic significance is defined as the product of the coefficient and standard deviation of the variable of interest. The coefficients used in this table are obtained from Table 6 and 7.

Type of Message	Standard Deviation	Coefficient	Economic Significance	t-stat
		Dependent Variable = Market Model Stock Returns		
Feeling words	0.001	0.905	0.13%	5.25
Net positive words	0.007	0.346	0.25%	2.53
		Dependent Variable = Market-adjusted Model Stock Returns		
Feeling words	0.001	1.111	0.15%	5.43
Net positive words	0.007	0.288	0.21%	1.95
		Dependent Variable = Market Model Stock Returns		
Feeling*Intangible Assets	0.0005	2.200	0.10%	1.95
Feeling*Profitability	0.00004	-38.547	-0.17%	-2.00
Feeling*Sales Growth	0.0008	-4.898	-0.42%	-2.44
		Dependent Variable = Market-adjusted Model Stock Returns		
Feeling*Intangible Assets	0.0005	2.849	0.13%	3.14
Feeling*Profitability	0.00004	-44.206	-0.19%	-3.55
Feeling*Sales Growth	0.0008	-5.911	-0.50%	-2.63

Table 2.8
The Associations between Firm Characteristics and Executive Choice of Message Appeal

This table reports firm-fixed effect regression estimations of the association between firm characteristics and the fractions of feeling words (*feeling words*) and the fractions of financial positive words minus financial negative words (*net positive* words) in executive presentations. The key independent variables are, firms' profitability in the most recent quarter prior to the conference (*profitability*$_{t-1}$), firm size (*log(market equity)*), firms' ratio of book equity to market equity (*book-to-market*), the standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*forecast dispersion*$_{t-1}$), the fraction of the firms' total assets that are intangible (*intangible assets*), and the amount of changes in firms' sales revenue from one quarters preceding the conference to the current quarter (*sale growth*). I control for the length of a presentation (*log(total words)*). Standard errors clustered by industry sectors are presented in parentheses. **, * , +: significant at 0.01, 0.05, and 0.10 level, respectively in a two-tailed test.

	Feeling Words	**Net Positive Words**
	(1)	**(2)**
Profitability$_{t-1}$	-0.000*	0.000**
	(0.000)	(0.000)
Log(Market equity)	-0.000	0.001
	(0.000)	(0.000)
Book-to-market	-0.000	-0.001*
	(0.000)	(0.000)
Forecast dispersion$_{t-1}$	0.001	-0.021*
	(0.001)	(0.009)
Intangible assets	-0.000	0.001
	(0.000)	(0.002)
Sales Growth	0.000	0.000
	(0.000)	(0.001)
Log (Total Words)	0.000	0.001+
	(0.000)	(0.000)
Fixed Effects		
Firm	Y	Y
Year	Y	Y
Constant	0.000	-0.007
	(0.001)	(0.005)
Observations	4,443	4,443
R-squared	0.010	0.025
Number of firms	720	720

Table 2.9
The Association between Executives' Use of Feeling Words and Future Profitability and Future Earnings Surprises

This table reports firm-fixed effect regression estimations of the association between the fractions of feeling words (*feeling words*) in executive presentations and firms' future performance indicators: firms' return on equity in the quarter after the conference (*future profitability*) and the differences between firms' actual reported earnings and analysts' earnings forecast in the quarter after the conference (*future earnings surprises*). The key independent variable is *feeling words*, the fractions of total words in an executive's speech that refer to his or her feelings. The key control variable is the fractions of financial positive words minus financial negative words in a presentation (*net positive words*). Each regressions also includes a number of other control variables, such as the differences between most recently reported firms' earnings and analysts' earnings forecast prior to the conference (*earnings surprises*$_{t-1}$), the length of presentations (*log(total words)*), firm size (*log(market equity)*), the ratio of book equity to market equity at the end of the preceding quarter (*book-to-market*), the standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*forecast dispersion*$_{t-1}$), analysts' revision of earnings forecast immediately following the conference as compared to earnings forecasts reported prior to the conference (*forecast revisions*$_{t+1}$), the fraction of the firm's total assets that are intangible (*intangible assets*), firms' profitability in the most recent quarter prior to the conference (*profitability*$_{t-1}$), and the amount of changes in firms' sales from one quarters preceding the conference to the current quarter (*sale growth*). Year dummies are also included as controls (*year fixed effects*). Standard errors clustered by industry sectors are presented in parentheses. **, * , +: significant at 0.01, 0.05, and 0.10 level, respectively in a two-tailed test.

	Future Profitability	**Future Earnings Surprises**
	(1)	**(2)**
Feeling words	49.855	1.118
	(29.088)	(2.104)
Net positive words	6.348	-0.082
	(4.042)	(0.389)
Earnings surprises$_{t-1}$	-1.780*	1.505**
	(0.720)	(0.387)
Log (Total words)	-0.074	-0.002
	(0.049)	(0.006)
Log(Market equity)	-0.391+	-0.014
	(0.189)	(0.015)
Book-to-market	0.514	0.053
	(0.552)	(0.036)
Forecast dispersion$_{t-1}$	-0.353	0.105
	(3.299)	(0.774)
Intangible assets	1.641	-0.077
	(1.095)	(0.051)
Profitability$_{t-1}$	-0.041**	0.001**
	(0.001)	(0.000)
Sales growth	0.839*	0.345+
	(0.287)	(0.161)
Fixed Effects		
Firm	Y	Y
Year	Y	Y
Constant	5.731+	0.230
	(2.660)	(0.300)
Observations	4,433	4,318
R-squared	0.006	0.058
Number of firms	719	694

Table 2.10
The Association between Executives' Use of Feeling Statements and Long-term Stock Returns and Analysts' Reactions

This table reports firm-fixed effect regression estimations of the association between the fractions of feeling words (*feeling words*) in executive presentations and firms' future cumulative stock returns between 1 day and 30 days after the conference (*CAR(1,30)*) and analysts' revision of earnings forecast immediately following the conference as compared to earnings forecasts reported prior to the conference (*forecast revisions*$_{t+1}$). The key independent variable is *feeling words*, the fractions of total words in an executive's speech that refer to his or her feelings. The key control variable is the fractions of financial positive words minus financial negative words in a presentation (*net positive words*). Each regressions also includes a number of other control variables, such as the length of presentations (*log(total words)*), firm size (*log(market equity)*), the ratio of book equity to market equity at the end of the preceding quarter (*book-to-market*), the standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*forecast dispersion*$_{t-1}$), the fraction of the firm's total assets that are intangible (*intangible assets*), firms' profitability in the most recent quarter prior to the conference (*profitability*$_{t-1}$), the amount of changes in firms' sales from one quarters preceding the conference to the current quarter (*sale growth*), and the differences between most recently reported firms' earnings and analysts' earnings forecast prior to the conference (*earnings surprises*$_{t-1}$). Year dummies are also included as controls (*year fixed effects*). Standard errors clustered by industry sectors are presented in parentheses. **, * , +: significant at 0.01, 0.05, and 0.10 level, respectively in a two-tailed test.

	CAR(1,30)	**CAR(1,30)**	**Forecast Revisions**$_{t+1}$	**Forecast Revisions** $_{t+1}$
	(1)	**(2)**	**(3)**	**(4)**
Feeling words		-2.622+		-0.014
		(1.388)		(1.251)
Net positive words	0.915*	0.960*	-0.489	-0.494
	(0.330)	(0.334)	(0.400)	(0.401)
Log (Total words)	0.001	0.001	0.003	0.003
	(0.003)	(0.003)	(0.004)	(0.003)
Log (Market equity)	-0.088*	-0.090*	0.023**	0.024**
	(0.029)	(0.029)	(0.006)	(0.006)
Book-to-market	0.127*	0.122*	-0.032	-0.029
	(0.043)	(0.044)	(0.022)	(0.023)
Forecast dispersion$_{t-1}$	0.368	0.198	2.104+	2.205+
	(0.672)	(0.567)	(1.101)	(1.081)
Intangible assets	-0.040	-0.040	0.012	0.011
	(0.026)	(0.027)	(0.014)	(0.014)
Profitability $_{t-1}$	-0.001*	-0.001*		
	(0.000)	(0.000)		
Earnings surprises $_{t-1}$			0.220**	0.220**
			(0.047)	(0.047)
Sales growth	0.034*	0.036*	0.113**	0.111**
	(0.012)	(0.013)	(0.031)	(0.032)
Fixed Effects				
Firm	Y	Y	Y	Y
Year	Y	Y	Y	Y
Constant	1.238*	1.273*	-0.374*	-0.397*
	(0.413)	(0.411)	(0.133)	(0.119)
Observations	4,377	4,324	4,385	4,332
R-squared	0.106	0.106	0.087	0.087
Number of firms	713	694	714	695

CHAPTER 3
MAKE IT REAL: STOCK MARKET REACTIONS TO EXECUTIVES' USE OF REALISM

ABSTRACT

In this study, I consider how the extent to which an executive's language is concrete and realism-based can influence investors' evaluations of a firm. Specifically, drawing on market signaling theory, I hypothesize and find that executives' use of realism—choices that are structured by the conditions of the firm—can signal firm value to investors. I also extend the theory to consider the substitution relationship between a firm's qualitative and quantitative signals of quality and thus hypothesize and find that the association between realism and investor response is strengthened when other quantitative signals of firm value are less informative. While language is often viewed as a tool free for all to use, this study presents new evidence suggesting that the use of a certain type of language (e.g., realism) is not free for all to use, and in the financial setting, it may convey useful information about a firm's quality to investors and analysts above and beyond other quantitative signals of quality (e.g., earnings).

INTRODUCTION

The job of running a public company is harder than ever in today's hypercritical and overly scrutinized environment. In addition to monitoring day-to-day operations, executives devote a significant amount of time and energy to ensuring that external constituents understand and are satisfied with the direction that the company is going and the decisions being made (Jackson, 2007). For example, JoAnn Reed, the chief financial officer of Medco Health Solutions, one of America's Most Shareholder-Friendly Companies, said that approximately 25% of her time is spent on informing and communicating with the capital market (Reed, as cited in Jackson, 2007). Evidence suggests that executives' efforts to communicate and reach out to external constituents hold important implications for organizational performance.

Despite the importance of executives' efforts to communicate with external constituents, almost no scholarly attention has been given to whether and how executive word choice can act as a signal of unobserved firm quality to inform and influence investors. Although scholars have examined how executives and their behavior can act as signals and convey firm quality to critical external constituents, much of this research has focused on demographic characteristics of top executives (e.g., Certo, Daily, & Dalton, 2001; Goranova, Alessandri, Brandes, & Dharwadkar, 2007; Higgins & Gulati, 2006; Zhang & Wiersema, 2009). An instrumental task of upper management is to help critical external constituents understand what is occurring inside the organization, to create meaning, and to generate and sustain support for the organization (e.g., Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001; O'Connor, 2004; Pfeffer, 1981). As such, executives are making choices every day about how to communicate with external constituents.

To begin answering these questions, I use computerized content analysis to quantify language used by executives in their presentations and to examine whether, how, and when executives' word choices, such as the use of realism, influence investors' valuation of a firm. The use of "realism" captures language that refers to "tangible, immediate, and practical issues" (Bligh, Kohles, & Meindl, 2004; Hart, 1984: 16; Hart & Carroll, 2010; Seyranian & Bligh, 2008). In other words, the use of realism captures the description of when, where, who, and what. In Chapter 2 of this dissertation, I theorized and examined the effect of emotional messages on investor reaction. While Chapter 2 focused on how emotional messages not systematically linked to firm fundamental value can be used as a strategic tool to influence investor evaluation due to their effect on persuasion, this study focuses on how the use of realism words can be interpreted as a signal of unobserved firm quality by outside investors because the concrete details provided when discussing an object or event depends on a person's psychological distance from the object or event. In other words, these two chapters emphasized two different paths for language to influence investors.

Research on market signaling theory (see Connelly, Certo, Ireland, & Reutzel, 2011 for a review; Kirmani & Rao, 2000; Ross, 1977; Spence, 1973) suggests that information that is observable and costly to imitate can be used to signal possession of a positive attribute (e.g., Bird & Smith, 2005; Spence, 1973). In addition, research in psychology has long recognized that word use reflects a person's psychological state and provides valuable information about his or her knowledge and interpretation of an event or activity (e.g., Eckert, 2000; Giles & Wiemann, 1993; Lakoff, 1987; Pennebaker & Stone, 2003). The two streams of research together suggest that executives' choice of

words may be interpreted as a signal of a firm's value if executives face differential costs to use them.

This paper focuses on realism because executives face different costs of using realism depending on the organizational reality that executives face and the knowledge and experience level they have concerning current and future events in the firm. Furthermore, I extend prior research by exploring the boundary conditions of executives' word choice and investigating how the strength of other quantitative valuation signals will moderate the effect of language signals on investor response. I argue that because quantitative and qualitative signals are used jointly by investors to make investment decisions, investors may be more sensitive to differences in executives' styles when the quantitative signal is less informative. As a result, the impact of executives' use of realism on stock market reaction will be amplified when quantitative signals are less informative.

Despite the regularity with which executives communicate with external constituents, very few studies have investigated systematically how executives' choice of words in their verbal communication influences firms' market performance. Thus, this study contributes to the strategy literature on the influence of language and executive behavior both empirically and theoretically. Scholars have long recognized the need to understand the biases, dispositions, and behaviors of top executives in order to understand organizations' behavior and performance (Finkelstein et al., 1996; Hambrick, 2007; Hambrick & Mason, 1984). Although important insights have been gained from prior research regarding how the background, characteristics, and past affiliations of the upper echelon and board of directors can signal a firm's legitimacy and thus influence its

IPO outcome (Certo, 2003; Certo et al., 2001; Chen, Hambrick, & Pollock, 2008; Cohen & Dean, 2005; Filatotchev & Bishop, 2002; Higgins & Gulati, 2003; Higgins & Gulati, 2006; Lester et al., 2005; Miller & Triana, 2009; Zhang & Wiersema, 2009), and how top executives' behavior (e.g., increasing ownership stakes in the firm) can signal to capital markets that the strategies they have chosen are in the owners' best interests (Goranova et al., 2007), little is known about the implication of executives' word choice on external constituents' evaluation of a firm. Borrowing insights from market signaling theory and psychology research, I provide a theory of why, how, and when executives' use of realism can influence investors' evaluation of the firm.

Moreover, while the importance of language in an organizational setting has long been recognized (Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001; O'Connor, 2004; Pfeffer, 1981), large-scale empirical examinations of language effect in organizations remain scant (see Martens et al., 2007 for a notable exception). More importantly, our knowledge remains limited regarding the specific types of language that will matter and under what conditions it will matter. This paper contributes to the strategy research by empirically demonstrating the signaling value of realism words and the amplified effect of realism signals when uncertainty associated with firms' earnings is high.

THEORY AND HYPOTHESES

Investors of public firms are outsiders who cannot observe firm daily operations, and thus, they only have incomplete and ambiguous information regarding firm future value and face uncertainty in their investment decisions. Top executives of public firms, on the other hand, are responsible for their organizations' day-to-day operations and are in charge of making critical decisions; therefore, they are widely believed to have

superior information about the real quality and future prospects of a firm (Benabou & Laroque, 1992). In this situation, the imbalance of information between investors and executives arises in two main areas: information about the quality of the firm and information about the intent of the management (Stiglitz, 2000). When information asymmetry exists between investors and executives, investors may watch executives' behavior and language closely for signals conveying firms' future value. The signaling theory in economics is fundamentally concerned with actions that can be taken to reduce information asymmetry between two parties (Spence, 1973). For example, Spence's (1973) seminal work demonstrated that when information asymmetry occurs between job applicants and potential employers regarding the real quality of the applicants, high-quality applicants can use rigorous education profiles as a costly signal to distinguish themselves from low-quality applicants.

Signaling theory suggests that two conditions need to be satisfied for a piece of information to qualify as a signal. First, the information must be observable to outsiders. If actions taken by insiders are not readily observable by outsiders, it is difficult to use those actions to communicate positive attribute to outsiders. Second, the cost of obtaining that piece of information must be high. In this theory, the term "cost" is used in a broad sense to refer to monetary and psychological costs, as well as the cost of time. If the cost of obtaining a signal is the same for all market participants, the signal cannot effectively differentiate participants with higher quality from those with inferior quality. For example, wearing a red hat to a job interview cannot be used as a signal to differentiate high and low quality applicants because both groups can have easy access to a red hat. If, and only if, the cost of obtaining a particular signal is high for low quality participants,

thereby discouraging their attainment of such signal, it can act as a signal of positive attributes. For example, obtaining a higher education degree from a highly prestigious university is not only time-consuming but also extremely difficult for applicants with low quality given the high demand of the coursework at these institutions. As a result, fewer, if any, job applicants with lower quality will be able to obtain such a signal of quality. Thus, according to the market signaling theory, any action or piece of information that is both observable to outsiders and costly to obtain can act as a signal of unobserved quality.

The information asymmetry between corporate executives and outside investors is similar to what prospective employers face during recruitment. While investors lack complete information about a firm's quality, they must evaluate the quality and value of a firm to make investment decisions. Hence, investors' tendency to respond to signals of quality is well documented (e.g., Chen et al., 2008; Gulati & Higgins, 2003; Hallen, 2008; Rao, 1994). For instance, prestigious organizations (e.g., prominent venture capital firms) are known to be highly selective with regard to their partners; thus, it is hard for firms with low quality to establish a relationship with these prestigious organizations. As a result, Gulati and Higgins (2003) show that investors respond more favorably to young biotechnology firms that had established ties to prominent venture capital firms during their initial public offering.

Although economic performance is often used as a quantitative signal of firms' future value, it is not the only basis on which investors evaluate a firm. In addition, in many cases, quantitative signals are only noisy indicators of a firm's future performance (e.g., Davis, Piger, & Sedor, 2010; Demers & Vega, 2008; Dye & Sridhar, 2004).

Research in strategy, finance, and accounting has documented that substantial movement in a firm's stock prices seems to correspond to qualitative measures of managerial language, such as the tenor of disclosure (e.g., Feldman et al., 2010b; Loughran & McDonald, 2009; Tetlock, 2007; Tetlock et al., 2008), the quality of logical arguments presented in texts (Martens et al., 2007), the use of vivid language in media reports (Hales, Kuang, & Venkataraman, 2011b), and the level of optimism expressed by executives in earnings conference calls (Demers & Vega, 2008). Moreover, the increasing number of investment managers who use linguistic algorithms to read and code the language used in company press releases to inform their trading decisions and recommendations also highlights the importance of language information in financial settings (Economist, 2007). Together, prior research suggests that besides economic performance, executives' language use might provide novel information to investors beyond performance data.

The Signaling Role of Realism

Research in psychology has long shown that the way people use words conveys a great deal of information about them, such as their psychological, social, and physical states, and the situations they are in (e.g., Freud, 1938; Lacan & Wilden, 1968; Pennebaker et al., 2003). Language provides the audience information about the speakers' differences in sex, social class, life experience, or basic personality (Pennebaker et al., 2003). Therefore, some see it as "a window into the narrator's world" (Pennebaker & Stone, 2003: 291). Realism language is the use of language to describe temporal and spatial awareness, human beings, and their activities and to refer to tangible

objects and/or persons (Hart, 1984; Hart & Carroll, 2010). It entails the description of when, where, who, and what.

The Construal Level Theory (CLT) is a theory in social psychology that describes the relation between psychological distance and the extent to which a person's thinking (e.g., about objects and/or events) is abstract or concrete (Trope & Liberman, 2003). The basic premise of CLT is that an event or activity that is less psychologically distant from the speaker will be represented and portrayed at a higher level of concreteness; whereas, the more distant an object or event is from the individual, the more abstract it will be thought of or described (Trope & Liberman, 2003; Trope, Liberman, & Wakslak, 2007). Specifically, according to CLT, any event or activity can be construed in an individual's mind abstractly or concretely (Trope & Liberman, 2003). Abstract construals are "general, inclusive, superordinate, and decontextualized representations" that focus on the general purpose of an event or activity and emphasize *why* a person engages in such behavior. Concrete construals, on the other hand, are specific, detailed, and contextual representations that emphasize *how* a person engages in a particular event or activity (Liberman, Sagristano, & Trope, 2002; Trope & Liberman, 2003; Vallacher & Wegner, 1987). Consider, for example, a company creating an advertising campaign to increase brand recognition. A concrete construal of this activity might include details such as the number of stores involved, the consumer feedback collected, and the overall market reaction. In contrast, an abstract construal of this activity might be "making efforts to increase revenue," which disregards the unique features of the event and focuses only on the overall purpose of the event.

Psychologically distant things are those that are not present in a person's direct experience of reality (Trope et al., 2007). For instance, an event may belong to the past or to the future (e.g., the opening of the first store several years back, the merger that will happen in the future), to spatially remote locations (e.g., in other international markets), to other people (e.g., how other competitors may perceive the current economic situation), and to hypothetical alternatives about what could or might have been but was never implemented (e.g., had the company entered another related product market). Therefore, CLT suggests that for an event or activity that occurs here and now and is therefore psychologically close, people tend to have more information and think of it and talk about it with more concrete and tangible language that makes use of rich and contextualized details. However, as an event is further removed from direct experience, people have less information about it, leading to the formation of a more abstract representation and description of the event or activity.

This connection between people's mental representation of an event and the way they will think about and describe it suggests that one's ability to use realism language to describe something in concrete details is closely related to whether an object or event is in the person's direct experience of reality. In other words, it depends on the person's knowledge and experience with the event or activity. For people who lack sufficient knowledge and experience, speaking with concrete details and in realism language may be difficult and, therefore, entail substantial costs. Perhaps the individual has to spend a significant amount of time to obtain the knowledge and/or experiences in order to provide a realism-based description, or the person has to lie about the specifics and bear the risk of being caught. In other words, the use of realism language is costly for those who lack

knowledge and experience, but it is almost free to use for those who truly possess such knowledge and experience.

In the case of corporate communication, this theory suggests that an executive's use of realism language (or not) to discuss an object or event in concrete details can convey important information to investors regarding the executive's possession of (or lack of) knowledge and experiences concerning an event. Recall the example of an advertising campaign discussed earlier. For instance, one executive might only tell the investors that the company has responded to a decreasing demand of their product by creating numerous advertising campaigns to increase brand recognition without referring to any specific details; another executive might talk about concrete details, such as the number of stores that conducted the advertising campaigns, the consumer feedback collected, and the overall market reaction. Would investors perceive these two executives differently? Prior research suggests that the use of more realism-based and concrete language may help executives convey a sense of competence and expertise. First, the description of goals and activities in more concrete terms directs the audience's attention toward the feasible aspects of the goal or activity, thereby demonstrating the communicator's detailed knowledge on how to accomplish the goal. Thus, the description of details will make the goal accomplishment seem more likely than if it were described in abstract language; in addition, this method makes the communicator appear more competent (Lasane, Cramer, & Breymaier, 1999; Liberman & Trope, 1998; Vallacher & Wegner, 1987; Zhao, Hoeffler, & Zauberman).

Given that the provision of concrete details can help a speaker convey a sense of competence, and yet the use of more realism-based and concrete language is not free for

all and closely connected to an individual's psychological distance from the object or event, I argue that executives' use of realism words would convey information to investors regarding the executive and his or her firm's underlying quality beyond performance results, and it will be interpreted as a signal of quality. Stated formally:

> *H1: Executives' use of realism will be positively associated with stock market reaction.*

Firm-specific Uncertainty

Of course, language is not the only means available to signal a firm's underlying quality to investors. In addition to qualitative language signals, executives of public firms have many other quantitative signals (e.g., accounting performance) to convey their future profitability to the investment community. When investors have multiple signals in hand, the use of one particular type of signal would depend on how useful the other signals are. Thus, in this section, I take a step further and argue that investors' attention to, and therefore response to, executives' qualitative language signal will depend on how informative other quantitative signals are, or the amount of uncertainty associated with a firm's future earnings.

From investors' perspective, organizations differ greatly in the level of uncertainty associated with their underlying value. In general, this difference in uncertainty is caused by two factors. First, due to the nature of their businesses, some organizations are inherently harder to assess and therefore more uncertain than others are (Johnson, 2004) . Organizations with harder to predict business will experience higher levels of uncertainty in their valuation. For example, organizations in the emerging high technology sectors are much more difficult to value than organizations in traditional industries with a long history. Second, because organizations are themselves the source of

most of the relevant information for the investment community, and they vary in the quantity and quality of information they choose to disclose, a higher level of uncertainty will be associated with organizations that disclose less information that is more ambiguous. More importantly, because the nature of business for an organization does not change frequently, changes in a firm's uncertainty level in the short term is more related to the management's information disclosure. When publicly available quantitative signals of firms' future profitability are highly noisy, the level of uncertainty associated with firms' future earnings becomes high.

Investors attend conferences because they want information to make better-informed investment decisions. This is particularly the case if other quantitative valuation signals are less informative and the uncertainty about firm future profitability is high. For example, Barron, Kin, Lim and Stevens (1998) found that higher earning uncertainty is directly linked to a recognized need by investors and analysts to acquire further information before the next earnings release. Therefore, I argue that a higher level of uncertainty is likely to direct more investor attention and scrutiny to qualitative signals, such as managerial language, which may provide clues about a firm's situation and performance. State formally:

> *H2: The influence of executives' use of realism will be amplified when the firm's earnings uncertainty is high.*

In this paper, I assume that investors are likely rational information processors who are interested in reducing uncertainty and information asymmetry, and therefore, they will use all potential signals of firm value, including executive word choices. This perspective helps explain why investors who were asked to name the companies that they considered the most responsive to shareholders, they selected firms that tried their best to

help investors understand how the company is doing and what its prospects are (Jackson, 2007).

METHODOLOGY

Sample and Data

To test the hypotheses, I obtain stock returns, trading volume, capitalization, book-to-market ratio from the Center for Research in Security Prices (CRSP) database and firm characteristics from Compustat database. Security analysts' forecasts were obtained from I/B/E/S analyst forecasts. Using the Thomson Reuters StreetEvent services, I obtained 8,990 verbatim transcripts of executives' presentations from 844 US public firms in 23 industries between 2003 and 2010. However, 1,516 observations has to be removed because Thomson Reuters does not have a record of the presentation and only provides Questions and Answers (Q&A) session. I further removed 353 duplicate observations because either a small part of the presentation was mistakenly coded as a separate presentation and thus resulted in duplicate copies, or because two identical presentations were captured by Thomson Reuters twice (e.g., same conference, same date, same speaker, and same word count). More importantly, I removed duplicate observations of same firm with multiple presentations on the same day as a result of different executives presenting at multiple conferences on the same day. The confounding effect caused by these same-day presentations is hard to disentangle, so I eliminated them from the analysis. I next removed 1,305 observations for which the absence of data on CRSP, Compustat, or I/B/E/S prevents the construction of variables needed for the empirical tests. Finally, some firms attended more than one conference each quarter, since firm performance data are at the quarterly level, I only keep each firm's first

presentation in any quarter. Thus, the final sample consists of 4,324 observations of presentation transcripts for 694 firms in 23 industries.

Descriptive information for the sample is presented in Table 3.1. Panel A shows the composition of the industries in the sample. Panel B shows the compositions of executives' positions in their organizations to give you a sense of who are they. Panel C is a list of the top 15 conference organizers to provide you an idea of the types of conferences used for this study. On average, firms in this sample have a return on assets of -0.71% (median 0.97%) and total asset of $20.6 billion (median: $4.5 billion) (see Table 3.3). The mean market value of equity of firms is $12.53 billion (median: $3.3 billion). Thus, this sample consists of predominantly large public US firms.

I examine the influence of realism in the context of managerial presentations at investment bank conferences. Investment bank conference is a prevalent form of voluntary and proactive communication between corporate leaders and outsiders (Bushee et al., 2011). Although investors and analysts have access to earnings data that can help them assess the fundamental value of a firm, they attend conferences because managerial presentations provide them the opportunities to supplement their private information about the firm with verbal and nonverbal information cues through interactions with executives. Compared to earnings calls, conference presentations are not designed strictly for the purpose of explaining past earnings and therefore give executives the opportunity to explain the firms' overall "story" without having to focus only on explaining recent information event. It is also one of the few contexts in which I can observe verbatim transcripts of executives' speech without worrying too much about the authorship of the message. While many prior studies have used managerial communications, such as

annual reports and earnings announcements, one of the main criticisms of that literature is that language used in these reports may not be the language of executives but rather of those who were hired to deliver legally defensible public statements for the firm (e.g. public relations staff and lawyers). This is less of a concern in the case of conference presentations because these presentations are about an hour long consisting of more than 6,000 words. Even if executives receive guidelines from their lawyers and public relations staff on what to say and not to say, observation of managerial presentations at investor conferences suggests that managers are typically speaking from notes but not reading word-by-word from a script.

Event study

To examine the immediate investor reactions to executives' use of realism, I performed an event study. Event study methodology has been widely used in finance, accounting, and economics to study the stock price reactions to events since the early 1980s (Binder, 1998; Brown & Warner, 1985). Strategy scholars have also employed this method to understand how investors react to various firm behavior and decisions (e.g., Lee & James, 2007; Wade, Porac, Pollock, & Graffin, 2006; Westphal & Zajac, 1998). This method allows researchers to determine if an event or information release at an event is significant by evaluating the abnormal price change of a firm's stock. If investors perceive that executives' use of realism words as conveying new information about firm value, one would expect changes in the firm's stock returns following the presentation. In addition, it is well-known that often decision-makers do not realize the influence of different information cues on their decision-making (Hastie & Dawes, 2001), event study

provides a less obtrusive way to examine investor behavior than methods that ask investors directly how they would react to differences in executive language style.

Dependent Variables

Abnormal stock return. Abnormal stock return is the difference between a firm's expected returns and its observed return. The association between the use of certain type of words and any abnormal increase or decrease in a firm's stock returns the next day indicates the extent to which the event provided new information about the value of firm (Brown & Warner, 1985). Using the EVENTUS program available on Wharton Research Data Services, I calculated expected returns based on the OLS market model. The OLS market model predicts a firm's expected return using regression analysis that relates a firm's return to that of a market portfolio (in this case, the NYSE and NSDQ equally weighted index). Using daily returns, I estimated a regression equation for each firm based on its relationship with a market portfolio over the estimation period (ending 45 days before the conference and extending back to 255 days prior to the conference). The estimation period ends 45 days before the event of interest so that returns at the time of the event will not influence the model parameters. I then used the resulting regression coefficients to calculate a firm's expected return and subtract this expected return from a firm's observed return to compute abnormal returns for each firm for the event window, which is on the day of the conference and one day after the conference. The OLS market model has shown to be well specified under a variety of conditions (Brown & Warner, 1985). Also, given the fact that investors and the media are unlikely to report word-by-word executives' speech after the presentation, the likelihood that executives' use of realism words influence returns many days after the event is relatively low.

Independent Variables

Quantitative approach to text analysis has gained increasing popularity over the past decade (e.g., Pennebaker et al., 2003; Popping, 2000; West, 2001). Two main methods have been used in prior research to quantify the language in text, which are the judge-based content analysis approach and the word count approach. The judge-based approach involves human judges who identify the presence of critical thematic references in texts on the basis of empirically or theoretically developed coding systems (Smith, 1992). The word count approach, on the other hand, use computerized content analysis program to count the number of words in a text document that belongs to a pre-defined category of words. While both the judge-based and word count approaches provide valid count of the information in a text, because the word count approach does not involve subjective human judgment, the resulting word count measures are considered to be "parsimonious, objective, replicable, and transparent " (Pennebaker et al., 2003; Tetlock et al., 2008: 1440). Therefore, this paper adopted the word count approach and reply on word dictionaries that was developed through extensive psychological research to quantify the use of realism words in executives' presentation.

Realism. This variable refers to "language describing tangible, immediate, recognizable matters that affect people's everyday lives" (Hart, 2002: 38) . It is calculated as the percentage of total words that are realism-based, using a computerized content analysis program called *Diction 6.0* (Hart & Carroll, 2010). Diction 6.0, developed by Rodrick Hart and Craig Carroll, is a scientific method for determining the tone of a verbal message using a computer program that searches a passage for thirty-five sub-features, which can be used to calculate composite features of language such as

realism-based. It has been used widely in the field of communications, political science, marketing, and finance to analyze presidential speeches, political advertising, public debates, media coverage, and managerial language (e.g., Bligh & Hess, 2007; Demers & Vega, 2008; Ober, Zhao, Davis, & Alexander, 1999; Yadav, Prabhu, & Chandy, 2007; Yuthas, Rogers, & Dillard, 2002). According to Hart and Carroll (2010: 7), below is the formula for calculating this variable:

> *Realism* = [Spatial Awareness + Temporal Awareness + Present Concern + Human Interest + Concreteness + Familiarity] – [Past Concern + Complexity]

Spatial Awareness refers to geographical entities, physical distance, and modes of measurement. *Temporal Awareness* refers to terms that fix a person, idea, or event within a specific time-interval. *Present Concern* refers to present-tense verbs. *Human Interest* refers to words that concentrate on human beings and their activities, which gives a text a life-like quality. *Concreteness* refers to words that indicate tangibility and materiality. Included in concreteness category are sociological units (e.g., peasants, African-Americans, Catholics), occupational groups (e.g., carpenter, manufacturer, policewoman), and political alignments (e.g., Communists, congressman, Europeans); Also incorporated are physical structures (e.g., courthouse, temple, store), forms of diversion (e.g., television, football, CD-ROM), terms of accountancy (e.g., mortgage, wages, finances), and modes of transportation (e.g., airplane, ship, bicycle). In addition, the dictionary includes body parts (e.g., stomach, eyes, lips), articles of clothing (e.g., slacks, pants, shirt), household animals (e.g., cat, insects, horse) and foodstuffs (e.g., wine, grain, sugar), and general elements of nature (e.g., oil, silk, sand). *Familiarity* consists of a selected number of C.K. Ogden s (1968) operation words, which he calculates to be the most common words in the English language. Included are common

prepositions (*across, over, through*), demonstrative pronouns (*this, that*) and interrogative pronouns (*who, what*), and a variety of particles, conjunctions and connectives (*a, for, so*). *Past Concern* refers to past-tense forms of the verbs contained in the *Present Concern* dictionary. *Complexity* is a simple measure of the average number of characters-per-word in a given input file.

Uncertainty. Security analysts are known to conduct extensive analysis of publicly available information about a firm when making earnings forecasts and recommendations. When publicly available valuation signals of a firm's future profitability are highly noisy, analysts face a higher level of uncertainty when making their forecast. As a result, there will be a lack of consensus among security analysts about a firm's future events and earnings (e.g., Barron, Kim, Lim, & Stevens, 1998; Barry & Jennings, 1992; Johnsons, 2004) (e.g., Barron et al., 1998; Barry & Jennings, 1992; Johnson, 2004). Hence, research in finance has shown that the amount of variations and disagreements across analysts in their assessment of a firm's future earnings is a good proxy for the level of uncertainty associated with a firm and the noise level of a firm's other quantitative valuation signals (Johnson, 2004). Therefore, I use the dispersion of security analysts' forecasts, measured by calculating the standard deviation of analysts' earnings forecasts in the most recent reported forecast prior to the conference, as a proxy for the amount of uncertainty associated with a firm's earnings.

Controls. I also included a number of control variables to control for some alternative explanations. First of all, I control for the underlying financial tone of the presentation. One potential explanations of the result is that investors are reacting to the financial tone in an executive's presentation, which reflects good or bad news regarding a

firm's current situation. To control for this alternative explanation, I calculated a measure of financial tone (*net positive words*) by subtracting the fraction of total words that are financially negative from the fraction of words that are financially positive.

$$\textit{Net positive words} = \frac{Financial\ positive\ words}{Total\ words} - \frac{Financial\ negative\ words}{Total\ words}$$

I used the dictionary of financial negative and positive words developed by Loughran and McDonald (2009). Although several prior studies have used the Harvard IV-4 dictionary to measure negative and positive words (e.g., Tetlock, 2007; Tetlock et al., 2008), word list, such as the Harvard-IV-4 dictionary, developed for psychology and sociology may not translate well into the realm of financial settings (2009). Specifically, some negative words in the Harvard dictionary do not have a truly negative meaning in the context of financial markets, such as tax, cost, liabilities, and simply describe company operations and thus will be misclassified and add noise to the measurement of underlying financial tone. Therefore, given that the setting of this paper is financial disclosure, I used the alternative word list developed by Loughran and McDonald (2009) to better reflect the tenor of financial text.

Another potential explanation for the results is that executives might have released substantial good or bad information regarding a firm's fundamental, which in turn caused the stock market reaction to be positive or negative. If this is the case, I would expect security analysts to revise their earnings forecast after the conference. Thus, I also control for whether security analysts made a forecast revision after the conference. Using analysts forecast of sales revenue provided by IBES, I calculated the percentage of changes in the mean analysts forecast of sales revenue in the next reported forecast after

the conference as compared to the last reported forecast before the conference (*forecast revisions).*

$$\textit{Forecast Revisions} = \frac{\text{Post-conference forecast - Pre-conference forecast}}{\text{Pre-conference forecast}}$$

Post conference forecast is the most recently announced earnings forecast after the conference. Pre-conference forecast is the most recently announced earnings forecast before the conference. Thirdly, some may argue that the performance of the firm before the conference will be an important driver of investor reaction. An important criterion that investors use to judge the performance of a firm is whether the firm has performed up to expectations (e.g., Burgstahler & Eames, 2006; Kinney, Burgstahler, & Martin, 2002b). Therefore, I control for the difference between a firm's most recently announced earnings and the analysts' consensus earnings forecast for the firm prior to the conference (*earnings surprises*$_{t-1}$). This variable captures whether and how much a firm has performance as compared to analysts' expectations. To control for firm size, I measure a firm's total market capitalization (*log(market equity)*) at the end of preceding quarter prior to the conference. To control for the type of security, I included the log of a firm's book-to-market ratio (*book-to-market)*) at the end of preceding quarter prior to the conference. Research shows that firms with high book-to-market equity have persistently low earnings, higher financial leverage, low sales growth, more earnings uncertainty, and are more likely to cut dividends compared to their low BE/ME counterparts (Chen & Zhang, 1998; Fama & French, 1995; Griffin & Lemmon, 2002). I also control for the total amount of words (*log(total words)*) in each presentation because in many cases, the length of the presentation alone may indicate preparation and thus indicate a firm's effort

(Shelby & Reinsch Jr, 1995). Finally, I included a set of year dummies to control the effect of time.

Analysis

Because the data extended over seven years and there are multiple observations for each firm, these observations were not independent and therefore were not appropriate for analysis with a simple ordinary least square regression. Thus, I used a firm fixed-effect model to control for constant unmeasured differences across firms that may explain differences in the dependent variables. Fixed-effects models are considered conservative because only changes in independent variables within a firm can produce significant effects. Thus, a positive coefficient in these models can be interpreted as indicating that a positive change in an independent variable within a firm is associated with a positive change in the dependent variable within that firm.

RESULTS

To examine whether and how investors respond to executives' use of realism, I examine contemporaneous stock reaction to the amount of realism that an executive use in his or her presentation. I report descriptive statistics and correlations in table 3.4 and key regression results in tables 3.5 and table 3.6. All models are estimated using firm fixed-effect regressions with standard errors clustered by industry sectors. First, results in table 3.5 and 3.6 show that most of the control variables are not significant at predicting abnormal stock returns following the conference. The insignificant results for most of the control variables except for earnings surprises$_{t-1}$ and net positive words, is not surprising because the dependent variable is firm abnormal stock returns following investor conferences. Since the occurrence of these conferences are not systematically related to

firms' release of accounting performance and thus most of the firm characteristics, such as firm size and book-to-market ratio, will not change from one conference to another. The earnings surprises$_{t-1}$ is the differences between the most recently announced firms' earnings and analysts forecast prior to the conference and therefore is more likely than other firm characteristics to vary from one conference to another. In addition, net positive words represent the extent to which executives used financial positive words in their presentations and thus more likely to vary across conferences.

In table 3.5 model 2, I test Hypothesis 1. As predicted, realism had a significantly positive relationship with the abnormal stock returns predicted using the market model (coef. =0.006, $p<0.05$). To check the robustness of the results with regard to different measures of stock returns, I also tested the effect of realism on stock returns, calculated using the market-adjusted model. Consistent with the previous results, I also find a positive and significant relationship between realism and market-adjusted returns (Table 3.5 Model 6: coef. =0.006, $p<0.05$). Thus, Hypothesis 1 is supported. It suggests that stock investors respond positively to the use of realism by executives in their conference presentations. In Hypothesis 2, I argued the moderating role of uncertainty on the relationship between realism and stock reaction. In table 6 model 2, I include the interaction term between realism and earnings uncertainty. I find that this term had a positive and significant association with market returns (coef. = 0.638, $p<0.01$). As shown in Figure 1, the impact of realism on stock returns is more pronounced when uncertainty is high. In contrast, the impact of realism is minimal when uncertainty is low. Thus, consistent with Hypothesis 2, the positive relationship between realism and stock reaction is strengthened when uncertainty is high.

Since both Chapter 1 and 2 of this dissertation focus on executive word choice during conference presentation, it is important to show that the effect of realism is above and beyond the effect of feeling words identified in Chapter 1. In table 5 model 3 and 7, I tested the effect of realism on market returns and market-adjusted stock returns by controlling for executives' use of feeling words. Results show that the effect of realism is not subsumed by the inclusion of feeling words, suggesting that realism words and feeling words each has their own independent effect on stock returns.

As discussed in theory section related to the influence of realism, executives' use of realism may be driven by their personal differences. To test for this alternative explanation, I obtained a representative subsample of 1,028 presentations and coded the individual speaker. I then tested the effect of realism using a firm-speaker fixed-effect regression in model 4 of table 3.5. This allows me to estimate how much of the variation in stock market response can be attributed to changes in realism, after controlling for firm fixed effects and individual executive fixed effects. In these models, only changes in realism within a firm-speaker pair can produce significant effects. Thus, a positive coefficient in these models can be interpreted as indicating that a positive change in realism within a matched firm and speaker pair is associated with a positive change in market response. As can been seen in table 3.5 model 3, realism had a positive and significant coefficient (coef. =0.061, $p<0.05$), implying that executives' use of realism is empirically an important determinant of stock market reaction even if I control for firm and speaker fixed effect. Thus, I conclude that the result of Hypothesis 1 is robust against the alternative explanation that the impact of realism is driven by individual difference.

Hypothesis 1 implies that the use of realism is connected to an individual's

knowledge and experience and thus allowing others to use it as a signal to infer the individual's competency. If this is the case, I should observe three effects. First, I should observe a systematic relationship between executives' use of realism and firms' conditions. If I assume that most executives have a reasonable amount of knowledge to do his or her job, their variances in realism is likely to be related to the conditions of firms that may facilitate or prohibit them from providing concrete details to investors. For example, if a firm already has a proven business model, it would not be difficult for executives to be realism-based and to talk about the details of their model. However, if a firm is still in the process of forming a profitable business model and is still attracting investments based on its potential for growth, it is likely that executives are less capable of providing concrete details about their profit-generating activities. Thus, I expect executives' use of realism to be connected to their firms' conditions. In table 3.7, I tested the association between a firm's characteristics on realism. Result shows that there is a significantly and positive association between a firm's most recently announced profitability prior to the conference and executives' use of realism, providing some support to the idea that firm conditions influence executives' use of realism. However, it is also important to note that while prior profitability is a significant predictor of executive use of realism. Prior profitability is always controlled when I test the relationship between executives' use of realism and stock returns, suggesting that prior profitability and other firm conditions do not explain entirely the variances in executive use of realism and realism has its independent impact on firm stock returns above and beyond these indicators of firm conditions.

Second, if executives' use of realism is related to a firm's conditions and thus can

be interpreted as signal of a firm's underlying quality, we should expect security analysts, the expert of firm valuation, to react to executives' use of realism as well. In table 8, I use realism to predict analysts' revisions of their earnings forecasts after the conference. As expected, I observe a positive and significant relationship between executives' use of realism and analysts revisions (table 8 model 2: coef. =0.042, $p<0.10$). Since this relationship is only marginally significant, this only represents some initial evidence that analysts also respond to executives' use of realism but further analyses are needed to reach a more definite conclusion.

Third, if realism can be used as a signal of quality, I should expect it to be positively related to indicators of firm future performance. In table 9 and 10, I tested the effect of realism on firm future stock returns and profitability. While there is a marginally significant positive relationship between realism and firm future stock returns (β =0.022, $p<0.10$), I found no systematic relationship between executives' use of realism and future profitability (see table 10 mode 2 and 4). Thus, there is mixed evidence regarding whether executives' use of realism is predictive of firm future performance.

DISCUSSION

Organizational researchers have long emphasized the importance of language and narrative in managing the demands and expectations of key stakeholders (Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001; Pfeffer, 1981). For example, Pfeffer (1981) stated that a key task of management is to use language and symbolic activities to help both internal and external organizational participants to make sense of what is going on in the organization, to create meanings, and to ensure commitment and support of organizational stakeholders. This study seeks to further our understanding of the effect of

executive language by investigating whether, how, and when executives' use of realism will impact investors' firm evaluation. The central premise of this study is that executives' word choice is observable to outsiders and executives face differential costs to use realism. As a result, executives' use of realism may be interpreted as signal of a firm's future value to investors, thus influencing investors' evaluation of the firm and price movements in the stock market.

The results clearly demonstrate that differences in executives' level of realism relate to investors' reactions. I found that stock investors react positively to the use of realism. At a broad level, this is consistent with research that focuses on the role of managerial language in helping executives to manage external stakeholders' perception of the firm (Pfeffer, 1981; Westphal & Zajac, 1998). The findings are also consistent with empirical studies in finance and accounting that demonstrated the connection between movements in firms' stock returns and qualitative features of managerial language (Demers & Vega, 2008; Feldman et al., 2010b; Hales et al., 2011b; Loughran & McDonald, 2009; Tetlock et al., 2008). However, while these prior studies in finance and accounting have mostly focused on the tenor of managerial language, this paper's focus on manager's use of realism and thus identified another important characteristics of managerial language that influence external constituents' evaluation of the firm. Moreover, this paper departed from prior studies by focusing on managerial presentations at conferences, a form of voluntary and direct face-to-face verbal communications between managers and investors. Most prior studies have focused either on written communications between management and investors (e.g., annual reports) or verbal accounts related strictly to earnings (e.g., earnings conference calls). Research shows that

managerial presentations at conferences are becoming an increasingly important communication mechanism between organizations and investors (Bushee et al., 2011). Investors use these opportunities to evaluate a firm above and beyond the information provided in earnings statements. Therefore, this paper contributes to the understanding of how to effectively communicate with external constituents at these important occasions.

I also argued that the presence of high uncertainty would amplify the influence of executives' use of realism on stock market reaction, because investors will put more emphasis on qualitative signals of future firm value when other quantitative signals are less informative. Specifically, I argued that when earnings number and analyst forecasts are unclear and create uncertainty, investors will be more sensitive to qualitative information, such as executives' word choice to infer information about firm past and future activities and performances. Empirical results provide some support to this argument. I found that the effect of realism on stock returns is more pronounced when uncertainty is high.

The findings in this study together have important implications for executives who communicate with investors regularly as well as investors who try to incorporate multiple sources of information to make investment decisions. For executives, this study provides evidence that investors perceive their use of realism words as signal of firm quality and respond to it. Hence, executives need to pay close attention to their use of realism words and utilize all available opportunities to demonstrate their competence and knowledge. For example, if executives use more abstract and not realism-based words when concrete details are in fact available is likely to invite unnecessary doubts regarding the firm's conditions and the executive's competency. Furthermore, these findings also

suggest that when there is a high level of uncertainty regarding firm future earnings, investors will demand more information and thus be more sensitive to qualitative features of executive language. Therefore, under such conditions, extra caution should be given to executives' choice of words when communicating with investors.

The approach in this study is not without its limitations. Future research can extend the current work by addressing some of these shortcomings. First, findings in this study may not generalize to many other contexts, such as initial public offerings. It is possible that if I had conducted the study using other written communication between executives and investors, such as annual reports or if I had conducted the study using IPO prospectuses, I might have found different results. The use of certain verbal styles might be more or less prevalent and noticeable in written format. Future research might advance the understanding in this area by addressing these alternative explanations and examining the effect of verbal styles in the setting of IPOs and compare and contrast the characteristics of managerial language used in written versus verbal communications and how investor responses vary depending on the communication mechanism.

Second, the verbal styles examined in this study might be correlated with unobservable characteristics of the firm and the presenting executives. I have tried to limit the influence of firm characteristics on executives' word use by testing hypotheses using a firm fixed-effect and firm-speaker fixed-effect model, and thus holding constant characteristics of firms and speakers. I also controlled for many conventional firm characteristics that have been identified in prior literature to influence stock market reaction. I nevertheless was unable to rule out this possibility entirely.

Third, the study of language only represents one of the many ways that an individual can convey value-related information in communication. Communication experts generally agree that beside verbal content, there are various nonverbal attributes (e.g., appearance, facial expression, and gestures) and vocal attributes (e.g., voice intonation, speed, and volume) that may provide information. For instance, Mayew and Venkatachalam (2012) have demonstrated that investors do incorporate managerial expression of emotional states via vocal cues (e.g., voice) into stock market prices. Thus, another fruitful avenue for future research might be to explore how nonverbal cues in conference presentations influence stock reaction.

Fourth, the sample of firms included in this study are either firms who have been invited by Thomson Reuters to be covered in their StreetEvent service because of its major role in an industry or firms who were covered through the request of the firm or institutional investors to Thomson Reuters, thus represent a group of firms that are larger in size than average firm and in general a higher level of performance. As a result, this may limit the generalizability of the findings in this study to other smaller and less successful firms.

Table 3.1
Sample Details

Panel A: Industry Composition

IID	# of Industries	# of Companies	# of Transcripts
01	Aerospace & Defense	41	524
02	Airlines	19	119
03	Automobile	10	101
04	Beverages	14	97
05	Biotechnology	100+	1446
06	Communication Equipment	69	810
07	Electric Utilities	21	311
08	Electrical Equipment	41	253
09	Electrical, Instruments, & Components	61	443
10	Food & Staples Retailing	16	224
11	Food Products	42	324
12	Health Care Equipment & Supplies	100+	1056
13	Health Care Providers & Services	NA	366
14	Health Care Technology	14	80
15	Household Durables	31	347
16	Household Product	10	160
17	Insurance	79	634
18	Internet Retailing & Internet Software	NA	267
19	Metals & Mining	35	95
20	Multiline Retail	15	173
21	Multi-utilities	23	372
22	Pharmaceuticals	89	775
23	Water Utilities	2	13
	Total	**632**	**8990**

Panel B. Corporate Positions of Key Presenters

Presenter Position	Number of Transcripts	Percent of Sample
CEO	776	60.63
CFO	359	28.05
Others	145	11.33
Total	**1,280**	**100**

Panel C: Conference Organizers

Top 15 Conference Organizers	Frequency	Percent of Sample
JPMorgan	107	8.29
Morgan Stanley	98	7.59
Credit Suisse	85	6.58
Bank of America	71	5.5
Deutsche Bank Securities	69	5.34
Cowen and Company	53	4.11
Smith Barney Citigroup	51	3.95
UBS	50	3.87
Raymond James	49	3.8
Goldman Sachs	46	3.56
Barclays	31	2.4
Thomas Weisel Partners	28	2.17
Bear, Stearns & Co	27	2.09
Merrill Lynch	27	2.09
All Other Investment Banks Combined	459	9.91
Industry Association	40	3.1
Total	**1,291**	**100**

Table 3.2 Example from the Transcripts

Example of High Realism

Becton, Dickinson, and Company
Sep 10, 2007

Outside the **United States** where conversion rates to safety **devices** are low, increased conversion will drive the growth. And **inside** the **United States**, enhanced products, future-generation products, or upgrades, will drive the growth. The Push Button Blood Collection Set, shown on this **slide**, is a great example of a higher value, next-generation **device** that is driving growth.

The added value of this product commands a price premium of nearly 75% over the previous-generation product. Nexiva is another good example of a next-generation safety device designed to reduce the spread of infection. This closed IV-catheter system not only protects **healthcare workers**, it also adds another element, **patient** safety, by reducing the risk of contamination entering the **bloodstream** through the IV set.

A complementary product to the IV catheter is the IV flush syringe, which is used to keep IV lines clean **before and after** the administration of medication. They also help protect **patients** by reducing the potential for contamination during the filling process and they aid **clinicians** by eliminating the need for **needles**. They are also easier to use which makes **nurses** more efficient.

The **developing world** faces unique challenges to reduce the spread of infection as reuse of single **devices** is a major source of infectious disease transmission in this part of **the world**. BD has pioneered low cost, auto-disabled **devices** that prevent reuse. Our devices reduce the spread of infection by eliminating the ability to reuse injection **devices**.

Honeywell International
Sep 06, 2007

Over time, we've really invested in the business; grown our **automation and control business** to about the same **size** as **aerospace** now. By taking the **software** we have installed in the **business jets today** and coupling that with our ground **products database** …, we can actually project on a HUD, **a display**, what is **outside** the **cockpit when** there is zero visibility. It has been recognized by many as one of the most innovative things introduced **in the year**.

Example of Low Realism

Mercury Computers Systems
Jan 12, 2007 at 1:30pm

So what do we do? We do basically what we have done for many**, many years**. We architect specialized computing solutions where the applications need something, the capability beyond that which can be provided by general-purpose **computers**. Typically what it means is that we find the latest semiconductor technology in the form of **processors**, **microprocessors**. You see a list of them there. The Cell **processor** from **IBM**, FBGAs, graphics processing units, GPUs, obviously general-purpose **processors**.

We architect them into a heterogeneous solution which meets the specific application requirements of the industries you see over there on the right hand side. In order to do this we have a lot of expertise in the architecting of the **computers** and the detail knowledge of the chips themselves so that we can optimize the code that is running on these chips. We're not just a hardware Company by any means. We sell our solutions to the customers. That is why they come to us.

A number of the companies that we are involved with here are the commercial companies on the left-hand side, defense companies on the right. The message to take away from here is that most of these are certainly Tier 1 companies, both in the defense space and the commercial world.

Dr. Pepper
Sep 09, 2009

We believe that … through single-serve availability, award-winning innovation and 360 degree consumer communications we will ensure our brands are top of line and always close at hand. Over time our crush-cost mindset will ensure we manage the leanest and most-efficient operating model possible. Our guiding principal is to do what's best for our brands, our **customers**, our **consumers** and our stockholders…

Table 3.3
Firm Characteristics

	Mean	S.D.	Median	Min	Max
Return on Assets	-0.009	0.130	0.010	-7.057	0.556
Total Assets (billions)	20.603	63.304	4.462	0.017	1072.105
Market Equity	4.242	12.534	26.370	0.006	230.610
Realism	0.310	0.165	0.398	-0.049	0.500

Table 3.4
Descriptive Statistics

		Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12
1	Market returns	0.003	0.041	-0.538	0.458												
2	Market-adj. returns	0.003	0.041	-0.537	0.455	0.94											
3	CAR(1, 30)	-0.002	0.15	-0.829	3.364	0.11	0.12										
4	Realism words	0.309	0.161	-0.049	0.500	-0.01	-0.03	-0.01									
5	Net positive words	0.008	0.007	-0.021	0.063	0.06	0.05	0.01	-0.12								
6	Log(total words)	8.059	0.655	3.584	9.556	-0.02	-0.01	-0.01	-0.03	0.03							
7	Log(Market equity)	14.98	1.900	8.737	19.448	-0.01	0.00	-0.05	-0.12	0.24	-0.02						
8	Book-to-market	0.535	0.433	-0.232	1.731	0.03	0.02	0.05	-0.10	-0.10	0.01	-0.12					
9	Uncertainty	0.005	0.022	0.000	0.527	-0.03	-0.06	-0.02	0.05	-0.10	0.02	-0.24	0.13				
10	Forecast revisions	0.016	0.231	-1.000	9.234	0.00	-0.00	0.02	0.00	-0.01	0.01	-0.04	-0.04	0.02			
11	Unexpected earnings	0.066	0.256	-0.614	0.938	0.01	0.01	0.05	0.03	-0.05	0.02	-0.18	0.09	0.08	0.15		
12	$\text{Profitability}_{t+1}$	-0.009	0.13	-7.057	0.556	0.03	0.03	-0.05	-0.08	0.10	-0.01	0.29	0.01	-0.10	0.02	-0.13	
13	$\text{Profitability}_{t+2}$	-0.006	0.078	-1.059	0.759	0.02	0.02	0.05	-0.11	0.17	-0.04	0.42	0.04	-0.16	0.06	-0.17	0.39

Table 3.5
The Association between Realism and Contemporaneous Stock Returns

This table reports firm-fixed effect regression estimations of the association between the fractions of realism words (*realism words*) in executive presentations at investor conferences and firms' cumulative abnormal stock return on the day of the conference and the day after. The two different dependent variables are the firm's abnormal stock returns predicted using the market model (*market return*) and market-adjusted model (*market-adj return*). I used the market model with a [-255, -45] trading day estimation period relative to the day of conference as the benchmark for expected returns. The key independent variable is *realism words*, the fractions of total words in an executive's speech that are concrete and realism-based. The key control variable is the fractions of financial positive words minus financial negative words in a presentation (*net positive words*) and the fraction of feeling words (*feeling words*). Each regressions also includes a number of other control variables, such as the length of presentations (*log(total words)*), firm size (*log(market equity)*), the ratio of book equity to market equity at the end of the preceding quarter (*book-to-market*), the standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*Uncertainty*), the differences between most recently reported firms' earnings and analysts' earnings forecast prior to the conference (*earnings surprises*$_{t-1}$), and analysts' revision of earnings forecast immediately following the conference as compared to earnings forecasts reported prior to the conference (*forecast revisions*$_{t+1}$). Year dummies are also included as controls (*year fixed effects*). Standard errors clustered by industry sectors are presented in parentheses. **, * , +: significant at 0.01, 0.05, and 0.10 level, respectively in a two-tailed test.

	Market Return (1)	**Market Return (2)**	**Market Return (4)**	**Market Return (3)**	**Market-adj. Return (5)**	**Market-adj. Return (6)**	**Market-adj. Return (7)**
Realism words		0.006*	0.061*	0.005*		0.006*	0.005*
		(0.002)	(0.029)	(0.002)		(0.002)	(0.002)
Feeling words				0.996**			1.212**
				(0.239)			(0.234)
Net positive words	0.354*	0.351*	0.031	0.343*	0.297+	0.295+	0.286+
	(0.135)	(0.133)	(0.199)	(0.131)	(0.145)	(0.144)	(0.142)
Log (Total words)	-0.001	-0.001	-0.055	-0.001	0.000	0.000	-0.000
	(0.001)	(0.001)	(0.480)	(0.001)	(0.001)	(0.001)	(0.001)
Log(Market equity)	-0.004	-0.004	0.551	-0.004	-0.002	-0.002	-0.002
	(0.002)	(0.002)	(0.782)	(0.002)	(0.002)	(0.002)	(0.002)
Book-to-market	0.009	0.009	-0.000	0.009	0.011	0.011	0.012
	(0.014)	(0.014)	(0.225)	(0.015)	(0.010)	(0.010)	(0.011)
Uncertainty	-0.055	-0.055	4.558	-0.011	-0.042	-0.042	0.032
	(0.104)	(0.104)	(10.459)	(0.068)	(0.152)	(0.152)	(0.080)
Earnings surprises$_{t-1}$	0.015**	0.015**	-0.148	0.015**	0.016**	0.016**	0.015**
	(0.002)	(0.002)	(0.151)	(0.002)	(0.003)	(0.003)	(0.003)
Forecast revisions$_{t+1}$	-0.004	-0.004	4.194*	-0.005	-0.003	-0.003	-0.004
	(0.006)	(0.006)	(1.684)	(0.006)	(0.005)	(0.005)	(0.005)
Fixed Effects							
Year	Y	Y		Y	Y	Y	Y
Firm	Y	Y	Y	Y	Y	Y	Y
Speaker			Y				
Constant	0.064	0.062	-11.936	0.063	0.033	0.031	0.024
	(0.041)	(0.041)	(12.910)	(0.044)	(0.041)	(0.041)	(0.041)
Observations	4,385	4,385	768	4,332	4,385	4,385	4,332
R-squared	0.012	0.012	0.045	0.013	0.012	0.012	0.014
Number of firms	714	714	206	695	714	714	695

Table 3.6
Predicting Stock Returns Using the Interaction of Realism and Uncertainty

This table reports firm-fixed effect regression estimations of the association between the interaction between fractions of realism words (*realism words*) and standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*Uncertainty*), and firms' cumulative abnormal stock return on the day of the conference and the day after. The two different dependent variables are the firm's abnormal stock returns predicted using the market model (*market return*). I used the market model with a [-255, -45] trading day estimation period relative to the day of conference as the benchmark for expected returns. The key control variable is the fractions of realism words (*realism words*), standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*Uncertainty*), and the fraction of financial positive words minus financial negative words in a presentation (*net positive words*). Each regressions also includes a number of other control variables, such as the length of presentations (*log(total words)*), firm size (*log(market equity)*), the ratio of book equity to market equity at the end of the preceding quarter (*book-to-market*), firms' profitability in the most recent quarter prior to the conference ($profitability_{t-1}$), and analysts' revision of earnings forecast immediately following the conference as compared to earnings forecasts reported prior to the conference ($forecast\ revisions_{t+1}$). Year dummies are also included as controls (*year fixed effects*). Standard errors clustered by industry sectors are presented in parentheses. **, * , +: significant at 0.01, 0.05, and 0.10 level, respectively in a two-tailed test.

	Market Returns	Market Returns
	(1)	(2)
Realism*Uncertainty		0.638**
		(0.160)
Realism	0.006*	0.005+
	(0.002)	(0.002)
Uncertainty	-0.055	-0.229*
	(0.104)	(0.074)
Net positive words	0.351*	0.348*
	(0.133)	(0.134)
Log(Total words)	-0.001	-0.001
	(0.001)	(0.001)
Log(Market Equity)	-0.004	-0.004
	(0.002)	(0.002)
Book-to-market	0.009	0.009
	(0.014)	(0.014)
$Profitability_{t-1}$	0.015**	0.015**
	(0.002)	(0.002)
$Forecast\ Revisions_{t+1}$	-0.004	-0.005
	(0.006)	(0.007)
Fixed Effects		
Year	Y	Y
Firm	Y	Y
Constant	0.062	0.062
	(0.041)	(0.041)
Observations	4,385	4,385
R-squared	0.012	0.013
Number of firms	714	714

Figure 3.1
The Interaction Effect of Realism and Uncertainty on Stock Returns

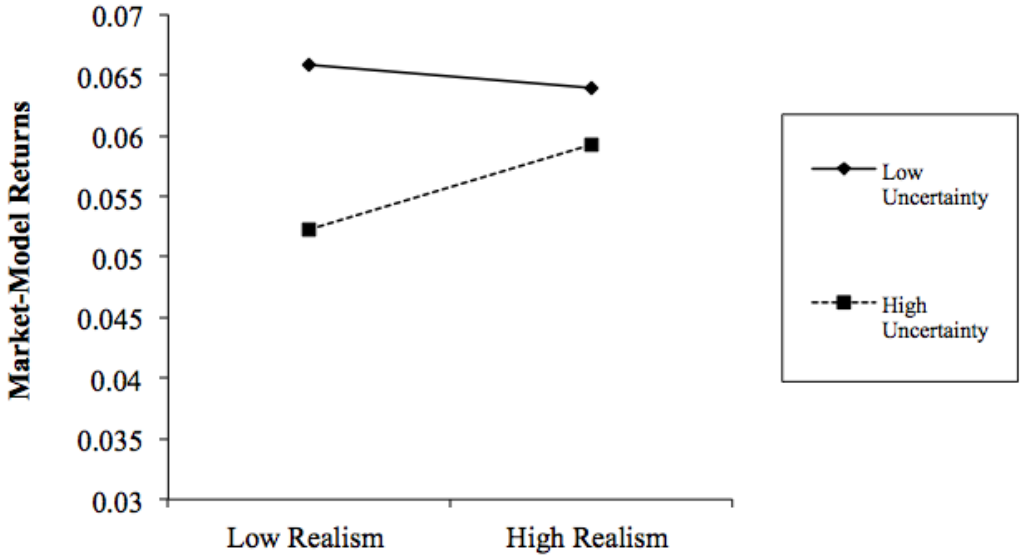

Table 3.7
Economic Significance of Realism Words

This table reports the economic significance of the effect of realism words (*realism words*), and the interactions between realism words and uncertainty (*realism*uncertainty*), on abnormal stock returns predicted using the market model (*market return*) and market-adjusted model (*market-adj. return*). Economic significance is defined as the product of the coefficient and standard deviation of the variable of interest. The coefficients used in this table are obtained from Table 3.5 and 3.6.

Type of Message	Standard Deviation	Coefficient	Economic Significance	t-stat
	Dependent Variable = Market Model Stock Returns			
Realism words	0.161	0.061	0.98%	2.10
	Dependent Variable = Market-adjusted Model Stock Returns			
Realism words	0.161	0.006	0.10%	3.00
	Dependent Variable = Market Model Stock Returns			
Realism*Uncertainty	0.009	0.638	0.57%	3.99

Table 3.7
The Associations between Firm Characteristics and Realism Words[3]

This table reports firm-fixed effect regression estimations of the association between firm characteristics and the fractions of realism words (*realism words*) in executive presentations. The key independent variables are, firms' profitability in the most recent quarter prior to the conference (*profitability*$_{t-1}$), firm size (*log(market equity)*), firms' ratio of book equity to market equity (*book-to-market*), and the standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*forecast dispersion*$_{t-1}$). I control for the length of a presentation (*log(total words)*). Standard errors clustered by industry sectors are presented in parentheses. **, * , +: significant at 0.01, 0.05, and 0.10 level, respectively in a two-tailed test.

	Realism Words
	(1)
Profitability$_{t-1}$	0.030*
	(0.015)
Net positive words	0.799
	(0.647)
Log(Total words)	0.006
	(0.012)
Log(Market equity)	0.001
	(0.006)
Book-to-market	0.007
	(0.007)
Uncertainty	0.008
	(0.056)
Fixed Effects	
Year	Y
Firm	Y
Constant	0.223*
	(0.074)
Observations	4,495
Number of firms	740
R-squared	0.011

[3] I would like to acknowledge the fact that the association between firm conditions and executive use of realism suggests that a two-stage least-square regression model (2SLS) might be more appropriate for testing the impact of executive use of realism on stock returns. It is not used in the current version of the paper because I am still in the process of collecting an exclusion variable that can act as instrument for the use of realism.

Table 3.8
The Association between Realism and Analysts' Forecast Revisions

This table reports firm-fixed effect regression estimations of the association between the fractions of realism words (*realism words*) in executive presentations and analysts' revision of earnings forecast immediately following the conference as compared to earnings forecasts reported prior to the conference (*forecast revisions*$_{t+1}$). The key independent variable is *realism words*, the fractions of total words in an executive's speech that refer to tangible, immediate, and practice issues and objects. The key control variable is the fractions of financial positive words minus financial negative words in a presentation (*net positive words*). Each regressions also includes a number of other control variables, such as the length of presentations (*log(total words)*), firm size (*log(market equity)*), the ratio of book equity to market equity at the end of the preceding quarter (*book-to-market*), the standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*uncertainty*), and the differences between most recently reported firms' earnings and analysts' earnings forecast prior to the conference (*earnings surprises*$_{t-1}$). Year dummies are also included as controls (*year fixed effects*). Standard errors clustered by industry sectors are presented in parentheses. **, * , +: significant at 0.01, 0.05, and 0.10 level, respectively in a two-tailed test.

	Forecast Revisions$_{t+1}$	**Forecast Revisions$_{t+1}$**
	(1)	**(2)**
Realism words		0.042+
		(0.025)
Net positive words	-0.429	-0.436
	(0.333)	(0.332)
Log(Total words)	0.004	0.005
	(0.004)	(0.004)
Log(Market equity)	0.032**	0.032**
	(0.012)	(0.012)
Book-to-market	-0.036*	-0.037*
	(0.017)	(0.017)
Uncertainty	2.205+	2.209+
	(1.280)	(1.281)
Earnings surprises$_{t-1}$	0.193**	0.193**
	(0.063)	(0.063)
Fixed Effects		
Year	Y	Y
Firm	Y	Y
Constant	-0.276*	-0.292*
	(0.112)	(0.114)
Observations	4,260	4,260
R-squared	0.052	0.052
Number of firms	689	689

Table 3.9
The Association between Realism and Cumulative Stock Returns 30 Days After the Conference

This table reports firm-fixed effect regression estimations of the association between the fractions of feeling words (*feeling words*) in executive presentations and firms' future cumulative stock returns between 1 day and 30 days after the conference (*CAR(1,30)*). The key independent variable is *realism words*, the fractions of total words in an executive's speech that refer to tangible, immediate, and practice issues and objects. The key control variable is the fractions of financial positive words minus financial negative words in a presentation (*net positive words*). Each regressions also includes a number of other control variables, such as the standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*uncertainty*), the length of presentations (*log(total words)*), firm size (*log(market equity)*), the ratio of book equity to market equity at the end of the preceding quarter (*book-to-market*), and the differences between most recently reported firms' earnings and analysts' earnings forecast prior to the conference (*earnings surprises*$_{t-1}$). Year dummies are also included as controls (*year fixed effects*). Standard errors clustered by industry sectors are presented in parentheses. **, * , +: significant at 0.01, 0.05, and 0.10 level, respectively in a two-tailed test.

	CAR(1,30)	***CAR(1,30)***
	(1)	**(2)**
Realism words		0.022+
		(0.012)
Net positive words	0.761+	0.748+
	(0.376)	(0.376)
Uncertainty	0.136	0.136
	(0.658)	(0.658)
Log(Total words)	-0.003	-0.003
	(0.002)	(0.002)
Log(Market equity)	-0.083**	-0.083**
	(0.023)	(0.023)
Book-to-market	0.052*	0.052+
	(0.024)	(0.024)
Earnings surprises$_{t-1}$	0.021+	0.021+
	(0.011)	(0.011)
Fixed Effects		
Year	Y	Y
Firm	Y	Y
Constant	1.202**	1.198**
	(0.326)	(0.326)
Observations	4,505	4,505
R-squared	0.071	0.072
Number of firms	741	741

Table 3.10
Predicting Firm Future Performance Using Executives' Language

This table reports firm-fixed effect regression estimations of the association between the fractions of feeling words (*feeling words*) in executive presentations and firms' return on equity reported one quarter after the conference (*profitability*$_{t+1}$) and return on equity two quarters after the conference (*profitability*$_{t+2}$). The key independent variable is *realism words*, the fractions of total words in an executive's speech that refer to tangible, immediate, and practice issues and objects. The key control variable is the fractions of financial positive words minus financial negative words in a presentation (*net positive words*). Each regressions also includes a number of other control variables, such as the standard deviation of analysts' earnings forecast in the most recent time period prior to the conference (*uncertainty*), the length of presentations (*log(total words)*), firm size (*log(market equity)*), the ratio of book equity to market equity at the end of the preceding quarter (*book-to-market*), the differences between most recently reported firms' earnings and analysts' earnings forecast prior to the conference (*earnings surprises*$_{t-1}$), and firms' return on equity reported one quarter prior the conference (*profitability*$_{t+1}$). Year dummies are also included as controls (*year fixed effects*). Standard errors clustered by industry sectors are presented in parentheses. **, * , +: significant at 0.01, 0.05, and 0.10 level, respectively in a two-tailed test.

	Profitability$_{t+1}$	**Profitability$_{t+1}$**	**Profitability$_{t+2}$**	**Profitability$_{t+2}$**
	(1)	**(2)**	**(3)**	**(4)**
Realism words		-0.004		0.007
		(0.006)		(0.006)
Net positive words	-0.091	-0.089	0.174**	0.170**
	(0.059)	(0.056)	(0.044)	(0.043)
Log(Total words)	-0.001	-0.001	-0.001*	-0.001**
	(0.001)	(0.001)	(0.000)	(0.000)
Log(Market equity)	0.012**	0.012**	-0.002	-0.002
	(0.002)	(0.002)	(0.004)	(0.004)
Book-to-market	-0.026*	-0.026*	-0.026**	-0.026**
	(0.009)	(0.008)	(0.006)	(0.006)
Uncertainty	0.247*	0.247*	0.273*	0.273*
	(0.093)	(0.093)	(0.104)	(0.104)
Earnings surprises$_{t-1}$	-0.006	-0.006	-0.012	-0.012
	(0.007)	(0.007)	(0.007)	(0.007)
Profitability$_{t-1}$	0.158	0.158	0.290*	0.290*
	(0.103)	(0.103)	(0.136)	(0.136)
Fixed Effects				
Year	Y	Y	Y	Y
Firm	Y	Y	Y	Y
Constant	-0.162**	-0.161**	0.054	0.052
	(0.033)	(0.034)	(0.065)	(0.065)
Observations	4,486	4,486	4,486	4,486
R-squared	0.068	0.068	0.094	0.094
Number of firms	737	737	738	738

CHAPTER 4
FUTURE DIRECTIONS

While prior research has focused more extensively on the legitimating effect of language for new ventures, this dissertation draw from research in social psychology to investigate whether, how, and when language can be used by executives of public firm to manage external investor evaluation of the firm. This dissertation use computerized content analysis to quantify executive use of two types of words, feeling and realism words, and examine their impact on investors. In this final chapter, I will review the research contributions of this dissertation, as well as discuss directions for future research.

Conclusion and contribution

This dissertation makes several empirical and theoretical contributions to the strategy literature. First, by incorporating the insights from social psychology, this study provides an alternative theoretical framework for understanding the role of language in organizational settings. From a sociological perspective, prior research provided rich understanding of the legitimating effect of language for new ventures (Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001; Martens et al., 2007). Given the importance of communication between executives and external investors, this dissertation departed from prior literature and focus on language used by executives of public firms. Specifically, this dissertation focused on identifying the type of language that can be used strategically to achieve persuasion and influence investor attitude and identifying the type of language that may be interpreted as signal of quality by investors. By integrating the knowledge

from social psychology, this study enriches our understanding about the ways that language influence key stakeholders.

Second, while language is commonly viewed as free for all to use and talk is commonly considered cheap, this dissertation provides a theory that suggests that this claim may not be true for all types of language. In fact, research in social psychology provided evidences that one's use of realism language is connected to his or her psychological distances from the object or event described. Thus, this dissertation provides some evidence that the role of language in financial setting might be more complex than previously thought.

Third, this study contributes to the strategy literature by providing empirical evidence regarding the effect of two types of words, feeling and realism words, on investor reaction. It also provided empirical evidences about how the effect of language on investors will vary under various organizational conditions, such as high asset intangibility, low profitability, low growth, and high firm-specific uncertainty. While the importance of language in organizational setting has long been recognized, large-scale empirical examination of language effect in organizations remain scant (see Martens et al., 2007 for an exception). More importantly, our knowledge of the specific types of language that will matter and under what conditions will it matter remain limited. This paper contributes to the strategy research by empirically demonstrating the effect of two types of language, the use of feeling and realism words. More importantly, this study provides empirical evidences for the long recognized and yet unexamined boundary conditions of the language effect, that is the effect of language on investors might depend

on the interaction between executive language and firm asset composition, profitability, growth potential, and uncertainty.

Fourth, organization and strategy scholars have long been interested in how corporate executives affect critical organizational outcomes (Carpenter et al., 2004; Finkelstein et al., 1996; Hambrick & Mason, 1984). Although there is a growing body of research that explores the implications of executives' actions in the financial market (e.g., Certo, 2003; Cohen & Dean, 2005; Higgins & Gulati, 2006; Wade et al., 1997; Westphal & Zajac, 1998; Zhang & Wiersema, 2009), the effect of executive language on investor attitude represents a fairly nascent and uncharted territory. This study contributes to this literature by identifying and empirically demonstrating another important channel-executive language-through which executive action influence investor evaluation.

Last but not least, by relaxing the strong assumption regarding market efficiency, this study takes a psychological perspective and focus more on the general tendency of human beings to react favorably to certain types of persuasive language when processing new information. While some prior studies have typically focused on the effect of executive language from a more rational perspective, which means that financial market participants respond to executive language because it contains information regarding a firm's fundamental value (e.g., Tetlock et al, 2008; Demers & Vega, 2008), I develop a theory to suggest that investors are motivated to collect and process all information (quantitative or qualitative) that they considered relevant to a firm's valuation to improve the accuracy of their belief. Emotional message that discusses executives' feelings influence investors because it may be perceived as containing information and may evoke

similar feelings from investors even if it contains no real information regarding the firm's fundamental value.

Limitations & Future directions

The approach in this study is not without its limitations. Future research can extend the current work by addressing some of these shortcomings. First, findings in this dissertation are based on the context of large and established firms, thus limiting the generalizability of these findings to entrepreneurial and/or small firms. For example, in the context of large and mostly legitimate firms, the use of feeling words might appeal to investors' feelings toward the firm and might be perceived as informative. However, in the context of small and not-yet-legitimate firms, investors' reaction to feeling words might be significantly different because nascent firms lack the performance track record to supplement their claims. As a result, the use of feeling words might suggest that the venture and its ideas are not based on anything substantive.

Second, the findings of this study is based on verbal transcripts of executive presentations, it is possible that different types of language will be more prevalent and thus influential in the context of written communication. For example, if I had conducted the study using other written communication between executives and investors, such as annual reports or IPO prospectuses, I might have found different results because executives may avoid referring to their subjective feelings in written communications, since these documents make it easy for investors to go after unjustified subjective opinions. Future research might advance the understanding in this area by addressing these alternative explanations and examining the effect of verbal styles in the setting of IPO Prospectus and annual reports and compare and contrast the characteristics of

managerial language used in written versus verbal communications and how investor responses may vary depending on the communication mechanism.

Third, the study of language only represents one of the many ways that an individual can achieve persuasion or convey value-related information in communication. Communication experts generally agree that beside verbal content, there are various nonverbal attributes (e.g., appearance, facial expression, and gestures) and vocal attributes (e.g., voice intonation, speed, and volume) that may provide information. For instance, Chen, Yao, & Kotha (2009) have demonstrated the effect of nonverbal cues (e.g., facial expressions and body language) on investors' perception of passion in entrepreneur's business plan presentation. Mayew and Venkatachalam (2012) have demonstrated that vocal cues of emotional states embedded in executive voice are incorporated by investors into stock market prices. Thus, a fruitful avenue for future research might be to explore how nonverbal cues in conference presentations influence stock reaction. Also, future studies could examine how the interplay between verbal and nonverbal cues of emotion in executive presentation will influence investor evaluation.

Fourth, the verbal styles examined in this study might be correlated with unobservable characteristics of the firm and the presenting executives. I have tried to limit the influence of firm characteristics on executives' word use by testing hypotheses using a firm fixed-effect and firm-speaker fixed-effect model, and thus holding constant characteristics of firms and speakers. I also controlled for many conventional firm characteristics that have been identified in prior literature to influence stock market reaction. I nevertheless was unable to rule out this possibility entirely.

APPENDIX A: VARIABLES DESCRIPTION

Variable Name	Description (Data Source, Calculation details)
Details of the Conference and Presentations	
Conference date	The date of the presentation Obtained from Thomson Reuter's StreetEvents presentation transcripts
Conference time	The time of conference
Conference name	The name of the conference
Conference organizer	From the name of the conference, typically the organizer of the conference can be inferred
Presenter name	The names of executives who presented at the conference (coded as presenter 1 and presenter 2)
Presenter position	The position of the executive (e.g. CEO, CFO, President and CEO)
Presentation	A collection of texts of the entire presentation given
Questions	A collection of texts of all questions asked by unidentified audience
Answers	A collection of texts of all answers given by the presenting executives
Characteristics of Executives' Presentation	
Affective words	The number of affect-based words in the presentation transcripts as measured using the LIWC dictionary as positive and negative affects (e.g. love, nice, sweet, hurt, ugly, and disgusting)
Cognitive words	The number of cognition-based words in the presentation transcripts as measured using the LIWC dictionary as words referring to cognitive processes, such as thinking, knowing, considering, cause-and-effect relationship, and evaluation (e.g. think, know, consider, cause, ought, because, effect, hence, should, would, could).
Vivid words	The number of image-based words in the presentation transcripts as measured using the Regressive Imaginary Dictionary (RID) created by Martindale (1969) and was calculated using the WordStat software
Emphasis words	Words indicating emphasis in realms of speed, frequency, causality, inclusiveness, quantity or quasi-quantity, accuracy, validity, scope, size, clarity, exceptionality, intensity, likelihood, certainty and extremity as measured using General Inquirer's Harvard IV-4 dictionary
Concreteness	Words denoting tangibility and materiality as measured using Diction 5.0. Included are sociological units (peasants, *African-Americans, Catholics*), occupational groups (*carpenter, manufacturer, policewoman*), and political alignments (*Communists, congressman, Europeans*). Also incorporated are physical structures (*courthouse, temple, store*), forms of diversion (*television, football, CD-ROM*), terms of accountancy (*mortgage, wages, finances*), and modes of transportation (*airplane, ship, bicycle*). In addition, the dictionary includes body parts (*stomach, eyes, lips*), articles of clothing (*slacks, pants, shirt*), household animals (*cat, insects, horse*) and foodstuffs (*wine, grain, sugar*), and general elements of nature (*oil, silk, sand*).
Optimism	Language endorsing some person, group, concept or event or highlighting their positive entailments Formula: [Praise+Satisfaction+Inspiration]-[Blame+Hardship+Denial] As measured by Diction 5.0
Complexity	A measure of the average number of characters per word in the presentation transcript (The bigger the word size, the more complex the language) as measured by Diction 5.0
Embellishment	The ratio between descriptive (e.g. adjective s) and functional words (e.g. verbs).
Variety	A measure of linguistic dispersion
Positive valence	The number of words indicating positive outlook as measured using a 1,915-words dictionary of positive outlook in General Inquirer's Harvard IV-4

	dictionary
Negative valence	The number of words indicating negative outlook as measured using a 2,291-word dictionary of negative outlook in General Inquirer's Harvard IV-4 dictionary
Certainty	Language indicating resoluteness, inflexibility, and completeness and a tendency to speak ex cathedra Formula: [Tenacity+Leveling+Collectives+Insistence]-[Numerical terms+Ambivalence+Self-reference+Variety] Measured using Diction 5.0
Financial negative	To create the financial negative, financial positive, and financial uncertainty word lists, Loughran and McDonald (2009) first develop a dictionary of words and word counts from all 10-Ks filed during 1994 to 2008. They carefully examine all words occurring in at least 5% of the documents, to consider their most likely usage in financial documents (including inflections). Words that we include beyond the 5% level are typically inflections of root words that made the original cut. They account for simple negation only for Fin-Pos words. Simple negation is taken to be observations of one of six words (*no, not, none, neither, never, nobody*) occurring within three words preceding a positive word. We would not expect to see phrases such as "not terrible earnings" in a report, so we do not consider negation for the negative word lists. Unlike the Hardvard IV-4 dictionary's negative words list, the Fin-Neg list is specific to business terminology. In the language of business, words like *increase* or *decrease* are tonally ambiguous. In this case, what these words imply depends on whether they precede words such as revenues or costs. Of the 2,337 words in our Fin-Neg list, about half (1,121) overlap with the Harvard IV-4 dictionary. Frequently occurring words in this list that are not on the H4N-Inf list include: *restated, litigation, termination, discontinued, penalties, unpaid, investigation, misstatement, misconduct, forfeiture, serious, allegedly, noncompliance, deterioration,* and *felony*. (Source: Loughran and McDonald, 2009)
Financial positive	The Fin-Pos word list consists of 353 words including inflections, substantially fewer words than in the negative word list. Loughran and McDonald (2009) suggest that there are few positive words that are not easily compromised. They argue that knowing that readers are using a document to evaluate the value of a firm, writers are likely to be circumspect and avoid negative language, instead qualifying positive words, often in ways not easily detected by a parsing program. The tone of negative words has a much more pervasive effect. Words in our Fin-Pos list such as *achieve, attain, efficient, improve, profitable,* or *upturn* are more unilateral in potential tone. We include a positive word list more in the interest of symmetry than in an expectation of discerning an impact on tone identification. (Source: Loughran and McDonald, 2009)
Financial uncertainty	The Fin-Uncertainty list includes words denoting uncertainty, with emphasis on the general notion of imprecision rather than exclusively focusing on risk. The list includes 285 words such as *approximate, contingency, depend, fluctuate, indefinite, uncertain,* and *variability* (Source: Loughran and McDonald, 2009)
Stock market reaction	
Cumulative abnormal return (1-day)	The sum of abnormal stock return on day +1. (Source: CRSP)

Cumulative abnormal return (3-day)	The sum of abnormal stock return in day -1, day 0, and day +1. (Source: CRSP)
Cumulative abnormal return (5-day)	The sum of abnormal stock return in day -2, -1, day 0, and day +1, day +2. (Source: CRSP)
Cumulative abnormal return (11-day)	The sum of abnormal stock return on the day of the event and five days before and five days after. (Source: CRSP)
Firm Characteristics	
Total assets	The firm's total assets on the day before the event. (Source: Merged CRSP/Compustat)
Total employees	The firm's total number of employees on the day before the event (Source: Merged CRSP/Compustat)
Total revenue	The firm's total sales on the day before the event (Source: Merged CRSP/Compustat)
ROA	The firm's last announced quarterly ROA prior to the presentation. I calculated ROA = (Income before extraordinary items + Interest expenses + Deferred income tax)/total assets (Source: Merged CRSP/Compustat)
ROE	The firm's last announced quarterly ROE prior to the presentation (could be the current quarter or the last quarter depending on the announcement date and event date) (Source: Thomson One Banker)
Unexpected net income	The differences between the most recently announced net income prior to presentation and the forecasted net income by analysts for the same period (net income quarterly on the quarter of presentation minus the quarterly net income from t-4) (Some data are missing because presentation in 2010 Q1 do not have earnings data yet)
Unexpected net income standardized	(Unexpected_net income – Mean of unexpected net income over the last 20 qtrs)/Std. deviation of unexpected net income over the last 20 qtrs
Unexpected net sales	The differences between net sales prior to presentation and expected net sales (net sales quarterly on the quarter of presentation minus the quarterly net sales from t-4) (Some data are missing because presentation in 2010 Q1 do not have earnings data yet)
Unexpected net sales standardized	(Unexpected_net sales – Mean of unexpected net sales over the last 20 qtrs)/Std. deviation of unexpected net sales over the last 20 qtrs
Performance variability	The standard deviation of ROA in the 3 years before the events
ROA 3yr avg	The firm's average ROA in the 3 years before the event (Source: Thomson One Banker)
Sales growth 3yr avg	The firm's average sales growth in 3 years before the event (Source: Thomson One Banker)
Equity growth 3yr avg	The firm's average equity growth in 3 years before the event (Source: Thomson One Banker)
Employee growth 3yr avg	The firm's average employees growth in 3 years before the event (Source: Thomson One Banker)
GICS	Industry membership according to Global Industry Classification System (Source: Thomson Reuter's StreetEvents presentation transcripts)
SIC	SIC code (Source: Merged CRSP/Compustat)
Industry level uncertainty	Calculated based on Folta et al, 2006
Industry level R&D intensity	The aggregate industry level R&D spending divided by aggregate sales (Source: Compustat)

Firm reputation	Fortune's ranking (Source: Thomson One Banker or Compustat)
Stock Characteristics	
Shares outstanding	The number of shares outstanding on the day before the event (Source: CRSP)
Market capitalization	Total market equity at the end of preceding quarter prior to conference (Source: CRSP)
Trading volume	The average trading volume of the stock (calculated using the estimation period 250 days before the presentation) (Source: CRSP)
Stock volatility1	The pre-calculated stock volatility; use this item to calculate the stock variability in the 4 years before the event (Source: Thomson One Banker)
Stock volatility2	The standard deviation of quarterly earnings during the 4 years before the event (Source: CRSP or Thomson One)
Pre-conference EPS	The earnings per share at the end of preceding quarter prior to conference (Source: CRSP)
Institutional ownership1	The percentage of shares hold by institutions (Source: Thomson One Banker)
Institutional ownership2	The number of shares hold by institutions (Source: Thomson One Banker)
Insider ownership1	The percentage of shares hold by insiders (Firm executives) (Source: Thomson One Banker)
Insider ownership2	The number of shares hold by insiders (Source: Thomson One Banker)
Analysts forecasts and recommendations	
Analysts numeber	The number of analysts following a firm's stock; not sure if I can get exactly that without pulling the detail file and calculate manually. (Source: IBES)
Forecasts	The median and mean consensus forecasts of the firm's stock earning per share published before the presentation (I match the date of earning forecasts with the event date) (Source: IBES)
Actuals	The actual announced earning of the firm (Source: IBES)
Earning surprise1	The differences between forecasted earnings per share and the actual announced earnings adjusted by the stock price in the last period before the event (I match the date of the event with the date of earning announcement; so it is the Thomson Reuters' records of earning surprises before the presentation regardless whether it is for the last quarter or two quarters ago). To estimate the forecast error (*FE*) as a measure of the earnings surprise, we calculate the difference between announced earnings as reported by I/B/E/S (*eiq*) and the consensus earnings forecast (*Fiq*), defined as the median of the most recent forecasts from individual analysts using the I/B/E/S detail tape. The difference between the announced earnings and the consensus forecast is normalized by the stock price at the end of the corresponding quarter (*Piq*). To exclude stale forecasts when we calculate the consensus forecast, we only include one- or two-quarter-ahead forecasts issued or reviewed in the last 60 calendar days before the earnings announcement. If an analyst made multiple forecasts during that period, we take her most recent forecast. Earnings, forecasts,and stock prices are all split-adjusted. (Source: IBES)

Earning surprise2	The pre-calculated earning surprise provided by IBES in the last period before the event (I match the date of the event with the date of earning announcement; so it is the Thomson Reuters' records of earning surprises before the presentation regardless whether it is for the last quarter or two quarters ago). (Source: IBES)
SUE	Standardized unexpected earnings (SUE) is a means of comparing earnings surprise to the company's track record of earnings surprise. For example, Cisco was once said to consistently beat earnings estimates by a penny. Thus, if the company did beat by a penny it was hardly unexpected. A method frequently used in academic research to adjust for this factor is the standardized unexpected earnings, or SUE. SUE = the earnings surprise at a given time divided by the standard deviation of earnings surprises measured over some historic period such as the previous 20 quarters (for example: consider a stock that had a $0.03 earnings surprise, and that the standard deviation of past earnings surprises is $0.05. The surprise is smaller than normal, and the standardized earnings surprise would be $0.03/$0.05 = 0.6). (Source: IBES)
Recommendations number	The number of stock recommendations for the firm (Source: IBES)
Sellbefore1	The percentage of analysts provided "sell" recommendations for the firm's stock in the last period before the event (I match the date of the event with the date of recommendations entered into IBES; so it is the Thomson Reuters' records of sell recommendations before the presentation regardless whether it is for the last quarter or two quarters ago). (Source: IBES)
Holdbefore1	The percentage of analysts provided "hold" recommendations for the firm's stock in the last period before the event (I match the date of the event with the date of recommendations entered into IBES; so it is the Thomson Reuters' records of hold recommendations before the presentation regardless whether it is for the last quarter or two quarters ago). (Source: IBES)
Buybefore1	The percentage of analysts provided "buy" recommendations for the firm's stock in the last period before the event (I match the date of the event with the date of recommendations entered into IBES; so it is the Thomson Reuters' records of buy recommendations before the presentation regardless whether it is for the last quarter or two quarters ago). (Source: IBES)
Sellafter1	The percentage of analysts provided "sell" recommendations for the firm's stock after the event (I match the date of recorded recommendations with the event date; so it is the Thomson Reuters' records of sell recommendations after the presentation in the next quarter). (Source: IBES)
Holdafter1	The percentage of analysts provided "hold" recommendations for the firm's stock after the event (I match the date of recorded recommendations with the event date; so it is the Thomson Reuters' records of sell recommendations after the presentation in the next quarter). (Source: IBES)
Buybafter1	The percentage of analysts provided "buy" recommendations for the firm's stock after the event (I match the date of recorded recommendations with the event date; so it is the Thomson Reuters' records of sell recommendations after the presentation in the next quarter). (Source: IBES)

GLOSSARY

Concepts	Definitions
Feeling words	Feeling words are calculated as the fraction of total words in a presentation that refer to the sender's subjective impression of an object or issue, such as his or her feelings, opinions, and beliefs. Example of key words in this dictionary are "feel", "feeling", "opinion", "view", "belief".
Net positive words	I used the dictionary of financial negative and positive words developed by Loughran and McDonald (2009) to measure the fraction of total words that are negative and positive in financial setting and then calculate the use of net positive words by subtract the percentage of total words that are negative financial words from the percentage of total words that are positive financial words.
Realism words	This variable refers to "language describing tangible, immediate, recognizable matters that affect people's everyday lives" (Hart, 2000:50). It is calculated as the percentage of total words that are realism-based, using a computerized content analysis program called *Diction 6.0* (Hart 2001). *Realism* = [Spatial Awareness + Temporal Awareness + Present Concern + Human Interest + Concreteness + Familiarity] – [Past Concern + Complexity]
Tentative words	Words that indicate low degree of certainty in one's statements and the distance between the speaker and his/her statements, such as "maybe", "perhaps", and "guess".
Future-oriented words	Future-oriented words are used when discussing about the future and is identified using a dictionary of words that refer to future tense, such as "will", "going to", and "gonna".

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