

Managerial Responses to Performance Downturns: Linguistic Deception as Impression Management

Abstract –Although the study of organizational impression management has gained significant attention over the years, relatively limited work has been conducted in understanding deception as an impression management strategy. We present a study of the Management Discussion and Analysis statements (MD&A) of 10-K financial disclosures of firms experiencing performance downturns and find that the tendency of strategic leaders to engage in deceptive impression management increases as a result of the degree to which a firm's financial performance drops relative to the prior year. We also find support for interactions effects of a firm's competitive position and the overall industry competitive uncertainty on the relationship between performance downturn and deceptive impression management.

Keywords: Linguistic Deception, Impression Management, Financial Disclosures, Performance Downturns

INTRODUCTION

Organizations often go to great lengths to protect and enhance their relevance and legitimacy in the eyes of external audiences (DiMaggio and Powell 1983; Suchman 1995). The need to influence and manage the perceptions of external audiences becomes especially acute when organizations find themselves in challenging situations such as performance downturns (Ford 1985; Ford and Baucus 1987; ten Brinke and Adams 2015). A drop in financial performance can threaten the organization's reputation as well as degrade evaluations about the competence of its strategic leaders. In this study we seek to understand how organizations manipulate language in financial disclosures to manage perceptions of audiences as a strategic response to performance downturns.

We apply and expand on an impression management approach to discern how organizations convey illusions of wellbeing in the face of performance downturns. Impression management can be of two types – one based on truth and the other based on deceit. Although a significant part of the impression management literature has looked primarily at impression management tactics that are essentially positive/truthful in nature. Relatively limited attention has been expended on the strategic use of deceit in impression management (Snyder 1987; Weiss and Feldman 2006). In this study we look at an understudied aspect of impression-management as a response to performance downturns – the engagement in acts of deception. While some scholars have argued that organizational leaders might indeed create illusions as a response to performance downturns, there is a marked lack of empirical research on how managers use deception as a tool to engage in impression management with external audiences.

Financial misrepresentation and the manipulation of accounting information can however, take two primary forms. The first is actually “fudging numbers”, i.e. misreporting,

distort, or falsify specific financial or accounting data and indicators in public disclosures (Kang 2008; Karpoff and Lott Jr 1993; X. Zhang et al. 2008). The deliberate misstatement of financial data by companies such as Enron and WorldCom are examples of this type.

The second form of information manipulation is more subtle and comparatively elusive, which can take the shape of deceptive language to create illusions in order to influence perceptions and meanings about the firm's strategic decisions and performance (Salancik and Meindl 1984). We term this second form of information manipulation as "deceptive impression management" and in this study we look at how performance downturns influence managerial tendencies to engage in deceptive impression management. Deceptive impression management has been defined as the "communication of information that has been manipulated by an actor so as to create an inaccurate and favorably biased understanding on the part of a related target concerning the actor" (Carlson et al. 2011). We employ the behavioral theory of the firm to advance and test our central arguments that performance downturns drive strategic leaders to engage in deceptive impression management and the competitive dynamics in which a focal firm is embedded influence this relationship.

Our study builds on an insightful body of research in management and accounting which indicates that managers often manipulate language to deceive external audiences when a firm's performance comes under stress (Bloomfield 2002; Craig et al. 2013). Deception through the manipulation of language in financial disclosures has been steadily coming under the scanner of scholarly research (Burgoon et al. 2016; Humpherys et al. 2011). Utilizing a sample of S&P 1500 public firms that experienced performance downturns we discern deceptive impression management by carrying out a linguistic analysis of the Management Discussion and Analysis (MD&A) section of the firms' annual 10-K reports. The MD&A section of a 10-k report is an

important narrative exposition of current performance and future plans, key strategic and competitive issues, and performance forecasts (Garmong 2007; Yuthas et al. 2002). External stakeholders such as regulators, shareholders, and other market participants accord a great deal of importance to the information provided in the MD&A sections (Muslu et al. 2014). That said, research examining the linguistic content of MD&A sections as an important source of management narrative has been fairly limited and we derive encouragement from a recent statement by editors of the *Academy of Management Journal* arguing about the potential importance of the MD&A sections in 10-K reports as an important source of textual data that organizational researchers can tap into for theory development (George et al. 2016).

Besides testing the direct causal effects of performance downturn on deception, we also introduce and test two moderators. The first is the competitive position of the focal firm. Research is unclear about how a firm's competitive position is likely to influence organizational deception. On one hand some research shows that competitively weaker firms are likely to engage in greater deception whereas some others have found that stronger and more prominent firms are likely to engage in deception because they are under increased pressure to maintain their position (Greve et al. 2010).

THEORY AND HYPOTHESIS

Organizational impression management is defined as “any action purposefully designed and carried out to influence an audience's perceptions of an organization” (Elsbach et al. 1998). Impression management as a phenomenon (both individual and collective) owes its genealogy to the dramaturgical conception of social interactions first articulated by Goffman in his seminal work, “*The Presentation of Self in Everyday Life*” (1959). The differentiation into frontstage (actions that are visible to external audiences) and backstage – the private self suggests that

humans engage in impression management in most public interactions. One of Goffman's key insights was that when one's activities are displayed in the presence of others, some aspects of those activities are emphasized while those that might harm the impression of the person in the eyes of the audiences are suppressed. This suggests that impression management as argued by Goffman involves the "creation" of certain impressions in the minds of the audiences.

However, the use of impression management to *deceive* audiences is another matter. While Goffman (1939) did not ascribe a sense of deception in impression management, others have argued for the need to consider another dimension of impression management, one that involves the use of misrepresentation and lies (Jones and Pittman 1982). In this study we look at this relatively under-recognized form of impression management, i.e. deception. Zuckerman, DePaulo, and Rosenthal (1981: p.3) defined deception as "an act that is intended to foster in another person a belief or understanding that the deceiver considers false". Therefore deception involves the intentional manipulation of information that a sender engages in to generate a false impression in the mind of the receiver. Deception requires that the sender actually fabricates a verbal message that contains the false information intended for the receiver (Buller et al. 1994).

Research on financial disclosures, especially of publicly listed firms shows widespread prevalence of deception (Langevoort 1997). Scholars have studied various linguistic characteristics of the language that strategic leaders use in financial disclosures to obfuscate strategic information. A growing body of literature provides indicators or cues in the language used by strategic leaders that can suggest the exercise of deception (Goel and Gangolly 2012; Li 2010; Loughran and McDonald 2011). For instance research has shown that deceptive CEOs often tend to use more positive emotion words relative to non-deceptive ones in conference calls (Larcker and Zakolyukina 2012). Humphrey's et al. (2011) find a number of indicators such as

the degree of affect, complexity, linguistic diversity, and non-immediacy, as measures that meaningfully differentiate fraudulent financial statements (MD&A's) from non-fraudulent ones. Taken together, these studies suggest firstly that financial disclosures, especially narratives in the form of MD&A statements can provide a valuable textual and narrative source to discern the intentions of strategic leaders in terms of their impression management attempts and second, careful linguistic analysis of such narratives can offer cues to detect deception.

Nevertheless, we still have limited understanding of what drives deceptive impression management. Researchers have noted that while we know a good deal about organizational impression management what still needs to be better understood are its antecedents (Fiss and Zajac 2006; Davidson et al. 2004). To address this question, we invoke the behavioral theory of the firm to argue that changes in firm performance are likely to an important causal driver for deceptive impression management.

Firm Performance and Deceptive Impression Management

Research has shown that strategic leaders often engage in optimistic and positive reporting when their firms are under financial distress (Loughran and McDonald 2011; Patelli and Pedrini 2014). Performance overall has been found to be main influencer of organizational misconduct (Greve et al. 2010). For instance, Harris and Bromiley (2007) found a significant relationship between poor financial performance and financial misrepresentation by firms. Similarly Zhang et al. (2008) found that that firm performance affects CEO's earnings manipulation behavior interacting with compensation structure. These authors proposed and found support for their arguments that firm performance and compensation structure simultaneously affect a focal CEO's incentive to cheat. Research on the "management obfuscation hypothesis" suggests that managers often hide bad news to external audiences by

reducing the readability (i.e. increasing the complexity) of financial reports (Bloomfield, 2002). Whetten (1987) argued that organizational decline and poor performance can increase secrecy in organizations thereby suggesting that drop in performance levels can influence strategic leaders to stretch and challenge the boundaries of ethical decision-making.

A central insights from the behavioral theory of the firm is that organizational action is driven by aspiration levels that are set by its leaders (Cyert and March 1963; Greve 2003; J. G. March and Simon 1958). Performance below aspiration levels therefore, drives firms to engage in adaptive behaviors that often entails risk-taking (Kahneman 1979; J. March 1988; Singh 1986; Wiseman and Gomez-Mejia 1998). Aspiration levels can originate from two sources – a firm's own prior performance and social comparisons with other firms (Harris and Bromiley 2007; Cyert and March 1963). A change in a firm's own current performance relative to its prior performance can incite managers to take corrective measures of which deception can be one response. We therefore posit that

Hypothesis 1: The greater the degree of performance downturn that a firm experiences, the greater will the magnitude of deception that it engages in during the subsequent time period.

Competition and Deception

Behavioral theory of the firm-social comparison and relative performance The second source of aspiration levels is social comparisons with other firms. According to behavioral theory of the firm, organizations not only strive to achieve their aspiration relative to others (Cyert and March 1963; Argote and Greve 2007; Ref and Shapira 2017), but also to achieve their aspiration levels of their own prior performance (Døjbak Håkonsson et al. 2016). For example, Harris and Bromiley (2007) (Harris and Bromiley 2007) (Harris and Bromiley 2007) (Harris and Bromiley 2007) (Harris and Bromiley 2007) (Harris and Bromiley 2007) (Harris and Bromiley 2007) (Harris and Bromiley 2007) (Harris and Bromiley 2007) (Harris and Bromiley 2007)

(Harris and Bromiley 2007) found that firm performance in both in terms of a focal firm's own prior performance as well that of its performance relative to others, affects the firm's engagement in financial misrepresentation.

Social comparison theory posits that people who evaluate their opinions and abilities are likely to evaluate by comparing themselves to others (Festinger 1954). For example Argo, White, and Dahl (2006) found that self-threatening social comparison information motivates consumers to lie and some studies adopted industry average as a standard of reference for relative performance (Fiegenbaum and Thomas 1990; Wiseman and Catanach Jr 1997). In this study, by showing that one of the important motivation making people to lie is negative evaluation compared to others, they demonstrated that evaluation based on both objective and subjective criteria drives people to engage in deceptive behavior.

We proffer that a firm's competitive position is represents performance relative to others within the same industry category, where firms compare each other and set their aspiration levels vicariously. A firm's competitive position relative to other firms (as a driver of social aspiration levels) is likely to influence the relationship between performance downturn and deceptive impression management. Research on competitive dynamics has looked at when, why, and how competitive attributes of the environment affect strategic behavior and outcomes of firms (Barnett 1997; Ferrier et al. 1999; Lang and Lockhart 1990).

Firm competitive position and deception. The decision to intentionally engage in deception is an important one. On one hand, a firm in a weaker competitive position relative to its rivals might be driven to overcompensate in the face of declining performance. This might drive the leaders of that firm to engage in deceptive impression management in order to protect the firm's legitimacy and reputation. On the other hand, for firms in stronger market positions,

the decision to use deceptive language could come with the risk of a “loss of face” and status if the deception is “caught” by external audiences. Given the potentially negative impact on firm trust or legitimacy and subsequently firm performance (Akhigbe et al. 2005; Palmrose and Scholz 2004), firms in relatively strong competitive positions are not likely to indulge in deceptive impression management because the possible benefits might be outweighed by the losses entailed in doing so. Second, theories on firm status can explain the stronger impact of financial downturn on the use of deception for strong firms (Podolny 1994; Washington and Zajac 2005). Firms with higher status are more likely to be concerned about their possible threat to existing legitimacy or possibility to be a target of legal actions because of their prominence within the market (Brooks et al. 2003). Thus, we hypothesize below;

Hypothesis 2: The relationship between the degree of financial downturn and the use of deceptive language is stronger when focal firm has a weaker competitive position than when it has a stronger competitive position relative to other firms in the industry.

Industry competitive complexity and deception. The second aspect of the competitive dynamics in which a firm is embedded is the overall complexity and unpredictability of the competitive interactions with other firms. Industry complexity mainly derives from the competition in an industry stemming from concentration, which refers to the degree of market share dominance of few firms (Dess and Beard 1984). Management scholars have put emphasis on the important impact of competitive complexity on strategic behavior of firms (Anderson and Tushman 2001) and found that firm strategy is significantly influenced by its different types and degree of competitive complexity. Because competitive complexity increases unpredictability, which subsequently makes unexpected competitive environmental context, firms and CEOs struggle to align firm’s strategic logic with its environment (Wanasika and Adler 2011). March

and Simon (1958) argued that organizations should not only be designed to manage work efficiently, but also to cope with ‘unpredictability’.

Since competitive complexity and uncertainty reduces firms’ ability to predict the future accurately, it is likely to increase opportunistic behavior and information asymmetry (Wanasika and Adler 2011). For example, Baucus and Near (1991) found that corporate illegal behavior occurs primarily due to a firm’s efforts to stabilize environmental unpredictability. And George (2005) found that the relationship between slack resources and firm behavior is significantly influenced by industry complexity. Additionally, the population ecology perspective (Hannan and Freeman 1977) argued for the important role of competitive complexity in explaining firm behavior. From a population ecology perspective, as an environment increasingly becomes complex, firms face increasing competition for resources (Anderson and Tushman 2001). Organizations therefore have to struggle to identify opportunities to enhance their survivability failing which they might be driven to engage in deception to protect themselves from competitive selection pressures.

We posit that the effect of decline in firm performance on a firm’s deceptive behavior depends on the level of competitive complexity prevalent in the industry. Low levels of competitive complexity in an industry would signify greater munificence and predictability thereby presenting firms with fewer rational reasons to engage in deception (Greve et al. 2010). On the other hand, under high levels of competitive complexity, firms are likely to realize greater incentives to deceive. Markets do not provide enough information that firms can use when predicting and interpreting external environment under high level of competitive complexity characterized by unpredictability and information asymmetries (Eckhardt and Shane 2003). Accordingly, because of higher level of opportunism stemming from greater pressure on

competition and ‘causal ambiguity’ regarding understanding the market, we argue that competitive complexity increases the tendency to engage in deceptive behavior. Thus, we propose that,

Hypothesis 3: The relationship between the degree of financial downturn and the use of deceptive language is stronger when industry competitive complexity is high than when industry competitive complexity is low.

METHOD

To test our arguments, we chose a longitudinal research design for our study. Our central postulate is that the degree of performance downturn in a given time period will influence a change in the magnitude of deception in firm’s MD&A statement in the subsequent time period. Thus our research design makes it possible for us to test a causal relationship between firm performance (as an antecedent) and deception as a resultant strategic choice on the part of a firm’s leaders.

To generate a list of firms experiencing performance downturns, we started we started by drawing a sample of S&P1500 firms from the years 1997 to 2009. Specifically, we focused on the following types of firms:

- Large (sales of at least \$100 million) (see: Rajagopalan and Datta 1996)
- Established (at least 10 years old heading into sampling period) (see: Nadkarni and Barr 2008)
- Single-business firms (>70% revenue from dominant business or primary 3-digit SIC) (see: Y. Zhang and Rajagopalan 2004)

We then identified firms experiencing performance downturn by using the criteria followed by Chen and Hambrick (2012)

- 2 consecutive years of positive performance (i.e. Return on Equity (ROE) > Cost of Equity (COE)), followed by
- 1 year of negative performance (i.e. COE > ROE)
- Validation measure (kind of) Altman-Z score lower than 3 (i.e. firm is at risk of facing bankruptcy)

In addition, we used Compustat database to extract additional financial information of the sample firms and we exclude firms with missing financial information. The final sample consisted of 181 firms experiencing performance downturns. Lastly, we winsorized all variables used in our model at the top and bottom 1 percent level to mitigate the influences of any potential outliers (Cox 2006; Ghosh and Vogt 2012).

After specifying the sample, we proceeded to collect for each firm MD&A sections from 3 successive years' annual 10-K reports from the SEC Edgar website, i.e. at times $t-1$, focal year t when the firm experienced its first performance downturn and the subsequent year ($t+1$). In total we developed a sample of 543 MD&A statements as the primary textual corpus for our study. Based on the sample of MD&A statements, we then used natural language processing following Bird, Klein and Loper (2005) (Bird et al. 2009) to identify, parse, and score for each MD&A. Then, we proceeded to derive the measures of linguistic deception for each of the 181 firms in our sample.

Variables

Deceptive Impression Management (Dependent Variables) To construct our measure of deceptive impression management as reflected in a focal MD&A statement, we modified the variable definitions used in Zhou et al (2004) and Humpherys et al (2011) (2011). We used nine different linguistic measures of deception namely, activation, pleasantness, imagery, content

diversity, lexical diversity, non-immediacy, uncertainty and complexity. The measures of deception were defined as follows:

- Affect was computed as the ratio of affect words to total number of words in a focal M&A statement of a 10-K report
- To measure Activation, Pleasantness, and Imagery, we began by using Whissell's Dictionary of Affect (2009) which contains a comprehensive corpus of 8,742 most widely used natural language (English) words rated on dimensions of pleasantness/unpleasantness, active/passive (activation), and difficult/easy to envision (imagery). Each word in this corpus has been assigned a score along the three dimensions of pleasantness, activation, and imagery and taken together, a greater overall score represents a greater affective/emotional content underlying a word. Base on this list of 8,742 words, we then used natural language processing using Python 3.3 (Bird et al. 2009) to identify, parse, and score for each MD&A.
- Content diversity was measured by the ratio of the total number of unique content words to the total number of content words in a focal MD&A statement.
- Lexical diversity was measured as the ratio of the total number of unique words to the total number of words in a focal MD&A statement.
- Non-immediacy was measured by the average values of group references, other references and passive verb ratio, which were measured by first personal plural pronoun scaled by the total number of verbs and count of all other singular and plural pronouns divided by the total number of verbs and the number of passive verbs divided by the total number of verbs, respectively.

- Uncertainty was measured by the average values of modal verb ratio, which was measured by the number of modal verbs (words such as, must, shall, should, will, would, can, could, may, might) scaled by the total number of verbs.
- Complexity was measured by the average values of three variables: (1) average sentence length; (2) average word length; and (3) pausality referring to the number of punctuation marks divided by the total number of sentences.

Based on the above measures of the deception, we developed our dependent variables as measures of change in each of the deception indicators, from the downturn year to the subsequent years, i.e. change in deception from time $t-1$ to the average values of deception between time t and time $t+1$. These variables represented the change in the use of deceptive language in financial statements after a firm experienced a downturn in performance.

Degree of Performance downturn (Independent Variable) We used the change in ROE from time $t-1$ to time t to measure downturn in firm performance and took the absolute value of the change in ROE to measure the degree of performance downturn. Thus a higher value of this measure corresponds to a more severe drop in firm performance.

Competitive position (Moderator Variable) To capture the construct of the firm's competitive position, we used the relative market share of the firm. Market share was measured by the sale of each firm divided by the overall size of the market. We calculated market size as the sum of the sales of all the firms in each year for each industry (at the 4-digit SIC level).

Industry Complexity (Moderator Variable) Industry complexity is measured as one minus Herfindahl index following Basdeo et al (2005). We measured Herfindahl index as the sum of the square of the market share of all the firms in each year for each industry at the 4-digit SIC

level. Industry complexity represents the degree of complexity that the industry poses in terms of competitive dynamics.

Control Variables We used a number of control variables to account for factors that may affect the tendency or need for a firm to engage in deception. We controlled for firm size (natural log of total assets), firm age (natural log of the number of years that the firms have been public), leverage ratio (measured as the ratio of total debt to total assets). In addition, we also controlled for variation in industry profitability (measured as the change in industry ROE from time t-1 to time t). Industry ROE was calculated by subtracting industry (four-digit SIC) median ROE from ROE.

Data Analysis We used ordinary least-square regression (OLS) to test our hypotheses. For the hypothesis 1, we estimated the following regression model.

$$\text{Change in deception measure} = B_0 + B_1 \text{Degree of downturn} + B_2 \text{Firm size} + B_3 \text{Change in industry ROE} + B_4 \text{Leverage ratio} + B_5 \text{Firm age} + e \quad (1)$$

Our main interest was the coefficient on degree of downturn, B_1 , measured how the degree of performance downturn affected the magnitude of deceptions during the subsequent period. We expected positive B_1 to support the hypothesis 1.

Next, we estimated the following regression model for the hypothesis 2.

$$\text{Change in deception measure} = B_0 + B_1 \text{Degree of downturn} + B_2 \text{Firm size} + B_3 \text{Change in industry ROE} + B_4 \text{Leverage ratio} + B_5 \text{Firm age} + B_6 \text{Competitive position} + B_7 \text{Degree of downturn} \times \text{Competitive position} + e \quad (2)$$

We added competitive position as a moderator and the interaction term of degree of downturn and competitive position to above model (1). Our main interest was the coefficient on

the interaction term, B_7 , measured the interaction effects of competitive position. We expected negative B_7 to support the hypothesis 2.

Last, we estimated the following regression model for the hypothesis 3.

$$\begin{aligned} \text{Change in deception measure} = & B_0 + B_1 \text{Degree of downturn} + B_2 \text{Firm size} + \\ & B_3 \text{Change in industry ROE} + B_4 \text{Leverage ratio} + B_5 \text{Firm age} + \\ & B_6 \text{Industry Complexity} + B_7 \text{Degree of downturn} \times \text{Industry Complexity} + e \quad (3) \end{aligned}$$

We added industry complexity as a moderator and the interaction term of degree of downturn and industry complexity to the model (1). Our main interest was the coefficient on the interaction term, B_7 , measured the interaction effects of industry complexity. We expected positive B_7 to support the hypothesis 3.

RESULTS

We present our empirical results in this section. Table I provides the descriptive statistics and correlations of all the variables.

Insert Table I about here

Table II shows the results of regression analysis for the hypothesis 1. Our results showed a strong and statistically significant effect of the degree of downturn on increase in a firm's proclivity to engage in affect ($p < 0.05$), pleasantness ($p < 0.05$), imagery ($p < 0.10$), activation ($p < 0.10$), lexical diversity ($p < 0.05$) and content diversity ($p < 0.05$) (although we find insignificant results in non-immediacy, uncertainty, and complexity as the dependent variable). Overall, we found support for hypothesis 1.

Insert Table II – (1) about here

Insert Table II – (2) about here

Table III shows the results of regression analysis for the hypothesis 2. Our results showed a strong and statistically significant interaction effects of the competitive position in a firm's proclivity to engage in affect ($p < 0.05$), pleasantness ($p < 0.05$), imagery ($p < 0.05$), activation ($p < 0.05$), diversity ($p < 0.05$), lexical diversity ($p < 0.05$) and content diversity ($p < 0.05$) (although we find insignificant results in non-immediacy, uncertainty, and complexity as the dependent variable). Overall, we found the results, supporting the hypothesis 2. Figure 2 shows these effects graphically¹.

Insert Table III – (1) about here

Insert Table III – (2) about here

Insert Figures 2 about here

Table IV showed the results of regression analysis for the hypothesis 3. Our results showed a strong and statistically significant interaction effects of the industry complexity in a firm's proclivity to engage in affect ($p < 0.05$), pleasantness ($p < 0.05$), imagery ($p < 0.10$), activation ($p < 0.10$), and lexical diversity ($p < 0.10$) (although we find insignificant results in content diversity, non-immediacy, uncertainty, and complexity as the dependent variable). Overall, we found the results, supporting the hypothesis 3. This results are graphically illustrated in Figure 3.

¹ We used unstandardized regression coefficients and assumed median values of all control variables in our analysis.

Insert Table IV – (1) about here

Insert Table IV – (2) about here

Insert Figures 3 about here

DISCUSSION, LIMITATIONS, AND SUGGESTIONS FOR FUTURE RESEARCH

Management to a large extent is symbolic in nature. Managers go to great lengths to generate and convey meanings for both internal and external audiences (Pfeffer 1981). In our study we look at deceptive impression management as a relatively understudied aspect of symbolic action, one that represents a potentially “dark side” of management. We find strong support for our core argument that the magnitude of drop in financial performance causes managers to deceive audiences by using more affective (pleasant, active, and imagery-prone) and diverse language.

Our study utilizes ideas from the behavioral theory of the firm (Cyert and March, 1963) to argue that drop in financial performance represents a challenge to boundedly-rational managers’ aspiration levels which drives them to engage in problemistic search and adaptive behavior. While research has largely looked at “positive” adaptive behavior such as increasing investments in R&D and innovation (for e.g. Greve, 2003), limited focus has been expended on negative coping mechanisms (see Harris and Bromiley, 2007 as an exception). Our study addresses this relative imbalance by looking at deception as a response to performance below aspiration levels.

Furthermore, by considering the competitive dynamics in which a firm is embedded, we also look at the “joint effects” of social comparison as a key influencing factor on the relationship between performance and deception. Our argument builds on the theoretical claims of behavioral theory (Cyert and March 1963) that relative performance within the same category

or market is at key social aspiration cue and extends existing argument by demonstrating that this firms may use unethical behavior to satisfy their aspiration level as way of problemistic search. Specifically, we adopt competitive dynamic perspective arguing that market position significantly influence firm behavior in a different way. For example, Ferrier, Smith, and Grimm (1999)(Ferrier et al. 1999) found that firm's competitive behavior may differ depending on their competitive position in the market and demonstrate the role of competitive position in the market on firm behavior.

Despite the importance of competitive dynamics in affecting firm behavior, it is surprising that few studies have investigated how and why competitive environment affects deception by firms, especially the use of deceptive language by strategic leaders in financial disclosure. We extend prior theory by showing that firm performance relative to others, especially who are in the same category or market, affects the tendency to engage in deceptive impression management, which might lead to financial misrepresentation as well. Our study contributes to existing behavioral theory and organization impression management by showing that performance both in their own and relative to others drives influences the tendency to engage in the use of deceptive language as a way of impression management, which can be interpreted as one of organizational change to improve firm performance to a satisfactory level.

Limitations. Our study suffers from some limitations. For instance, we only study deception in financial disclosures as the primary phenomenon of interest. Clearly, strategic leaders communicate with their internal and external audiences through other media as well such as speeches, earnings calls, press releases, letters to shareholders, interviews, road shows etc. Deceptive impression management could occur through one or more of these media. Our study looks at just one medium of linguistic communication with stakeholders. Furthermore, missing

from our empirical design is audience reactions, i.e we do not specifically model the responses of audiences that receive and utilize financial disclosure information. Furthermore, we only look at performance downturns as the sole exemplars of events of strategic importance that can create the potential for leaders to engage in deceptive impression management. Arguably, other events of high stakes strategic importance such as corporate takeovers, sudden exit of key managers, product failures and recalls, environmental disasters, corporate scandals are some other types of events that can also serve as contexts to study deceptive impression management.

Suggestions for Future Research. In this paper, we show how competitive environmental attributes affect the use of deceptive language. Specifically we find that competitive dynamics affect deception across two conceptual levels. At the level of the focal firm, its relative competitive position significantly affects the extent to which a drop in firm performance will lead to deceptive impression management. We find that in general, firms in weaker competitive positions are likely to fall prey to such temptations. This can perhaps be explained by the fact that weaker firms are likely to suffer from real resource adversities and their managers would therefore be forced to engage in symbolic work that challenges the norms of ethical conduct. On the other hand stronger firms due to their superior resource positions might be able to withstand the pressures of financial downturns and also be driven to protect their positions of high status, thereby leading their strategic leaders to experience relatively lower need to deceive external audiences. That said, we know from practical experiences that prominent firms like Enron, WorldCom, etc. have engaged in deception in the past. Therefore, future research can explore more the effect of a firm's competitive position, status, and reputation to refine our understanding on when and why firms are likely to deceive. Second, future research can look at other factors such as CEO and TMT characteristics, network attributes in which firms are

embedded, and consider their joint aspects to develop a richer intellectual infrastructure around the phenomenon of deceptive impression management. Our study is an initial step towards this endeavor.

Our contribution also lies at looking at the industry level in terms of competitive dynamics. Although there has been significant research studying the effect of competitive uncertainty on the firm behavior (Ang 2008; Barnett 1997; M. J. Chen and Miller 1994), few studies have tried to investigate how industry competitive uncertainty might affect a firm's deceptive behavior. Our study finds a negative curvilinear effect of industry competitive uncertainty on the relationship between performance downturn and deception. Our study joins a limited but noteworthy literature that looks at industry factors as drivers of management fraud and misconduct (McKendall and Wagner III 1997; Zahra et al. 2005). These studies have found for example, that greater industry concentration levels and uncertainty lead to increased incidence of corporate illegality and fraud. Our study makes a significant contribution to this limited work by looking at the role of competitive uncertainty – measured as the change in industry competitiveness over two time periods.

Our contribution lies at looking at both firm and industry level in terms of competitive dynamics. First, we study the effect of competitive positions of the focal firm in the market on the use of deceptive language, which is basically firm level attributes. Thus, we show how competitive environment that each firm confront affects their deceptive behavior. Second, we study the effect of competitive uncertainty of the industry on the use of deceptive language as well, which is basically industry level attributes. In doing so, we show overarching framework and mechanisms through which both firm and industry level attributes of competitive dynamics affect firm's deceptive behavior.

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Table I
Descriptive Statistics and Correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Change in Affect	0.09	0.28															
2. Change in Pleasantness	0.09	0.28	1.000*														
3. Change in Imagery	0.09	0.28	0.999*	0.998*													
4. Change in Activation	0.06	0.20	0.989*	0.988*	0.988*												
5. Change in Lexical Diversity	-0.02	0.23	0.691*	0.690*	0.691*	0.679*											
6. Change in Content Diversity	-0.03	0.24	0.705*	0.705*	0.704*	0.691*	0.985*										
7. Change in Non-immediacy	0.67	1.54	0.216*	0.213*	0.219*	0.258*	0.067	0.06									
8. Change in Uncertainty	0.07	0.28	0.001	0.003	-0.002	-0.004	-0.008	0.008	-0.007								
9. Change in Complexity	0.08	0.57	-0.146*	-0.142	-0.150*	-0.137	-0.253*	-0.213*	-0.058	0.033							
10. Degree of downturn	1.58	0.77	0.098	0.104	0.09	0.071	0.125	0.136	-0.027	0.004	-0.028						
11. Firm size	6.81	1.86	-0.04	-0.04	-0.04	-0.023	-0.04	-0.042	0.028	-0.081	-0.022	-0.001					
12. Change in industry ROE	-0.71	4.72	0.051	0.05	0.052	0.048	0.023	0.021	-0.016	0.025	0.017	0.007	0.092				
13. Leverage ratio	0.30	0.20	-0.151*	-0.150*	-0.153*	-0.176*	-0.074	-0.076	-0.069	0.104	-0.047	0.306*	0.085	-0.08			
14. Firm age	3.67	0.21	-0.026	-0.026	-0.026	-0.032	-0.044	-0.049	-0.105	-0.022	0.019	0.091	0.304*	-0.105	0.177*		
15. Market share	0.22	0.20	-0.038	-0.037	-0.04	-0.031	-0.088	-0.085	0.009	-0.068	0.072	0.012	0.353*	-0.093	-0.098	0.162*	
16. Industry Complexity	0.80	0.17	0.065	0.063	0.066	0.074	0.095	0.088	0.116	0.132	-0.133	0.117	0.256*	0.122	0.207*	-0.015	-0.461*

Note: Correlations with absolute value of above 0.15 are significant at 5% level.

SD = Standard Deviation.

n= 181

Table II- (1)**Baseline Effects of the Degree of Performance Downturn**

Variables	(1) Change in Affect	(2) Change in Pleasantness	(3) Change in Imagery	(4) Change in Activation
Degree of downturn	0.16** (2.02)	0.16** (2.10)	0.15* (1.91)	0.14* (1.75)
Firm size	-0.03 (-0.37)	-0.03 (-0.37)	-0.03 (-0.38)	-0.01 (-0.09)
Change in industry ROE	0.04 (0.50)	0.04 (0.49)	0.04 (0.52)	0.03 (0.41)
Leverage ratio	-0.20** (-2.48)	-0.20** (-2.48)	-0.19** (-2.47)	-0.21*** (-2.72)
Firm age	0.01 (0.09)	0.01 (0.08)	0.01 (0.11)	-0.00 (-0.01)
Observations	181	181	181	181
Adjusted R-squared	0.0206	0.0220	0.0189	0.0217

Standardized coefficients and t-statistics (parentheses) are reported

*** p<0.01, ** p<0.05, * p<0.1

Table II- (2)**Baseline Effects of the Degree of Performance Downturn**

Variables	(1) Change in Lexical Diversity	(2) Change in Content Diversity	(3) Change in Non- immediacy	(4) Change in Uncertainty	(5) Change in Complexity
Degree of downturn	0.16** (1.99)	0.18** (2.25)	0.00 (0.03)	-0.03 (-0.44)	-0.02 (-0.23)
Firm size	-0.02 (-0.27)	-0.02 (-0.28)	0.07 (0.93)	-0.09 (-1.18)	-0.03 (-0.41)
Change in industry ROE	0.01 (0.17)	0.01 (0.12)	-0.04 (-0.53)	0.04 (0.57)	0.02 (0.27)
Leverage ratio	-0.11 (-1.42)	-0.12 (-1.53)	-0.06 (-0.72)	0.13 (1.59)	-0.04 (-0.55)
Firm age	-0.03 (-0.36)	-0.04 (-0.45)	-0.12 (-1.52)	-0.01 (-0.11)	0.04 (0.51)
Observations	181	181	181	181	181
Adjusted R-squared	0.0014	0.0084	-0.0086	-0.0061	-0.0239

Standardized coefficients and t-statistics (parentheses) are reported

*** p<0.01, ** p<0.05, * p<0.1

Table III- (1)**Moderation Effects of Firm's Competitive Position on Deception**

Variables	(1) Change in Affect	(2) Change in Pleasantness	(3) Change in Imagery	(4) Change in Activation
Degree of downturn	0.37*** (3.16)	0.38*** (3.25)	0.36*** (3.04)	0.31*** (2.68)
Firm size	-0.01 (-0.13)	-0.01 (-0.13)	-0.01 (-0.13)	0.01 (0.15)
Change in industry ROE	0.02 (0.21)	0.01 (0.19)	0.02 (0.23)	0.01 (0.14)
Leverage ratio	-0.22*** (-2.74)	-0.22*** (-2.75)	-0.22*** (-2.72)	-0.23*** (-2.94)
Firm age	0.01 (0.19)	0.01 (0.18)	0.02 (0.20)	0.01 (0.08)
Firm competitive position	0.28* (1.73)	0.30* (1.78)	0.28* (1.68)	0.23 (1.41)
Degree of downturn X Firm competitive position	-0.44** (-2.37)	-0.45** (-2.42)	-0.43** (-2.32)	-0.37** (-2.01)
Observations	181	181	181	181
Adjusted R-squared	0.0432	0.0455	0.0404	0.0353

Standardized coefficients and t-statistics (parentheses) are reported

*** p<0.01, ** p<0.05, * p<0.1

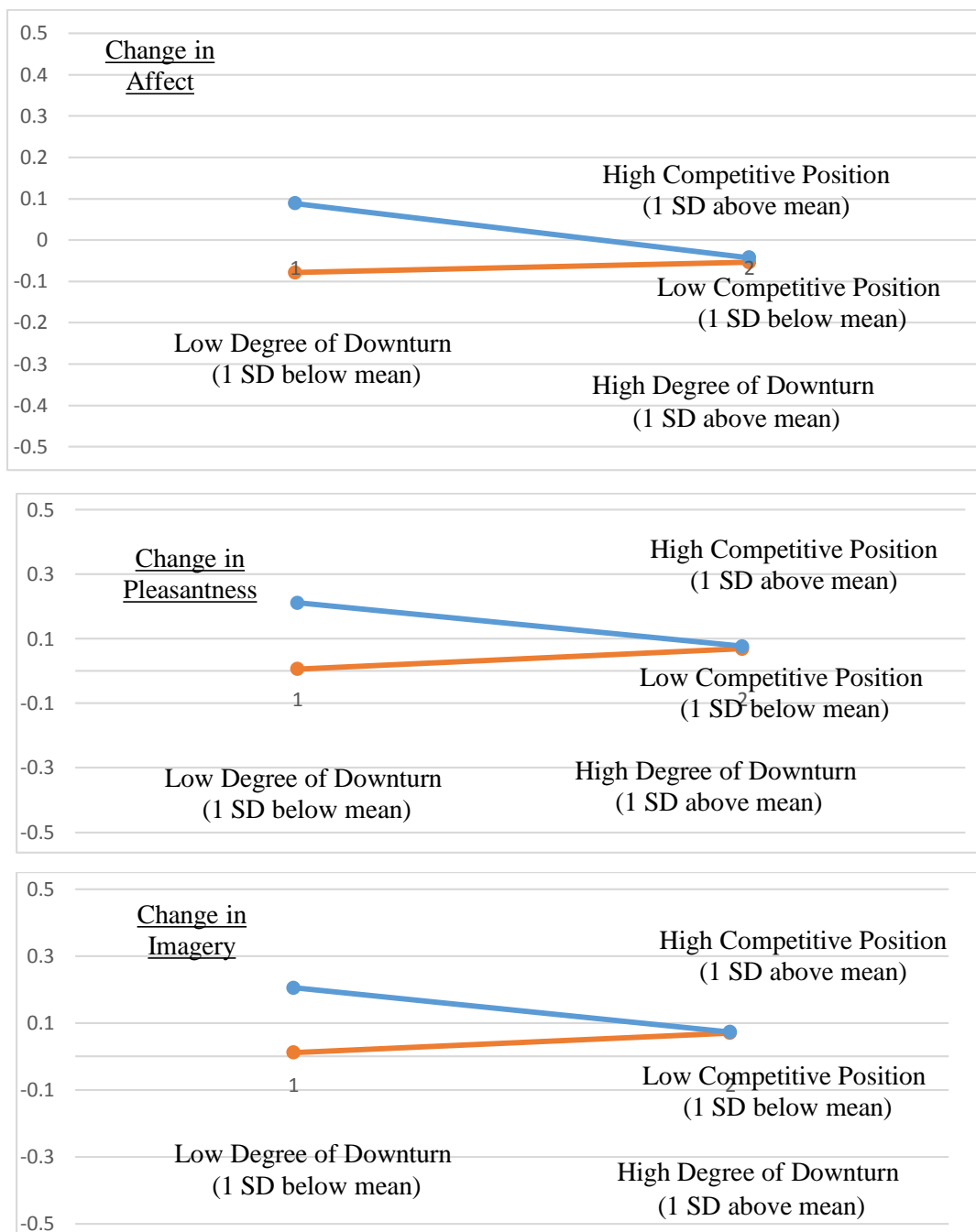
Table III- (2)**Moderation Effects of Firm's Competitive Position on Deception**

Variables	(1) Change in Lexical Diversity	(2) Change in Content Diversity	(3) Change in Non- immediacy	(4) Change in Uncertainty	(5) Change in Complexity
Degree of downturn	0.36*** (3.08)	0.39*** (3.35)	-0.04 (-0.33)	-0.06 (-0.52)	-0.11 (-0.91)
Firm size	0.02 (0.20)	0.01 (0.16)	0.08 (0.91)	-0.09 (-1.02)	-0.07 (-0.77)
Change in industry ROE	-0.02 (-0.21)	-0.02 (-0.26)	-0.04 (-0.49)	0.04 (0.56)	0.04 (0.51)
Leverage ratio	-0.14* (-1.79)	-0.15* (-1.89)	-0.06 (-0.69)	0.13 (1.54)	-0.02 (-0.29)
Firm age	-0.02 (-0.22)	-0.03 (-0.32)	-0.12 (-1.51)	-0.01 (-0.10)	0.03 (0.41)
Firm competitive position	0.21** (1.30)	0.24 (1.46)	-0.08 (-0.46)	-0.07 (-0.38)	-0.05 (-0.28)
Degree of downturn X Firm competitive position	-0.42** (-2.25)	-0.44** (-2.38)	0.09 (0.47)	0.06 (0.32)	0.18 (0.95)
Observations	181	181	181	181	181
Adjusted R-squared	0.0288	0.0376	-0.0189	-0.0169	-0.0228

Standardized coefficients and t-statistics (parentheses) are reported

*** p<0.01, ** p<0.05, * p<0.1

Figure 2. Statistically Significant Moderation Effects between the Degree of Performance Downturn and Firm Competitive Position²



² Only statistically significant effects shown

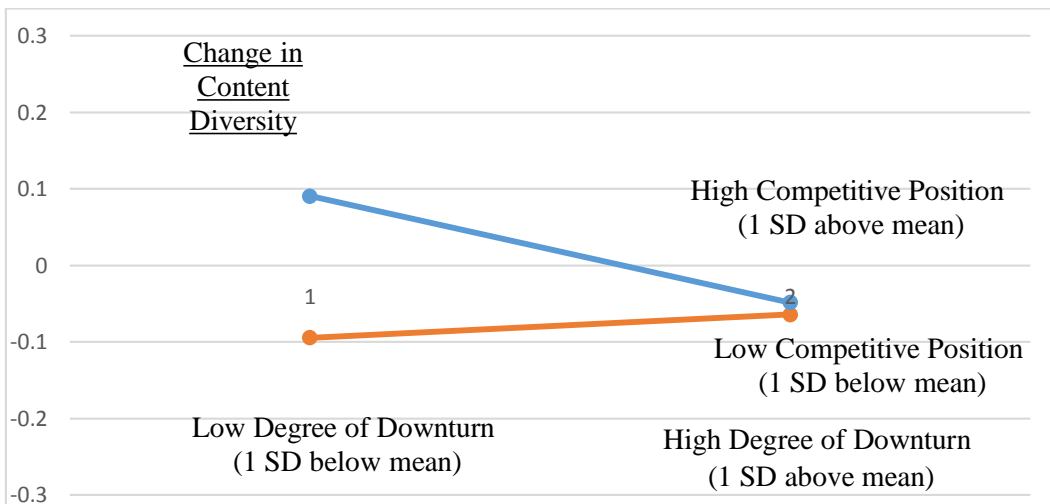
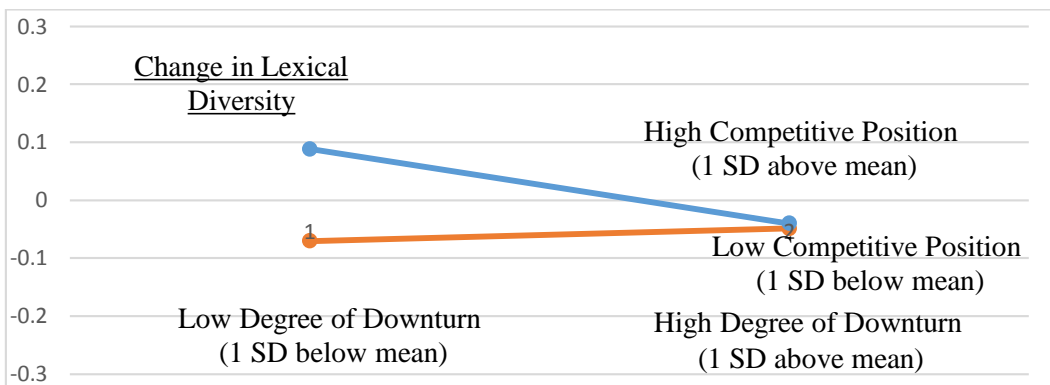
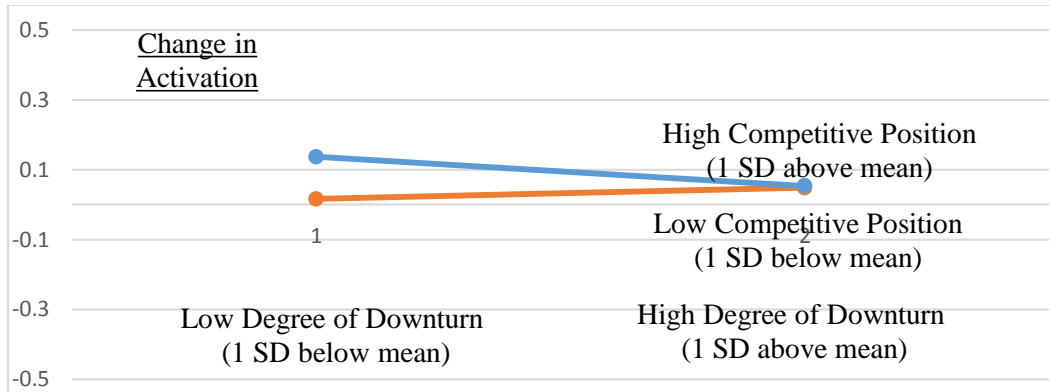


Table IV- (1)**Moderation Effects of Firm's Industry Complexity**

Variables	(1) Change in Affect	(2) Change in Pleasantness	(3) Change in Imagery	(4) Change in Activation
Degree of downturn	-0.70 (-1.61)	-0.69 (-1.60)	-0.70 (-1.62)	-0.69 (-1.60)
Firm size	-0.06 (-0.80)	-0.06 (-0.78)	-0.07 (-0.82)	-0.05 (-0.57)
Change in industry ROE	0.03 (0.43)	0.03 (0.42)	0.03 (0.45)	0.02 (0.32)
Leverage ratio	-0.21*** (-2.62)	-0.21*** (-2.62)	-0.21*** (-2.61)	-0.23*** (-2.89)
Firm age	0.02 (0.27)	0.02 (0.25)	0.02 (0.29)	0.01 (0.18)
Complexity	-0.23 (-1.24)	-0.23 (-1.26)	-0.22 (-1.21)	-0.21 (-1.12)
Degree of downturn X Complexity	0.95** (1.99)	0.96** (2.00)	0.95* (1.97)	0.93* (1.93)
Observations	181	181	181	181
Adjusted R-squared	0.0408	0.0420	0.0393	0.0432

Standardized coefficients and t-statistics (parentheses) are reported

*** p<0.01, ** p<0.05, * p<0.1

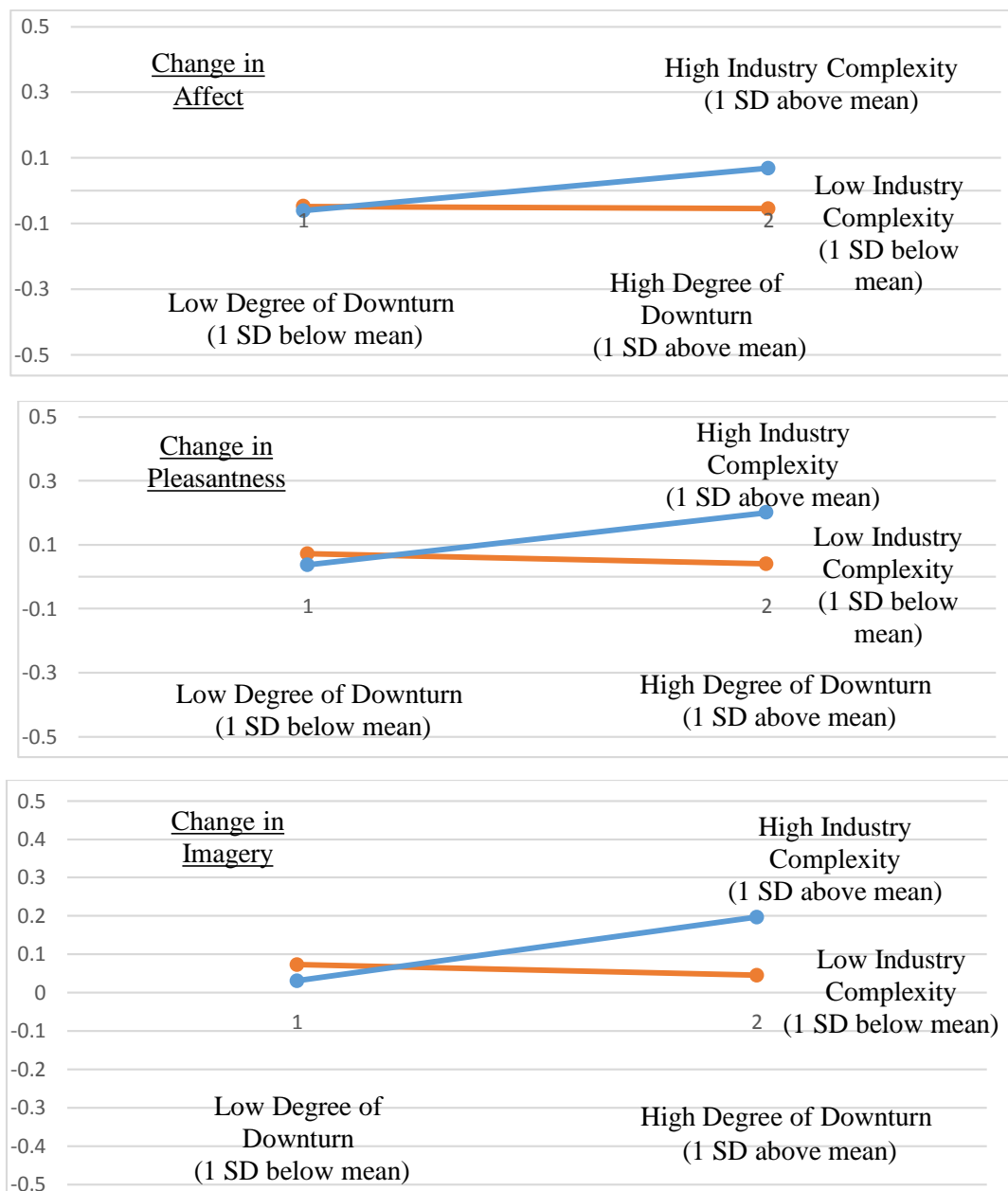
Table IV- (2)**Moderation Effects of Firm's Industry Complexity**

Variables	(1) Change in Lexical Diversity	(2) Change in Content Diversity	(3) Change in Non- immediacy	(4) Change in Uncertainty	(5) Change in Complexity
Degree of downturn	-0.59 (-1.34)	-0.51 (-1.17)	0.50 (1.12)	-0.36 (-0.82)	0.38 (0.85)
Firm size	-0.06 (-0.75)	-0.06 (-0.71)	0.04 (0.53)	-0.14* (-1.66)	0.01 (0.08)
Change in industry ROE	0.00 (0.06)	0.00 (0.02)	-0.06 (-0.73)	0.03 (0.40)	0.03 (0.42)
Leverage ratio	-0.13 (-1.62)	-0.14* (-1.70)	-0.09 (-1.07)	0.10 (1.25)	-0.02 (-0.27)
Firm age	-0.01 (-0.15)	-0.02 (-0.26)	-0.11 (-1.32)	0.01 (0.14)	0.02 (0.29)
Complexity	-0.17 (-0.89)	-0.16 (-0.83)	0.33* (1.73)	0.02 (0.12)	0.02 (0.11)
Degree of downturn X Complexity	0.83* (1.71)	0.76 (1.58)	-0.57 (-1.16)	0.36 (0.73)	-0.44 (-0.89)
Observations	181	181	181	181	181
Adjusted R-squared	0.0201	0.0220	0.0025	0.0049	-0.0152

Standardized coefficients and t-statistics (parentheses) are reported

*** p<0.01, ** p<0.05, * p<0.1

Figure 3. Statistically Significant Moderation Effects between the Degree of Performance Downturn and Firm Industry Complexity³



³ Only statistically significant effects shown

