What you are and what you do : the effect of noun-verb framing in earnings conference calls

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2020

Yang, Y. (2020). What you are and what you do : the effect of noun-verb framing in earnings conference calls. Doctoral thesis, Nanyang Technological University, Singapore.

<https://hdl.handle.net/10356/137958>

<https://doi.org/10.32657/10356/137958>

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**WHAT YOU ARE AND WHAT YOU DO:
THE EFFECT OF NOUN-VERB FRAMING IN EARNINGS CONFERENCE CALLS**

**YANJIA YANG
NANYANG BUSINESS SCHOOL**

2020

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THE EFFECT OF NOUN-VERB FRAMING IN EARNINGS CONFERENCE CALLS**

YANJIA YANG

NANYANG BUSINESS SCHOOL

A thesis submitted to the Nanyang Technological University
in partial fulfilment of the requirement for the degree of
Doctor of Philosophy

2020

Statement of Originality

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A handwritten signature in black ink, reading 'Yanjia Yang' in a cursive script.

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YANG Yanjia

ACKNOWLEDGEMENT

I gratefully acknowledge the invaluable guidance and advice provided by my supervisor, Hun-Tong Tan. His continuous support helps me find my true research interests and grow as a scholar. I would also like to thank my committee members, Prof. Ng Bu Peow, Prof. Tan Seet Koh, and Prof. Krishna Savani, for their constructive comments and feedback.

In addition, my sincere thanks also go to many parties who have provided assistance and help over the course of my dissertation including but not limited to Dr. Lukas Helikum, Dr. Feng Yeo, Dr. Huaxiang Yin, Dr. G-Song Yoo, and NBS Ph.D. office.

Last but certainly not least, I am grateful to my family and friends who supported me throughout my doctoral program. Most of all, I am deeply grateful to my amazing parents, Yingguang Yang and Zhimin Zhang, who give me endless love throughout my life.

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SUMMARY

Managers can describe their firms using label nouns (e.g., “our company is a *provider* of personalized services”) or action verbs (e.g., “our company *provides* personalized services”). I present a theory predicting that noun-verb framing affects investors’ perceptions of firm stability and growth. I conduct an experiment to jointly test the effect of noun-verb framing and firm type on investor judgments. Consistent with my predictions, investors’ investment focus leans towards stability when investors evaluate mature firms, and strategies framed using label nouns rather than action verbs better fit the overall financial performance, resulting in a more favorable investment judgment. On the other hand, investors’ investment focus leans towards growth when investors evaluate growth firms, and strategies framed using action verbs rather than label nouns better fit the overall financial performance, resulting in a more favorable investment judgment. The findings inform management that the word choices between label nouns and action verbs can benefit the firms.

I. INTRODUCTION

Firms can choose to either use label nouns to say what they are (e.g., “our company is a *provider* of personalized services”) or use action verbs to say what they do (e.g., “our company *provides* personalized services”) without substantially altering the disclosure content. In earnings conference calls, there is a wide variation in the choice of how firms use label nouns and action verbs (see Appendix A for examples from real earnings conference calls). Many researchers have acknowledged that the linguistic characteristics of accounting disclosures affect investment judgment (Li 2010; Loughran and McDonald 2016). In this study, I focus on noun-verb framing, where the label noun and action verb share the same root word, and investigate its effect on investment evaluations and decisions in earnings conference calls.

Generally, an earnings conference call occurs after an earnings release, where the firm’s performance is reflected by revenues and other accounting fundamentals (SEC 2018). The quarterly revenue changes function as a key financial feature, which has been used to categorize firms into the “mature” and “growth” ones (Damodaran 2011). Specifically, growth firms have rapidly increasing revenues over a short period of time, while mature firms have revenues at around the same level in the past several quarters. As the earnings release and the following earnings conference call are typically jointly considered (Diamond and Yevmenenko 2011; TheStreet Inc. 2007), this paper centers on how the effect of noun-verb framing in earnings conference calls on investment judgments varies with firm type.

The study is important for a couple of reasons. First, it has strong practical implications. As shown in Appendix A, many label nouns have counterpart action verbs and vice versa. As a result, management have the flexibility to discretionally use the words that best fit the firms’

financial performance features without substantially changing the information content, which can eventually benefit the firm by attracting more investors.

Second, this study also provides insights into the theoretical mechanism of investment decision-making process. The stability and growth implied by firm type are two important aspects in investment assessment (Fidelity International Inc. 2019; Minton and Schrand 1999), and the use of label nouns and action verbs is expected to affect readers' perceptions of stability and growth (Vigliocco et al. 2011; Walton and Banaji 2004). To be specific, mature firms promote consideration of stability, and nouns, as opposed to verbs, are expected to increase the firms' perceived stability level. In contrast, growth firms activate consideration of growth, and verbs are expected to generate a higher perceived level of growth. With the experiment, I test how noun-verb framing and firm type jointly affects investors' evaluations of stability and growth, which in turn affects investment decisions. The fit between the noun-verb framing and firm type can make the firm appear to be a more favorable investment option. The findings are expected to be generalized to other business decision-making process that involves consideration of stability and growth.

Third, the experimental method has comparative advantages in reducing endogeneity concerns in textual analysis studies (Li 2010; Libby, Bloomfield, and Nelson 2002). Management are likely to be unaware of the effect of label nouns and action verbs, so the unconscious word choices presented in real earnings conference calls may reflect management's mindsets or the firms' conditions (e.g., Cousins 1989; Kanagawa, Cross, and Markus 2001). The experiment keeps other aspects of the firm constant, which eliminates the above self-selection issues.

I draw from neuroscience and psychology literature to develop my hypotheses. Prior neuroscience studies find that nouns activate the posterior, vision-processing region in human

brain (Federmeier et al. 2000; Moseley and Pulvermüller 2014; Pulvermüller et al. 1996; Vigliocco et al. 2011). The visual associations create more stable and enduring images of the subjects. On the other hand, verbs are linked to the frontal, motor-processing region in human brain, which stimulates the perception of movement and change (Laiacina and Caramazza 2004). Correspondingly, psychology research finds that people considered the traits described by label nouns to be more persistent and stable, and those described by action verbs to be more context-sensitive and changeable (Gelman and Heyman 1999; Walton and Banaji 2004).

When people evaluate a subject, the traits that they focus on is shaped by their categorization (Bettencourt et al. 1997; Pavelchak 1989). In an investment setting, people can categorize the firm as a mature type or a growth type. Firm type is expected to affect investor's evaluation focus between stability and changeability. Specifically, the stable revenues help investors categorize the firm as a mature one, and thus trigger the consideration of stability. As nouns create a higher perceived stability level, disclosures framed using label nouns are expected to better fit the firm's overall financial performance and lead to a more favorable investment judgment.

In contrast, the rapidly increasing revenues in a growth firm make investors focus on the changeable aspects (i.e., the growth in the growth firm setting). The action verbs in the earnings conference call are expected to correspond to the focus of growth by stimulating the perception of movement, which results in a better fit between the disclosures in the earnings conference call and overall financial performance. The fit in turn leads to a more favorable investment evaluation.

To test the hypotheses, I design a 2 (label noun versus action verb framing) $\times$ 2 (mature versus growth firms) between-participants experiment. I recruit participants from Prolific, a web-based crowdsourcing marketplace. Firm type is manipulated by showing stable revenues in the

past eight quarters in the mature condition and increasing revenues in the past eight quarters in the growth condition. I then present the participants the transcript of the firm's earnings conference call, where the CEO describes the strategies of the firm. In the transcript, the CEO frames the strategies using label nouns or action verbs. The participants' main task is to evaluate the attractiveness of the investment and their willingness to invest in the firm.

Consistent with the hypotheses, I find that label nouns, as opposed to action verbs, lead to a more favorable judgment of the mature firm. Compared to label nouns, action verbs lead to a more favorable judgment of the growth firm. To further support the theory employed, I run a mediation test and find that, on the one hand, in the mature (growth) firm condition, the strategy disclosure framed using label nouns (action verbs) leads to a higher perceived stability (growth) level, which in turn increases investors' perceived fit between the strategies and the overall financial performance. A higher perceived strategy fitness eventually results in a more favorable investment judgment. On the other hand, in the mature (growth) firm condition, investors' perceived growth (stability) level does not vary with noun-verb framing, and it has no effects on further evaluations either, which supports the argument that investors focus more on stability (growth) under such circumstance.

This paper contributes to the literature of linguistic characteristics in accounting disclosures. Prior studies have demonstrated that management's word choices, captured by tone, jargon, and readability, affect investors' judgments (Huang, Teoh, and Zhang 2014; Li 2008; Price et al. 2012; Tan, Wang, and Yoo 2019; Tan, Wang, and Zhou 2014). There is a growing literature examining investors' reactions to nuanced word usage. For example, Asay, Libby, and Rennekamp (2018) and Chen and Loftus (2019) investigate the use of personal pronouns in accounting disclosures, and find that investors' perceptions of the management and the firm varies with the use of "I,"

“we,” and “our company.” My study is the first to identify noun-verb framing, a nuanced linguistic characteristic related to stability and growth perception, in accounting disclosures. The findings inform management that their word choices between label nouns and action verbs can be customized to fit the overall financial performance features without altering the disclosure content. In my experiment, the disclosure is presented as part of the transcript of an earnings conference call, and the content is about firm strategies.¹ This is because earnings conference calls, as a voluntary information distribution channel, involve wide variations in terms of presentation and information content (Hollander, Pronk, and Roelofsen 2010; Mayew 2008; Tasker 1998), including word choices. Also, strategy disclosures are very typical in earnings conference calls (Bushee, Jung, and Miller 2011). However, I believe that the effect of noun-verb framing on investors’ stability and growth evaluation can be extended to other accounting disclosures.

In addition, this study sheds light on how two favorable firm types influence investors’ information processing differently. The mature/growth firm categorization in this study is based on historical performance. Though the positivity and negativity of current period performance are important in investment evaluations (e.g., Emett 2019; Han and Tan 2010), the trend generated by historical information serves as a key factor in business decision making (e.g., Chen, Tan, and Wang 2013; De Bondt 1993; Dhar and Kumar 2001). In this study, I focus on positive firm performance and manipulate the revenues in the past eight quarters at two levels: all at about the same high level versus improving over time to the current quarter’s high level. The results show that stable revenues make investors’ focus lean towards stability, while increasing revenues make investors focus on growth. The focus eventually affects investors’ reactions to the subsequent

¹ Porter (1996) defines strategy as “the creation of a unique and valuable position, involving a different set of activities,” and “competitive strategy is about being different. It means deliberately choosing a different set of activities to deliver a unique mix of value.”

disclosures in the earnings conference call. Specifically, in the mature (growth) firm condition, noun-verb framing affects investors' stability (growth) evaluation, but not their growth (stability) evaluation. Moreover, only investors' stability (growth) evaluation affects the subsequent investment judgments of the mature (growth) firm. The findings answer the SEC (2018)'s questions about investors' reactions to the quarterly financial releases and the information from other paired information sources, such as earnings conference calls.

The rest of this paper is organized as follows. Section II reviews related literature and develops the hypotheses. Section III describes the research design and experiment procedure. The tests and results are discussed in Section IV. Section V concludes.

II. HYPOTHESIS DEVELOPMENT

Label Nouns and Action Verbs

Linguistics research suggests that nouns represent states or properties, indicating long-term affairs, while verbs indicate dynamic events and changing affairs (Langacker 1987; Spair 1921; Vigliocco et al. 2011). Studies about brain activities align with such views. Though there can be some overlap in brain activities, in general, nouns trigger the posterior part, which has stable visual associations. In contrast, verbs elicit the frontal part of brain, which is associated with movement perception (Federmeier et al. 2000; Moseley and Pulvermüller 2014; Pulvermüller, Lutzenberger, and Preissl 1999; Pulvermüller et al. 1996; Shapiro, Moo, and Caramazza 2006).

Consistent with the studies above, people's judgment and decision making are affected by the noun-verb framing in the information they process. Based on the data collected from two statewide elections in the United States, 2008 presidential election in California and 2009 New Jersey gubernatorial election, Bryan et al. (2011) find that compared to using the action verb (i.e., "voting"), using the noun (i.e., "being a voter") leads to greater interest in voting registration and

increases actual voter turnout. Based on experiments in both public and private setting, Bryan, Adams, and Monin (2013) show that people are less likely to commit cheating in the games when the warning is written with the label noun (i.e., “please don’t be a cheater”) than with the action verb (i.e., “please don’t cheat”). These studies prove that label nouns, as opposed to action verbs, build a more persistent and less transient identity, which encourages people to act in line with the desirable behaviors (i.e., being a voter) and avoid the undesirable behaviors (i.e., being a cheater).

The effect of label nouns and action verbs not only works in the self-relevant and ethics-relevant settings as discussed above, but also works when the description is neutral and is about others. Gelman and Heyman (1999) and Walton and Banaji (2004) show when other people’s traits are described using label nouns (e.g., “Susan is a chocolate-eater”), the perception of the traits are more stable and resilient. When the descriptions are framed using action verbs (e.g., “Susan eats chocolate a lot”), the images are more flexible and context-sensitive.

Following these prior studies, I predict that when the firm’s strategy description is framed using label nouns rather than action verbs, investors tend to consider the firm to be more stable. In contrast, compared to label nouns, action verbs make investors think the firm’s performance involves a stronger movement.

Mature Firms and Growth Firms

Mature firms and growth firms are two common categories used by both practitioners and researchers (Damodaran 2011). These two types of firms can be different in many aspects, such as age (Brown, Fazzari, and Petersen 2009), cash flow patterns (Dickinson 2011), and dividend payment (Fama and French 2001). This study focuses on one of the most prominent aspects of the categorization: historical revenues (Damodaran 2011). Specifically, mature firms have relatively

stable revenues over the past several quarters, and growth firms' revenues change continuously and dramatically even over a short period of time.

The historical accounting fundamentals, operational revenues in this study, implicitly help investors categorize the firms into mature firms and growth firms. Category characteristics provide the context for evaluation and shape people's evaluation criteria (Bettencourt et al. 1997; Pavelchak 1989). For example, after knowing the major of a student, people tend to evaluate the student based on the typical traits of students in that major. Similarly, Tan and Libby (1997) find that experienced auditors are evaluated with a focus on tacit managerial knowledge level, while the evaluations of inexperienced auditors are focused on technical knowledge level.

The above discussions suggest that when evaluating a firm as an investment, the stable revenues of a mature firm make investors' evaluation focus lean towards the aspect of stability. In contrast, the increasing revenues of a growth firm provide the context for assessing growth and thus, makes the investors' evaluation focus on growth.

Joint Effect of Noun-Verb Framing and Firm Type

In order to generate a more favorable judgment of a subject matter, it is important to match the description of the subject matter being evaluated with the evaluation focus. For example, Soliman and Buehler (2018) find in an award distribution situation, the assessment of an achievement-based award encourages evaluators to focus on the existing performance, and the award is likely to be given to people described to have a consistently high performance. Conversely, a potential-based award triggers evaluators' focus on the future expectation of the subject, and it likely goes to people with a performance that improves over time. Brown et al. (2018) show that evaluating people in a certain domain makes people focus on the worker's natural talent in that

domain. On the other hand, when the evaluation is about a new domain, people care more about the worker's effort shown in the description rather than the natural talent.

Similarly, I predict investors' judgments are more favorable when the strategy disclosure in the earnings conference call fits the investment focus. As discussed above, firm type is expected to shape investment focus. To be specific, the steady revenues in the past several quarters make investors think more about the aspect of stability. Compared to verbs, nouns generate the perception of stability. Therefore, strategy description framed using label nouns, instead of action verbs, makes the mature firm a more favorable investment. In contrast, the increasing revenues promote more consideration of growth in the investment. Action verbs are more likely to activate the perception of movement than nouns. Consequently, the description framed using action verbs, instead of label nouns, increases investors' investment favorability towards the growth firm.

I state my hypotheses below:

H1: Investors make more favorable investment judgments about the mature firm when its strategy description is framed using label nouns rather than action verbs.

H2: Investors make more favorable investment judgments about the growth firm when its strategy description is framed using action verbs rather than label nouns.

One may think that the effect of noun-verb framing on investment judgment may be the opposite of that in the hypotheses presented above. On the one hand, in the mature firm condition, investors may prefer the disclosure using action verbs, as verbs make investors think that the firm is not stagnant and has potential to grow in the future. However, this argument indicates that investors have the expectation that the firm is in a transition from a mature one to a growth one. In this study, the disclosure does not imply the transition or any changes in strategies. On the other hand, in the growth firm condition, investors may prefer the disclosure using label nouns, as such

disclosure makes investors consider the current growth speed to be more sustainable. However, in the real world, business growth is less likely to be sustainable without actively engaging in new business activities, and the disclosure in the experiment is not about plans related to new activities.

III. EXPERIMENT

Participants

I recruit participants from Prolific, a web-based crowdsourcing marketplace. Using pre-screening filters provided by Prolific, I restrict the participant pool to people who are native English speakers, live in the United States, have stock investment experience, and have a previous approval rate of 95% or above on Prolific. I design two attention check questions in the experiment. The basic payment of the experiment is £0.85, and I pay participants who pass the two attention check questions a bonus of £0.15. I recruit two hundred participants in total. Among them, one hundred and sixty-four pass the attention checks, and I pay them £0.85 with £0.15 bonus. At the time the experiment was conducted, £1.00 was around US\$1.30. In addition, I exclude seventeen participants who are not attentive during the study or who may attend the experiments more than once. Among these seventeen participants, nine participants are not attentive. Specifically, I exclude eight participants (bottom 5% in terms of time) who took less than 35 seconds to read the earnings conference call transcript that contains 154 words in the label noun framing condition or 135 words in the action verb framing condition, respond to two questions related to the dependent variables, and answer one open-ended question. I also exclude one participant who chooses the highest score, 10, for all three information processing fluency questions, including a reverse-scored one (i.e., “easy to process,” “difficult to understand,” and “easy to read”). In addition, as duplicate geolocation information may indicate that the participants mask their IPs and enter the experiment more than once (Gautam et al. 2018), I exclude eight participants whose geolocation information

is duplicated. Results are directionally and statistically similar when including these eight participants. The final participant pool includes one hundred and forty-seven participants (see Table 1 for a breakdown of participant pool).

[Insert Table 1 about here]

The participants take an average of nine minutes and thirteen seconds to complete the study. The average participant in the experiment is 39.50 years old and has 16.70 years of work experience. On average, the participants have taken 1.25 accounting courses (ranging from 0 to 16) and 1.14 finance courses (ranging from 0 to 8). Eighty-four percent of them have invested in stocks in the past five years or are preparing to invest in common stock in the next three years. I ask them to evaluate the frequency they invested in stocks in the past five years on an 11-point scale, with “0” labeled “never” and “10” labeled “frequently.” The mean of the answers is 4.2, indicating a moderate level of frequency of stock investment.

Manipulations

To test my hypotheses, I conduct a 2×2 (noun-verb framing by firm type) between-participants experiment. To manipulate firm type, I change the revenue growth of the firm to suit the mature and growth firm type (see Appendix B for the firm type manipulation). Specifically, in the mature firm condition, the revenues, as well as the operational incomes, of the hypothetical firm stay around the same level (i.e., 3.676 million, ranging from 3.675 million to 3.677 million) in the past eight quarters. In the growth firm condition, the revenues increase from 2.646 million to 3.676 million, and the operational incomes grow accordingly.² To keep the efficiency level the

² I choose to use relatively small-sized firms in the experiment because it avoids a potential ceiling effect. If the firm is large, participants’ initial investment judgments can be high, capping any potential increase from subsequent earnings conference calls. Mature firms are not restricted to big firms. Though the typical illustrations of mature firms are large firms, “many small companies reach their growth ceiling quickly and essentially stay as small, mature firms (Damodaran 2011).” In the experiment, my design focuses on past revenue and income patterns, rather than firm size. I believe the results hold regardless of firm size, because (1) the firm size is held constant in the experiment, and (2) the effect of word choices is captured by the difference between the pre-call and post-call investment judgment.

same across conditions, the proportions of costs and expenses to revenues are the same between the two firm type conditions in each quarter.

I manipulate the noun-verb framing of strategy disclosure in the earnings conference call (see Appendix C for the noun-verb framing manipulation).³ To be specific, participants are told that the CEO spoke about the company in the earnings conference call, and then participants read the extracted transcript. In the label noun condition, the firm strategies are framed using nouns. In the action verb condition, verbs with the same root words as the nouns in the label noun condition are used. For example, in the label noun condition, the CEO says “our company is a *participant* of many local chef training programs and a *collaborator* of many local food markets,” while in the action verb condition, the CEO says “our company *participates* in many local chef training programs and *collaborates* with many local food markets.”

The readability of strategy description is the same between the label noun and action verb condition. Specifically, the Gunning Fox index is 16.3 in both conditions. Using Elliott et al.’s (2017) measures, I also check participants’ information processing fluency by asking them to self-report their level of agreement with three statements on 11-point scales: the information is (1) easy to process, (2) difficult to understand (reverse-scored), and (3) easy to read. I create a single measure of fluency by averaging the responses to these three questions (Cronbach’s alpha = 0.923).

³ Emmett (2019) also tests the impact of strategy disclosure. However, the study focuses on the *future-oriented* strategy disclosure in the letters to shareholders, and the manipulation uses future tense to emphasize the future orientation (e.g., “Today I am announcing three strategic priorities that *will* help us secure our future.”). In my study, I focus on the description of *current* strategies in the earnings conference calls. Also, the disclosure content in his study is manipulated at two levels: focusing on challenges or opportunities, while the information content in my study is manipulated with label noun or action verb framing. Lastly, in Emmett (2019)’s study, the disclosure manipulation affects investors through investors’ perceived managerial optimism. In my experiment, I check investors’ perceived managerial optimism by following Tan et al.’s (2014) measure and asking participants to evaluate the favorable tone of the disclosure. The following three questions are asked with 11-point scales: how favorable is (1) the CEO’s manner of speaking, (2) the CEO’s attitude toward the firm’s overall performance, and (3) is the tone of the CEO’s communication. A single measure is created by averaging the answers to these three questions (Cronbach’s alpha = 0.867). The two-way ANOVA with the measure as the dependent variable shows no significant main effect of noun-verb framing ($F=0.203$, $df=1$, $p=0.653$) or two-way interaction of firm type and noun-verb framing ($F=0.337$, $df=1$, $p=0.562$), indicating managerial optimism does not affect investors’ decisions in my study.

The two-way ANOVA with fluency as dependent variable shows no significant main effects of firm type ($F=1.530$, $df=1$, $p=0.218$) and noun-verb framing ($F=0.000$, $df=1$, $p=0.983$) or two-way interaction ($F=0.121$, $df=1$, $p=0.729$).

Procedures

Participants are randomly assigned to one of the four conditions and complete a computer-based task in which they evaluate a hypothetical firm, Maron's Corp., as an investment. At the beginning of the experiment, they are told that Maron's Corp. is a food and restaurant company, which engages in the retail sale of prepared food and drinks, and it is listed on one major stock exchange in the U.S. The participants are asked to assume the role of a prospective investor considering an investment in Maron's Corp. Then they read the financial information selected from the firm's past eight quarterly reports, where revenues and operational incomes are either stable or showing a growing trend, and make the first investment judgments (i.e., pre-call judgments). Next, they read the extracted transcript of the CEO's talk during the earnings conference call. In the transcript, the CEO either describes the firm strategies with label nouns or with action verbs. After reading the transcript, participants make the final investment judgments (i.e., post-call judgments).

To measure participants' investment judgments, I ask them to evaluate (1) the attractiveness of the investment on a 101-point scale, with "0" labeled "not at all attractive" and "100" labeled "extremely attractive," and (2) the willingness to invest on a 101-point scale, with "0" labeled "absolutely not willing to invest" and "100" labeled "absolutely willing to invest." They also assess the fit between the strategies and overall financial performance, their decision focus, and the firm's stability and growth. Finally, participants answer manipulation check questions and demographic questions.

IV. RESULTS

Manipulation Checks

As the concept of mature and growth firm is relative, I ask participants to compare the accounting fundamentals from both firm type conditions. To be specific, I firstly present accounting fundamentals of the mature and growth firm together, and ask participants to choose the one that they read earlier. Secondly, I ask them to compare the two pieces of accounting fundamental information and decide which of the following statements better describes the one they read earlier: (1) the firm's revenues stay at a high level, and (2) the firm's revenues improve over time to a high level. I expect participants in the mature firm condition to choose the first statement, and those in the growth firm condition to choose the second one.⁴ Ninety percent of the participants (i.e., one hundred and thirty-two participants) correctly recall the accounting fundamentals they read and choose the statement that follows my design intention. The result suggests that the manipulation of mature and growth firms is successful.

To assess the manipulation of label nouns and action verbs, I present the transcripts in both conditions and ask participants to select the one they read earlier. Sixty-three percent of the participants (i.e., ninety-two participants) select the correct one. The relatively low percentage is probably due to the subtlety of the manipulation. The results are directionally and statistically similar after excluding participants who fail the manipulation checks. The results presented below include all one hundred and forty-seven participants.

Hypothesis Testing

As stated above in the procedure section, I have two questions, (1) investment attractiveness and (2) willingness to invest, to capture the participants' investment perceptions.

⁴ As participants' interpretation of the term "mature firm" and "growth firm" can be different from the one I use here, I do not use the specific term "mature firm" and "growth firm" in the manipulation check question directly. Instead, I use the description of the aspects I manipulate in the question.

Both questions are asked before and after the participants read the earnings conference call transcript. The responses to these two questions are highly correlated both before and after the earnings conference call. Specifically, the Pearson correlation coefficients are 0.922 ($p < 0.001$) and 0.919 ($p < 0.001$) for pre-call judgments and post-call judgments, respectively.⁵ Moreover, using either investment attractiveness or willingness to invest to test the hypotheses shows similar results directionally and statistically. Hence, in the following analysis, I use the average of investment attractiveness and willingness to invest to represent the participants' investment judgments. A larger number indicates a more favorable judgment.

[Insert Table 2 about here]

The descriptive statistics of investment judgment are presented in Table 2, Panel A. Before reading the transcript, the participants show a more favorable judgment to the growth firm than to the mature firm (69.96 vs. 48.03, $t = 6.244$, $df = 145$, $p < 0.001$), indicating that increasing revenues lead to higher investment evaluations. I run a two-way ANOVA test with pre-call investment judgment as the dependent variable. The results show a significant main effect of firm type ($F = 38.510$, $df = 1$, $p < 0.001$), but there is no significant main effect of noun-verb framing ($F = 0.187$, $df = 1$, $p = 0.666$) or two-way interaction effect ($F = 0.329$, $df = 1$, $p = 0.567$), indicating that the randomization is successful.

To capture the effect of label nouns and action verbs in the earnings conference call, I calculate the change in investors' judgments by subtracting the pre-call judgments from the post-call judgments. A larger change indicates that the framing of strategy disclosure generates a more favorable judgment. I run a two-way analysis of variance (ANOVA) with firm type and noun-verb framing as the independent variables, and the change in investment judgment as the dependent

⁵ All p-values are two-tailed unless specified.

variable. The results in Table 2, Panel B show a significant interaction ($p=0.009$). I also plot the change in investment judgment in Figure 1. They are directionally consistent with the predictions: the mature (growth) firm is perceived to be a more favorable investment when the strategies are framed using label nouns (action verbs). I next examine how noun-verb framing affects the investment judgment of mature and growth firms, respectively.

[Insert Figure 1 about here]

Mature Firms

H1 predicts that investors prefer the mature firm whose earnings conference call transcript is framed using label nouns, rather than with action verbs. In other words, the change in investment judgment should be larger in the label noun condition than in the action verb condition. I run a contrast test with the change in investment judgment as the dependent variable. The result shows that the transcript framed using label nouns leads to a more favorable judgment to the investment than that framed using action verbs (6.90 versus 2.32, $p=0.051$, one-tailed, Table 2, Panel C), which is consistent with the first hypothesis.

Growth Firms

The prediction of H2 is that when the firm is a growth one, action verbs, as opposed to label nouns, in the earnings conference call transcript lead to a more favorable investment judgment. That is, the change in investment judgment is expected to be larger in the action verb condition than in the label noun condition. A contrast test shows that the change in investment judgment is indeed larger in the action verb condition (6.35 versus 1.72, $p=0.004$, one-tailed, Table 2, Panel C), supporting the second hypothesis.

Additional Analysis

Post-call Investment Judgments as the Dependent Variable

I also run analysis of covariance (ANCOVA) with the post-call investment judgment as the dependent variable and pre-call investment judgment as the covariate to test the hypotheses. The results are directionally and statistically similar. Specifically, the two-way ANCOVA test with noun-verb framing and firm type as the independent variables shows a significant interaction ($F=6.581$, $df=1$, $p=0.011$). The simple effect tests show that investors prefer the mature firm with an earnings conference call transcript framed using label nouns than action verbs (adjusted means: 54.91 versus 50.39, $F=2.401$, $df=1$, $p=0.063$, one-tailed), and they prefer the growth firms with an earnings conference call transcript framed using action verbs rather than label nouns (adjusted means: 76.16 versus 71.85, $F=6.633$, $df=1$, $p=0.006$, one-tailed). The results support my hypotheses.

Effect of Firm Type on Investment Focus

The theoretical premise is that firm type is expected to affect investors' evaluation focus. To be specific, historical revenues implicitly induce investors to categorize the firm as a mature or growth firm. The categorization shapes investors' evaluation focus. When the revenues do not change much during the past eight quarters, investors consider the firm as a mature one. As a result, investors make their evaluation focus lean towards the aspect of stability. Conversely, the increasing revenues during the past eight quarters induce investors to categorize the firm as a growth one, which triggers investors' consideration of the growth aspect.

To capture investment focus, I ask participants to indicate what aspect of Maron's Corp they thought about when making the investment decisions on an 11-point scale, with endpoints "-5" labeled "all about stability" and "5" labeled "all about growth." I run a t-test and find that the participants in the growth firm condition provide higher ratings than those in the mature firm condition (3.00 versus 1.74, $t=3.127$, $df=142$, $p=0.002$). The result shows that firm type indeed

shifts the focus between stability and growth as expected.⁶ Though the investment focus assessment in both the mature and growth condition is higher than 0 ($p < 0.001$), indicating a dominant consideration of growth, it is biased against the finding in the mature firm condition. Specifically, even though investors think more about the growth, the stable revenues of mature firm are strong enough to make investors' focus lean towards the aspect of stability, which eventually leads to their preference to the firms whose strategy disclosure is framed in terms of label nouns rather than with action verbs. In the following section, I analyze how investors' assessments of stability and growth affect investment judgments of mature and growth firms, respectively.

Mediation Effect: Perception of Stability and Growth

I conduct mediation tests to assess how (1) label nouns and action verbs in the earnings conference call transcript affect investors' perceived firm stability and growth, (2) the evaluations of stability and growth affect investors' perceived fitness of the strategy description, and (3) the fit between strategy disclosure and overall financial performance leads to more favorable investment judgments.

As shown above, mature firms trigger investors' consideration of stability. I predict that label nouns, as opposed to action verbs, lead to a higher level perception of stability, and that the strategies delivered by the transcript framed using label nouns better fit the mature firm's overall financial performance. In contrast, the increasing revenues of growth firms make investors think more about growth. As action verbs can generate a perception of movement, the strategy description framed using action verbs should better fit the growth firm's overall financial

⁶ Label nouns and action verbs do not influence investment focus. I run a two-way ANOVA, and the test shows no significant main effect of noun-verb framing ($F=0.197$, $df=1$, $p=0.658$) or two-way interaction ($F=2.236$, $df=1$, $p=0.137$). Only the effect of firm type on investment focus is significant ($F=9.697$, $df=1$, $p=0.002$).

performance than the one framed using label nouns. Moreover, the better fitness of strategy description is expected to make the investment judgment more favorable.

To capture investors' perceptions of stability and growth, I ask participants to evaluate (1) the aspect of stability on an 11-point scale, with endpoints "0" labeled "extremely unstable" and "10" labeled "extremely stable," and (2) the aspect of growth on an 11-point scale, with endpoints "0" labeled "very slowly" and "10" labeled with "very fast."

I adopt the graphical question in Jimenez et al.'s (2016) study to measure the fit between the strategy description and overall financial performance. Specifically, two circles denoting the strategies and financial performance respectively are presented. The participants indicate the fitness by dragging the "strategies" circle and changing the overlap of and the distance between the two circles (see Appendix D for the illustration of the question). The overlap measure ranges from 0 to 100, and the distance measure ranges from 0 to 125. Jimenez et al. (2016) find that compared to the distance measure, the overlap measure is a better indicator of fitness in the identity fusion context. Following this, I present the analysis using the overlap measure as the indicator of investors' perception of fitness below. Replacing the overlap measure with the distance measure does not change the inferences. I present the descriptive statistics of participants' perceived stability, perceived growth, and strategy fitness in Table 3.

[Insert Table 3 about here]

I separate the responses in the mature firm condition and the growth firm condition, and conduct Structural Equation Modeling (SEM) analysis to test the mediation effects. Specifically, I employ strategy framing as the independent variable, perceived stability, growth, and fitness as the intervening variables, and the change in investment judgment as the dependent variable. The

strategy disclosure framed using label nouns is coded as 0, and the one framed using action verbs is coded as 1.

[Insert Figure 2 about here]

The fully mediated models describe the relationships in data well. Because there are only two categories of noun-verb framing, and the number of observations is smaller than 1000, I use diagonally weighted least squares (DWLS) estimation (Kline 2010). Accordingly, I confirm the model's goodness of fit with a Satorra-Bentler Scaled χ^2 test (mature firm: $\chi^2=0.016$, $df=8$, and $p=1.00$; growth firm: $\chi^2=0.010$, $df=8$, and $p=1.00$; Kline 2010), an comparative fit index of 1 for both firm type conditions (which is above the 0.95 cutoff for a well-fit-model; Bentler 1990), and a root mean square error of approximation of 0 for both firm type conditions (which is below the 0.05 cutoff for a good fit; MacCallum, Browne, and Sugawara 1996). The Satorra-Bentler Scaled χ^2 is not significantly different from the partially mediated model (mature firm: $\Delta\chi^2=0.015$, $\Delta df=2$; growth firm: $\Delta\chi^2=0.009$, $\Delta df=2$).

In the mature firm condition (see Figure 2, Panel A), I find that the strategies framed using label nouns lead to a higher perception of stability (coefficient=-0.17, $p<0.01$), and in turn leads to a higher strategy fitness judgment (coefficient=0.99, $p<0.01$), which then results in a more favorable investment judgment (coefficient=1.00, $p<0.01$). Meanwhile, the strategy framing has no impact on the perception of growth (coefficient=0.03, $p>0.50$), and the perceived growth does not affect the subsequent judgments (coefficient=-0.15, $p>0.50$). The results support the argument that investors focus on the aspect of stability when evaluating the mature firm.

In the growth firm condition (see Figure 2, Panel B), investors are expected to focus on the aspect of growth. I find that compared to label nouns, action verbs lead to a higher perception of growth (coefficient=0.26, $p<0.01$), which in turn leads to a higher perceived fitness of strategies

(coefficient=0.99, $p<0.01$) and then results in a more favorable investment judgment (coefficient=1.00, $p<0.01$). On the other hand, the strategy framing does not affect the assessment of stability (coefficient=0.01, $p>0.50$), and the perceived stability does not contribute to the subsequent investment evaluations (coefficient=0.10, $p>0.50$). The results are consistent with the predictions that investors consider growth, instead of stability, when evaluating growth firms.⁷

Effect of Gender

I collect the gender information of participants in the experiment. I add gender into the original ANOVA as an independent variable. Besides the expected significant two-way interaction between noun-verb framing and firm type ($F=10.714$, $df=1$, $p=0.001$), there is a significant three-way interaction among noun-verb framing, firm type, and gender ($F=4.863$, $df=1$, $p=0.029$). Hence, I separate the samples into the female group (68 participants) and male group (79 participants) and run the original ANOVA.

In the female group, results are consistent with the predictions: (1) female participants give mature firms more favorable judgments when the transcript is framed using nouns rather than verbs (15.07 vs. 3.44, $t=2.326$, $df=29$, $p=0.027$), and (2) female participants give growth firms more favorable judgments when the transcript is framed using verbs rather than nouns (7.82 vs. 0.78, $t=2.706$, $df=35$, $p=0.010$). However, in the male group, results are not significant in either the

⁷ I run a model which does not include Strategy Fitness as the mediator. Overall, the model fit the data well too. I confirm the model's goodness of fits with a Satorra-Bentler Scaled χ^2 test (mature firm: $\chi^2<0.01$, $df=4$, and $p=1.00$; growth firm: $\chi^2=2.20$, $df=4$, and $p=0.70$), an comparative fit index of 1 for both firm type conditions (which is above the 0.95 cutoff for a well-fit-model), and a root mean square error of approximation of 0 for both firm type conditions (which is below the 0.05 cutoff for a good fit). The results are consistent with the predictions as well. In the mature firm condition, label nouns lead to a higher perception of stability (coefficient=-0.18, $p<0.01$), and the higher perceived stability leads to a more favorable investment judgment (coefficient=0.99, $p<0.01$). Meanwhile, noun-verb framing has no effect on perceived growth (coefficient=0.01, $p>0.50$), and perceived growth does not affect investment judgment (coefficient=-0.16, $p>0.50$). In the growth firm condition, action verbs lead to a higher perception of growth (coefficient=0.31, $p<0.01$), and the higher perceived growth leads to a more favorable investment judgment (coefficient=1.00, $p<0.01$). In addition, noun-verb framing has no effect on perceived stability (coefficient=0.01, $p>0.50$), and perceived stability does not affect investment judgment (coefficient=0.05, $p>0.50$).

mature firm condition (2.82 vs. 1.21, $t=0.473$, $df=43$, $p=0.639$) or the growth firm condition (4.81 vs. 2.78, $t=0.945$, $df=32$, $p=0.352$).

The stronger reaction by the female group can be explained by prior literature about gender and linguistic processing. Specifically, females are more sensitive to linguistic norms (Trudgill 1983; Wolfram and Fasold 1974) and show stronger empathy in social language processing (Labov 1972; van den Brink et al. 2010; Wolfram 1969). I compare other demographic information between female and male participants, and find that on average, female participants are older (44.03 vs. 35.59, $t=4.222$, $df=126$, $p<0.001$) and less experienced in investment (2.93 vs. 4.15, $t=-2.656$, $df=129$, $p=0.009$). Thus, there are other possible explanations. For example, more life experience or low exposure to investment leads to high sensitivity to linguistic features. Because of the constraints induced by the formation of the participant pool on the online platform Prolific, the possibilities of separating the effect of gender, age, and investment experience are limited. Other participant pools (e.g., MBA students) may be needed in future research. As the experiment is not designed to explore the effect of gender, readers should interpret the results cautiously.

V. DISCUSSION AND CONCLUSION

I examine how the effect of noun-verb framing on investors' judgments varies with firm type. In my experiment, I investigate the impact of describing firm strategies using label nouns (e.g., "our company is a *provider* of personalized services") and action verbs (e.g., "our company *provides* personalized services"). The results show that investors' judgments are more favorable to the mature firm when its strategies are described using label nouns rather than action verbs, and more favorable to the growth firm when its strategies are described using action verbs instead of label nouns. Moreover, I find that label nouns increase the perceived level of firm stability, and action verbs increase the perceived level of growth. As the historical revenues of the mature firm

promote consideration of stability, the strategies framed using label nouns result in a higher perceived fit between strategies and overall financial performance. Conversely, the increasing revenues of growth firm trigger more consideration of growth. Thus, action verb framing leads to a higher strategy fitness assessment in the growth firm condition. In both firm type conditions, the high perceived strategy fitness eventually leads investors to assess the firm more favorably.

The findings are of interest to firm management. When management disclose their firms' strategies and build the firms' images during earnings conference calls, they have discretion in terms of their choice of words. The noun-verb framing investigated in this study is very subtle, and as many label nouns and action verbs share the same root words, management can adjust their speech without altering the information they plan to deliver. My findings inform management that adjusting noun-verb framing to make the disclosure fit the firm's overall financial performance can result in more favorable investment judgments. Specifically, a mature firm's disclosure with more label nouns and a growth firm's disclosure with more action verbs can benefit the firm by making it a more attractive investment and increasing investors' investment willingness. The findings also inform the SEC (2018) how the supplemental information provided by the earnings conference calls affects investment decisions after investors read the quarterly earnings releases.

This study investigates how noun-verb framing and firm type jointly affect two investment evaluation aspects, stability and growth. Stability and growth are commonly mentioned aspects in investment decision-making process (e.g., AXA Equitable Life Insurance Company 2016; Fidelity International Inc. 2019; Gerdes 2009). This study shows that mature firms promote consideration of stability in decision making, and under such circumstance, disclosures with label nouns increase the perceived stability of the firm. In contrast, growth firms trigger the consideration of growth, and action verbs make the disclosures generate a higher perceived level of growth. This study

sheds light on investors' evaluations of stability and growth, and helps management, investors, and standard setters understand the investment evaluation process. Future research can investigate other disclosure characteristics and test how they affect investors' stability and growth assessments. Also, I focus on past revenues as an indicator of firm type. There are many other features associated with a mature/growth firm, such as dividend payment (Fama and French 2001) and cash flow patterns (Dickinson 2011). As long as the features lead investors to properly categorize the firms, the conclusions are expected to hold, but future research can test other features and see whether and how their effects may be different.

The findings in this study also extend the literature on noun-verb framing in psychology. Prior studies show that positive traits framed using nouns rather than verbs are considered to be more enduring, which benefits the subjects' images (Bryan et al. 2011). However, this study indicates that positive description framed using verbs can also benefit the subject, as long as the evaluators (i.e., investors in this context) focus on the changeability of the subject.

In this experiment, the information is delivered in English, and the participants are restricted to native English speakers. As some prior studies show that nouns and verbs may invoke different brain reactions in different languages (Iwasaki et al. 2008; Vigliocco et al. 2011), future research may test the effect of noun-verb framing in languages other than English, or in cross-language settings (e.g., the information is in English, and the investors are not native English speakers). In addition, my experiment design follows the most typical disclosure sequence in reality, where the quarterly earnings release comes earlier than the earnings conference call (Diamond and Yevmenenko 2011; SEC 2018), and presents the accounting fundamental information before the earnings conference call transcript. However, management can discuss revenues and incomes in the earnings conference calls as well, and sometimes such disclosures

come after the strategy disclosure (e.g., McDonald's Corp. Q3 2018 Earnings Conference Call) .

Therefore, it would be interesting to test whether and how the sequence of information affects the effect of noun-verb framing on investment decisions.

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APPENDIX A
Noun-Verb Framing Examples from Earnings Conference Calls

	Noun	Source	Verb	Source
Believer vs. Believe	Yossi Ben Shalom is our Chairman of the Board and a very strong believer in what we are doing, and trying to achieve.	Rada Electronics Industries Limited (NASDAQ:RADA) Q2 2018 Earnings Conference Call August 15, 2018 12:00 PM ET	By merging the capability of the special order platform with RSI's highly efficient low cost platform, we firmly believe we had the most competitive supply chain in the industry.	American Woodmark Corporation (NASDAQ:AMWD) Q1 2019 Earnings Conference Call August 27, 2018 11:00 AM ET
Supporter vs. Support	So we are strong supporters of that and we're strong supporter of the medical societies that are involved in that.	Lantheus Holdings (NASDAQ:LNTH) Q2 2018 Earnings Conference Call August 1, 2018 4:30 PM ET	We support the requirement and call for student outcomes reporting and transparency for all institutions of higher learning.	Adtalem Global Education Inc (NYSE:ATGE) Q4 2018 Earnings Conference Call August 16, 2018 17:00 ET
Promoter vs. Promote	So, the presence of a lead investor who in effect is the lead developer or promoter of those projects, meant that the directors and other representatives of those companies were the same, because they're all part of the lead investor's team.	GDS Holdings (NASDAQ:GDS) Q2 2018 Results Earnings Conference Call August 14, 2018 8:00 PM ET	For example, we promote medication adherence.	CVS Health Corp. (NYSE:CVS) Q2 2018 Earnings Call August 8, 2018 8:30 AM ET

	Noun	Source	Verb	Source
Collaborator vs. Collaborate	Over the years Wiley has been an active and constructive collaborator and partner and contributor throughout both education and research.	John Wiley & Sons, Inc. (NYSE:JW.A) Q4 2018 Earnings Conference Call June 12, 2018 10:00 AM ET	With Huami's powerful algorithms as well as PAI Health's developed software technology and marketing channels, we will collaborate with insurers, healthcare providers and employers to help address some of the health risks typically associated with an inactive lifestyle.	Huami Corporation (NYSE:HMI) Q2 2018 Earnings Conference Call August 20, 2018 8:00 AM ET
Partner vs. Partner	Avoca partnership provides a software platform for delivering outstanding customer acquisition journeys in banking. Globant is a key partner for Avoca in the implementation of the platform across different clients.	Globant (NYSE:GLOB) Q2 2018 Results Earnings Conference Call August 23, 2018 4:30 PM ET	However, as we have also experienced in the past, we are typically able to partner with customers to realign rates in order to reflect these shifts and transportation cost and utilization resulting in an improvement in margins in the medium to long term.	The Providence Service Corporation (NASDAQ:PRSC) Q2 2018 Earnings Conference Call August 8, 2018 8:00 AM ET
Originator vs. Originate	As an originator of this look, we are receiving a great deal of press coverage and capturing attention of a younger demographic.	Skechers USA Inc. (NYSE:SKX) Q2 2018 Earnings Conference Call July 19, 2018 4:30 PM ET	In our core market, the lower middle market, we directly originate opportunities, consisting of debt investment as well as equity co-investments made alongside our debt.	Capital Southwest (NASDAQ:CSWC) Q1 2019 Earnings Conference Call August 7, 2018 11:00 AM ET
Distributor vs. Distribute	The startup costs to become a diversified industrial gas distributor are very significant.	MagneGas Corporation (NASDAQ:MNGA) Q2 2018 Earnings Conference Call August 14, 2018 1:00 PM ET	In June, we received a \$2.3 million contract to supply live video transmission equipment to a major U.S. professional sports association for installation in arenas and to capture and distribute live images of in-game action.	xG Technology, Inc. (NASDAQ:XGTI) Q2 2018 Results Earnings Conference Call August 15, 2018 5:00 PM ET

	Noun	Source	Verb	Source
Servicer vs. Serve	We are continuously making efforts to improve the profitability of the mortgage banking segment while maintaining our competitive advantage as a market leading originator and servicer	HomeStreet, Inc. (NASDAQ:HMST) Q2 2018 Earnings Conference Call July 24, 2018 1:00 PM ET	This new line will serve the industrial, agricultural, and Geomembrane markets.	Raven Industries, Inc. (NASDAQ:RAVN) Q2 2019 Earnings Conference Call August 23, 2018 10:00 AM ET
Provider vs. Provide	I wish to assure the investment community that we expect to continue to maintain a healthy relationship in the many other areas with Ant Financial where we collaborate as an ecosystem service provider.	Qudian, Inc. (NYSE:QD) Q2 2018 Earnings Conference Call August 24, 2018 8:00 AM ET	And that's what we want to do when we enter a market, provide a real cloud alternative on our Vault platform, and it's attractive for customers who want to innovative and get rid of that legacy.	Veeva Systems Inc. (NYSE:VEEV) Q2 2019 Earnings Conference Call August 23, 2018 4:30 PM ET
Builder vs. Build	We are already a leading builder of wind energy projects in the United States and have a growing presence in utility-scale solar construction at a time when renewable energy accounts for more than half of all new energy capacity additions in the country.	Infrastructure and Energy Alternatives, Inc. (NASDAQ:IEA) Q2 2018 Earnings Conference Call August 9, 2018 11:00 AM ET	Another successful initiative is our RBC Amplify student program, which provides students with real-world business challenges to solve and allows us to build a talent pipeline around the world.	Royal Bank of Canada (NYSE:RY) Q3 2018 Earnings Conference Call August 22, 2018 8:00 AM ET

APPENDIX B
Firm Type Manipulation

Mature Firm Condition:

	in thousands							
	<u>Q1-2017</u>	<u>Q2-2017</u>	<u>Q3-2017</u>	<u>Q4-2017</u>	<u>Q1-2018</u>	<u>Q2-2018</u>	<u>Q3-2018</u>	<u>Q4-2018</u>
Revenue	3,675	3,676	3,677	3,676	3,677	3,676	3,675	3,676
Costs and Expenses:								
Operating Costs:								
Cost of Sales	735	736	736	736	737	737	738	736
Labor	920	919	920	919	919	921	920	920
Occupancy	387	387	386	387	387	386	386	387
Other Operating Costs	219	219	218	218	217	217	218	218
General and Administrative	294	293	294	293	294	293	293	293
Total Costs and Expenses	2,555	2,554	2,554	2,553	2,554	2,554	2,555	2,554
Income from Operations	1,120	1,122	1,123	1,123	1,123	1,122	1,120	1,122

Growth Firm Condition:

	in thousands							
	<u>Q1-2017</u>	<u>Q2-2017</u>	<u>Q3-2017</u>	<u>Q4-2017</u>	<u>Q1-2018</u>	<u>Q2-2018</u>	<u>Q3-2018</u>	<u>Q4-2018</u>
Revenue	2,646	2,720	2,868	3,014	3,162	3,308	3,491	3,676
Costs and Expenses:								
Operating Costs:								
Cost of Sales	529	545	574	603	634	663	701	736
Labor	662	680	718	754	790	829	874	920
Occupancy	279	286	301	317	333	347	367	387
Other Operating Costs	158	162	170	179	187	195	207	218
General and Administrative	212	217	229	240	253	264	278	293
Total Costs and Expenses	1,840	1,890	1,992	2,093	2,197	2,298	2,427	2,554
Income from Operations	806	830	876	921	965	1,010	1,064	1,122

APPENDIX C

Noun-Verb Framing Manipulation

<u>Label Noun Condition:</u>	<u>Action Verb Condition:</u>
Maron's Corp. is the <i>builder</i> of some of the highest hospitality standards regarding both the food quality and dining experience. The customers appreciate our commitment.	Maron's Corp. <i>builds</i> some of the highest hospitality standards regarding both the food quality and dining experience. The customers appreciate our commitment.
Our company is a <i>participant</i> of many local chef training programs and a <i>collaborator</i> of many local food markets. The partnerships help us develop more localized dishes with strong appeal.	Our company <i>participates</i> in many local chef training programs and <i>collaborates</i> with many local food markets. The partnerships help us develop more localized dishes with strong appeal.
By being the <i>promoter</i> of the better-food-better-mood campaign and the <i>supporter</i> of the family-food-day idea, we create a clear and distinctive image of our brand.	By <i>promoting</i> the better-food-better-mood campaign and <i>supporting</i> the family-food-day idea, we create a clear and distinctive image of our brand.
Maron's is the <i>originator</i> of the all-your-favorites platform, which delivers a differentiated and relevant brand experience to achieve a consistent dining experience.	Maron's <i>originates</i> the all-your-favorites platform, which delivers a differentiated and relevant brand experience to achieve a consistent dining experience.
We are a <i>provider</i> of personalized services and a <i>believer</i> of the importance of new technology in modern restaurants. The utilization of self-order kiosks, mobile apps, and customized delivery service empowers us to better engage with our customers.	We <i>provide</i> personalized services and <i>believe</i> the importance of new technology in modern restaurants. The utilization of self-order kiosks, mobile apps, and customized delivery service empowers us to better engage with our customers.

Notes: the label nouns and action verbs are highlighted with *italic font* for easy comparison. In the experiment, no such highlights are used.

APPENDIX D

Fitness Measure

The diagram below is designed to represent how the strategies described in the conference call fit the firm's overall financial performance.

Please indicate the fitness by clicking and dragging the smaller "strategies" circle to the position that best captures its fitness for the overall financial performance.

Distance

Overlap

Financial Performance

APPENDIX E

Experimental Instrument

Informed Consent

You are invited to participate in a research study conducted by Prof. Tan Hun Tong and Ms. Yanjia Yang from Nanyang Business School, Nanyang Technological University. The purpose of this study is to investigate how investors make investment decisions in practice.

In this exercise, we will present you some background information about a hypothetical public company. You will assume the role of a prospective investor. Based on the information provided, we will ask you to make choices and judgments. We have limited the amount of information presented to limit the time necessary to complete the study. The task is expected to take approximately 10 minutes of your time, and you will be compensated upon your completion of the study.

There is no more than minimal risk during the survey. The probability and magnitude of discomfort anticipated for participation in the proposed research are not greater in and of themselves than those ordinarily encountered in daily life. The information you provide will be kept strictly confidential and anonymous. Responses will be assigned a participant number, so that data files will not contain any identification of the names of individual participants. Your confidentiality is assured.

Results of this experiment may be disseminated in academic workshops, conferences, and/or in academic journals at aggregated levels. Your participation in this study is completely voluntary, and you may withdraw from the study at any time without any penalty.

If you have questions or concerns about this study, you may contact the following researchers:

- Principal Investigator: Tan Hun Tong, Block S3-01C-78, Nanyang Technological University, 639798 Singapore. Email: ahttan@ntu.edu.sg.
- Co-Investigator: Yanjia Yang, Block S3-01B-73, Nanyang Technological University, 639798 Singapore. Email: yyang019@e.ntu.edu.sg.

For questions about your rights as research participants or ethics considerations, please contact:

- NTU Institutional Review Board (IRB): Block N2.1 B4-07, Nanyang Technological University, 637331 Singapore. Email: irb@ntu.edu.sg.

I have read and understood the above information, and

- I agree to participate in this study.
- I do **not** agree to participate in this study.

=====Page Break=====

Maron's Corp. is a food and restaurant company which engages in the retail sale of prepared food and drinks.

Maron's Corp. is listed on one major stock exchange in the U.S. and performs well.

Please assume that you are a prospective investor considering an investment in Maron's Corp.

In the following materials, you will read the information about Maron's Corp. Please read it carefully and indicate your investment decisions.

=====Page Break=====

You read the past quarterly reports of Maron's Corp. Below is the financial information in the past eight quarters of Maron's Corp.

(Participants read the information from one of the two conditions below)

Mature Condition

	in thousands							
	Q1-2017	Q2-2017	Q3-2017	Q4-2017	Q1-2018	Q2-2018	Q3-2018	Q4-2018
Revenue	3,675	3,676	3,677	3,676	3,677	3,676	3,675	3,676
Costs and Expenses:								
Operating Costs:								
Cost of Sales	735	736	736	736	737	737	738	736
Labor	920	919	920	919	919	921	920	920
Occupancy	387	387	386	387	387	386	386	387
Other Operating Costs	219	219	218	218	217	217	218	218
General and Administrative	294	293	294	293	294	293	293	293
Total Costs and Expenses	2,555	2,554	2,554	2,553	2,554	2,554	2,555	2,554
Income from Operations	1,120	1,122	1,123	1,123	1,123	1,122	1,120	1,122

Growth Condition

	in thousands							
	Q1-2017	Q2-2017	Q3-2017	Q4-2017	Q1-2018	Q2-2018	Q3-2018	Q4-2018
Revenue	2,646	2,720	2,868	3,014	3,162	3,308	3,491	3,676
Costs and Expenses:								
Operating Costs:								
Cost of Sales	529	545	574	603	634	663	701	736
Labor	662	680	718	754	790	829	874	920
Occupancy	279	286	301	317	333	347	367	387
Other Operating Costs	158	162	170	179	187	195	207	218
General and Administrative	212	217	229	240	253	264	278	293
Total Costs and Expenses	1,840	1,890	1,992	2,093	2,197	2,298	2,427	2,554
Income from Operations	806	830	876	921	965	1,010	1,064	1,122

Q0.1. How **attractive** is Maron's Corp's stock as an investment?

Not at all attractive	Extremely attractive
0-----100	

Q0.2. How **willing** are you to invest in Maron's Corp's stock?

Absolutely not willing to invest	Absolutely willing to invest
0-----100	

=====Page Break=====

Maron's Corp CEO talked about the company in the Fourth Quarter 2018 Earnings Conference Call. The information below is extracted from the transcript.

<i>(Participants read the information from one of the two conditions below)</i>	
Verb Condition	Noun Condition
Maron's Corp. builds some of the highest hospitality standards regarding both the food quality and dining experience. The customers appreciate our commitment.	Maron's Corp. is the builder of some of the highest hospitality standards regarding both the food quality and dining experience. The customers appreciate our commitment.
Our company participates in many local chef training programs and collaborates with many local food markets. The partnerships help us develop more localized dishes with strong appeal.	Our company is a participant of many local chef training programs and a collaborator of many local food markets. The partnerships help us develop more localized dishes with strong appeal.
By promoting the better-food-better-mood campaign and supporting the family-food-day idea, we create a clear and distinctive image of our brand.	By being the promoter of the better-food-better-mood campaign and the supporter of the family-food-day idea, we create a clear and distinctive image of our brand.
Maron's originates the all-your-favorites platform, which delivers a differentiated and relevant brand experience to achieve a consistent dining experience.	Maron's is the originator of the all-your-favorites platform, which delivers a differentiated and relevant brand experience to achieve a consistent dining experience.
We provide personalized services and believe the importance of new technology in modern restaurants. The utilization of self-order kiosks, mobile apps, and customized delivery service empowers us to better engage with our customers.	We are a provider of personalized services and a believer of the importance of new technology in modern restaurants. The utilization of self-order kiosks, mobile apps, and customized delivery service empowers us to better engage with our customers.

Questions:

Please answer the following questions based on the case material.

Q1.1. How **attractive** is Maron's Corp's stock as an investment?

Not at all attractive	Extremely attractive
0-----	100

Q1.2. How **willing** are you to invest in Maron's Corp's stock?

Absolutely not willing to invest	Absolutely willing to invest
0-----	-----100

Q1.3. Please briefly explain your investment judgments above.

=====Page Break=====

Q2.1. The diagram below is designed to represent **how the strategies described in the conference call fit the firm's overall financial performance**.

Please indicate the fitness by clicking and dragging the smaller "strategies" circle to the position that best captures its fitness for the overall financial performance.

Q2.2. What **aspect of Maron's Corp did you think about** when making the investment decisions?

Q2.3. How **stable** is Maron's Corp financially?

Q2.4. How is Maron's Corp **growing** financially?

Q2.5. Maron's Corp, the hypothetical firm we designed for this survey, belongs to a special industry. The financial performance of firms in this industry tends to have special characteristics. It is important that our participants consider such characteristics when making investment decisions. To ensure our survey participants are paying close attention to each question, please select other and type the word "industry" in the provided text box below to commit to quality answers.

Which industry is Maron's Corp. in?

- ☐ Eating and drinking places
- ☐ Family clothing stores
- ☐ Computer and computer software stores
- ☐ Auto dealers and gasoline stations
- ☐ Other: _____

=====Page Break=====

Q3.1. To what extent do you agree that the information is **easy to process**?

Strongly disagree											Strongly agree
0	1	2	3	4	5	6	7	8	9	10	

Q3.2. To what extent do you agree that the information is **difficult to understand**?

Strongly disagree											Strongly agree
0	1	2	3	4	5	6	7	8	9	10	

Q3.3. To what extent do you agree that the information is **easy to read**?

Strongly disagree											Strongly agree
0	1	2	3	4	5	6	7	8	9	10	

Q3.4. How **favorable** is the CEO's manner of speaking?

Not at all favorable											Extremely favorable
0	1	2	3	4	5	6	7	8	9	10	

Q3.5. How **favorable** is the CEO's attitude toward the firm's overall performance?

Not at all favorable											Extremely favorable
0	1	2	3	4	5	6	7	8	9	10	

Q3.6. How **favorable** is the tone of the CEO's communication?

Not at all favorable											Extremely favorable
0	1	2	3	4	5	6	7	8	9	10	

Q3.7. How **important** was the **quarterly financial performance** to you when you made the investment decisions?

Not at all important											Extremely important
0	1	2	3	4	5	6	7	8	9	10	

Q3.8. How **important** was the **earnings conference call** to you when you made the investment decisions?

Not at all important											Extremely important
0	1	2	3	4	5	6	7	8	9	10	

=====Page Break=====

Q4.1. Please choose **the earnings conference call transcript you read earlier** in the experiment.

○ Transcript A	○ Transcript B
<p>Maron's Corp. builds some of the highest hospitality standards regarding both the food quality and dining experience. The customers appreciate our commitment.</p> <p>Our company participates in many local chef training programs and collaborates with many local food markets. The partnerships help us develop more localized dishes with strong appeal.</p> <p>By promoting the better-food-better-mood campaign and supporting the family-food-day idea, we create a clear and distinctive image of our brand.</p> <p>Maron's originates the all-your-favorites platform, which delivers a differentiated and relevant brand experience to achieve a consistent dining experience.</p> <p>We provide personalized services and believe the importance of new technology in modern restaurants. The utilization of self-order kiosks, mobile apps, and customized delivery service empowers us to better engage with our customers.</p>	<p>Maron's Corp. is the builder of some of the highest hospitality standards regarding both the food quality and dining experience. The customers appreciate our commitment.</p> <p>Our company is a participant of many local chef training programs and a collaborator of many local food markets. The partnerships help us develop more localized dishes with strong appeal.</p> <p>By being the promoter of the better-food-better-mood campaign and the supporter of the family-food-day idea, we create a clear and distinctive image of our brand.</p> <p>Maron's is the originator of the all-your-favorites platform, which delivers a differentiated and relevant brand experience to achieve a consistent dining experience.</p> <p>We are a provider of personalized services and a believer of the importance of new technology in modern restaurants. The utilization of self-order kiosks, mobile apps, and customized delivery service empowers us to better engage with our customers.</p>

Q4.2. Please choose **the financial information of Maron's Corp** you read earlier in the experiment.

☐ **Information A**

	in thousands							
	Q1-2017	Q2-2017	Q3-2017	Q4-2017	Q1-2018	Q2-2018	Q3-2018	Q4-2018
Revenue	3,675	3,676	3,677	3,676	3,677	3,676	3,675	3,676
Costs and Expenses:								
Operating Costs:								
Cost of Sales	735	736	736	736	737	737	738	736
Labor	920	919	920	919	919	921	920	920
Occupancy	387	387	386	387	387	386	386	387
Other Operating Costs	219	219	218	218	217	217	218	218
General and Administrative	294	293	294	293	294	293	293	293
Total Costs and Expenses	2,555	2,554	2,554	2,553	2,554	2,554	2,555	2,554
Income from Operations	1,120	1,122	1,123	1,123	1,123	1,122	1,120	1,122

☐ **Information B**

	in thousands							
	Q1-2017	Q2-2017	Q3-2017	Q4-2017	Q1-2018	Q2-2018	Q3-2018	Q4-2018
Revenue	2,646	2,720	2,868	3,014	3,162	3,308	3,491	3,676
Costs and Expenses:								
Operating Costs:								
Cost of Sales	529	545	574	603	634	663	701	736
Labor	662	680	718	754	790	829	874	920
Occupancy	279	286	301	317	333	347	367	387
Other Operating Costs	158	162	170	179	187	195	207	218
General and Administrative	212	217	229	240	253	264	278	293
Total Costs and Expenses	1,840	1,890	1,992	2,093	2,197	2,298	2,427	2,554
Income from Operations	806	830	876	921	965	1,010	1,064	1,122

Q4.3. Compare Information A and B. Which sentence below describes the information you read more accurately?

- ☐ The firm's revenues **stay at the high level**.
- ☐ The firm's revenues **improve over time to the high level**.

Q4.4. To ensure our experiment participants are paying close attention to each question, please select other and type the word "survey" in the provided text box to commit to quality answers.

- ☐ Business Risk
- ☐ Market Risk
- ☐ Credit Risk
- ☐ Liquidity Risk
- ☐ Other: _____

=====Page Break=====

Demographic Questionnaire

Q5.1. What is your gender

- ☐ Male
☐ Female

Q5.2. What is your age (in years)?

Q5.3. How many years of full-time work experience do you have?

Q5.4. How many courses have you taken in?

Accounting: _____

Finance: _____

Q5.5. How often have you invested in stocks in the past five years?

Never

Frequently

0 1 2 3 4 5 6 7 8 9 10

Q5.6. Are you preparing to invest in stocks in the next three years?

- ☐ Yes
☐ No

Q5.7. How familiar are you with the industry of retail eating and drinking places?

Not at all
familiar

Extremely
familiar

0 1 2 3 4 5 6 7 8 9 10

Q5.8. How familiar are you with the investment in retail eating and drinking places?

Not at all
familiar

Extremely
familiar

0 1 2 3 4 5 6 7 8 9 10

=====Page Break=====

Q6 Congratulations!

You have successfully completed the research study. Thank you very much!

Feel free to contact us if you have any follow-up questions, comments or concerns.

Have any feedback? Use this box:

FIGURE 1
Participants' Investment Judgments

Notes: The change in investment judgment is the difference of the investment judgments before and after the participants read the earnings conference call transcript. A larger number indicates a more favorable change in investment judgment triggered by the earnings conference calls.

FIGURE 2
Mediation Analysis

Panel A: Mature Firm

Panel B: Growth Firm

Notes: Because there are only two categories of noun-verb framing, and the number of observations is smaller than 1000, I use diagonally weighted least squares (DWLS) estimation (Kline 2010). Accordingly, I confirm the model's goodness of fit with a Satorra-Bentler Scaled χ^2 test (mature firm: $\chi^2=0.016$, $df=8$, and $p=1.00$; growth firm: $\chi^2=0.010$, $df=8$, and $p=1.00$) (Kline 2010), an comparative fit index of 1 for both firm type conditions (which is above the 0.95 cutoff for a well-fit-model) (Bentler 1990), and a root mean square error of approximation of 0 for both firm type conditions (which is below the 0.05 cutoff for a good fit) (MacCallum et al. 1996). The Satorra-Bentler Scaled χ^2 is not significantly different from the partially mediated model (mature firm: $\Delta\chi^2=0.015$, $\Delta df=2$; growth firm: $\Delta\chi^2=0.009$, $\Delta df=2$).

Table 1
Breakdown of Participant Pool

Process	Number of Participants
Initial recruitment	200
- Participants who fail the attention check questions	(36)
Participants who receive the bonus	164
- Participants who are assumed to be not attentive based on the time they spent on the earnings conference call transcript page (less than 35 seconds, bottom 5%).	(8)
- Participants who are assumed to be not attentive based on their responses to the information processing fluency questions (highest scores for all questions including a reverse-scored one).	(1)
- Participants whose geolocation information is duplicated	(8)
Final participant pool	147

Table 2
Participants' Investment Judgments

Panel A: Descriptive Statistics: Mean (Standard Deviation) [Sample Size]

	Noun-Verb Framing								
	Label Nouns			Action Verbs			Overall		
	Pre-Call	Post-Call	Change	Pre-Call	Post-Call	Change	Pre-Call	Post-Call	Change
Mature Firm	47.81 (24.049)	54.71 (24.134)	6.90 (16.276) [42]	48.31 (22.232)	50.63 (23.400)	2.32 (6.662) [34]	48.03 (23.102)	52.89 (23.739)	4.86 (13.023) [76]
Growth Firm	71.82 (16.971)	73.54 (17.474)	1.72 (7.048) [34]	68.26 (21.027)	74.61 (19.917)	6.35 (7.285) [37]	69.96 (19.141)	74.10 (18.661)	4.14 (7.492) [71]
Overall	58.55 (24.236)	63.14 (23.272)	4.59 (13.168) [76]	58.70 (23.688)	63.13 (24.651)	4.43 (7.233) [71]			

Panel B: Two-way ANOVA Test of Between-subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	2729.325	1	2729.325	24.585	<0.001
Firm Type	12.194	1	12.194	0.110	0.741
Noun-Verb Framing	0.022	1	0.022	0.000	0.989
Firm Type × Noun-Verb Framing	773.854	1	773.854	6.971	0.009

Table 2 (continued)
Participants' Investment Judgments

Panel C: Simple Effects			
Test	t	df	Sig.
Effect of Noun-Verb Framing in the Mature Firm Condition (H1)	1.660	57	0.051*
Effect of Noun-Verb Framing in the Growth Firm Condition (H2)	-2.718	69	0.004*
Effect of Firm Type in the Lable Noun Condition	1.860	58	0.068
Effect of Firm Type in the Action Verb Condition	-2.242	69	0.018

Notes: I ask participants to evaluate (1) the attractiveness of the investment on a 101-point scale, with “0” labeled “not at all attractive” and “100” labeled “extremely attractive,” and (2) the willingness to invest on a 101-point scale, with “0” labeled “absolutely not willing to invest” and “100” labeled “absolutely willing to invest.” The investment judgment is calculated by average the participant’s evaluation of investment attractiveness and willingness to invest. The change in investment judgment is the difference between the investment judgments before and after the participant read the earnings conference call transcript. All p-values are two-tailed unless indicated with *, given the directional predictions.

Table 3
Participants' Perceptions of Stability, Growth, and Strategy Fitness

Descriptive Statistics: Mean (Standard Deviation) [Sample Size]						
	Perceived Stability		Perceived Growth		Strategy Fitness	
	Label Nouns	Action Verbs	Label Nouns	Action Verbs	Label Nouns	Action Verbs
Mature Firm	8.57 (2.177) [42]	8.21 (2.346) [34]	3.33 (2.386) [42]	3.41 (2.488) [34]	45.02 (30.395) [42]	37.88 (33.901) [34]
Growth Firm	8.26 (1.582) [34]	8.27 (1.742) [37]	7.59 (1.598) [34]	8.19 (1.664) [37]	67.88 (31.173) [34]	74.24 (26.231) [37]

Notes: To capture investors' perceptions of stability and growth, I ask participants to evaluate (1) the aspect of stability on an 11-point scale, with endpoints "0" labeled "extremely unstable" and "10" labeled "extremely stable," and (2) the aspect of growth on an 11-point scale, with endpoints "0" labeled "very slowly" and "10" labeled with "very fast." I adopt the graphical question in Jimenez et al.'s (2016) study to measure the fit between the strategy description and overall financial performance. Specifically, two circles denoting the strategies and financial performance respectively are presented. The participants indicate the fitness by dragging the "strategies" circle and changing the overlap of the two circles. The overlap measure, ranging from 0 to 100, is the indicator of investors' perception of fitness. All p-values are two-tailed unless indicated with *, given the directional predictions.