

Rhetoric, Risk, and Investment: Letting the Numbers Speak for Themselves

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ABSTRACT It is well established that words matter. Yet, there remains much that we do not understand about when and how words are best utilized in various business contexts. This study uses a mediation model to examine how investment risk influences the choice of different rhetorical frames – logos (logic), pathos (emotion), and ethos (character) – in the initial public offering (IPO) prospectus, and subsequently how rhetoric influences investment performance. We apply rhetorical theory to describe how authors use different amalgamations of words to frame messages to persuade audiences to engage in specific actions. Two key mechanisms of rhetorical theory that we investigate and build upon in this study are: 1) rhetoric reflects an author's perspective of a context (i.e., perspective of the investment risk) and 2) the process through which cognitive resource limitations of authors and audiences influence outcomes. Specifically, we question whether these two mechanisms create a paradoxical situation where rhetoric that reflects the author's perspective is not always the most effective approach given cognitive resource limitations. Based on a sample of 644 IPO firms, we find that using words that reflect the author's perspective is not always the most persuasive. We posit that this is because investment authors fail to account for other communicative symbols (such as data and financial information) that can fulfill the role of more logic-based rhetorical frames, thereby creating cognitive resource slack.

Keywords: ethos, investment, logos, pathos, rhetoric, risk

INTRODUCTION

Rhetoric has been investigated at multiple levels of analysis from multiple theoretical perspectives (Loewenstein et al., 2012). Research on rhetoric in management has demonstrated how words and language can persuade audiences, influence decisions, coordinate

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action, and secure resources (e.g., Lounsbury and Glynn, 2001; Martens et al., 2007). Rhetoric persuades audiences by framing arguments in favour of the desired action to suppress doubt, obscure the process, and discount other possible actions so that the chosen action is deemed the best or only reasonable option (Zald, 1996). Building on this literature, we analyse rhetoric's use in investment decisions through the three generally accepted framings that were originally developed by Aristotle: logos (logic), pathos (emotional), and ethos (character) (e.g., Aristotle, 2019; Bizzell and Herzberg, 2001; Green, 2004; Ozen and Berkman, 2007).

Aristotle (2019), originally published around 4 B.C., argued that logos, pathos, and ethos are present to some extent in nearly every argument. Logos uses words that formulate a logical discourse built on the methodological rationale of facts, figures, and calculations (Erkama and Vaara, 2010; Hoefer and Green, 2016). Pathos uses words that express an emotional appeal to happiness, sadness, fear, surprise, anger, and disgust (Ozen and Berkman, 2007). Ethos uses words that emphasize overall character, embodying various aspects such as credibility, virtuousness, ethics, and other normative appeals (Green, 2004). Logos, pathos, and ethos are mutually exclusive and collectively exhaustive. They capture the range of logical, emotional, and character-driven messaging that authors use to persuade audiences. Each dimension justifies contingencies and ambiguities differently (Cheney et al., 2004) and appeals to audience senses in unique ways (Green, 2004). Logos, pathos, and ethos are formative variables because there is not an assumed underlying latent variable, but rather it is the summation or linguistic composition of all three that contributes to the effectiveness of an argument and is observable by the specific wording chosen to frame the argument.

Rhetorical theory provides a basis for how authors persuade audiences to take an action by emphasizing a direct connection among linguistic persuasion, cognition, and the actions of actors (Green et al., 2009). Our study focuses on two key mechanisms of rhetorical theory: 1) how rhetoric reflects an author's perspective of a context, and 2) how the limited cognitive resources of authors and audiences influence the effectiveness of communication. In other words, the way arguments are framed reflects the perspective of authors but is also limited by the cognitive resources of both authors and audiences (Green and Li, 2011; Green et al., 2009). Therefore, authors work with a constrained number of words to frame arguments based on expectations about which arguments will elicit a response from their audience (Hoefer and Green, 2016); this underscores the importance of how and when certain types of words are used to communicate in an increasingly complex and dynamic business environment.

In this study, we use rhetorical theory to examine how authors of an initial public offering (IPO) prospectus use Aristotle's rhetoric (logos, pathos, ethos) to persuade investors (audience) to take an investment action given the investment risk. We use this framework because risk is inherent in any action that bases the rationale for the action on opinion (Knight, 1921) and the very purpose of rhetoric is to justify action based on opinion (Green, 2004; Sillince, 2002). In our study, prospectus authors desire the investor audience to take an action (investment), but that action inherently carries risk. Rhetoric is how the risk in the desired action is justified. As such, we postulate that rhetoric serves as a partial mediator between the risk associated with the action (investment risk) and the action itself (investment action).

The objective of an IPO prospectus is to persuade potential investors to invest in the new IPO offering that carries investment risk. To investigate, we develop a mediation model and hypotheses using a sample of 644 IPOs that suggest rhetoric mediates the investment risk and investment performance relationship. IPOs are uniquely suited for testing how investors interpret rhetoric because an IPO prospectus is the regulated medium for firms to communicate to potential investors, making it one of the most important organizational narratives in one of the most important strategic actions that a firm can enact (Certo, 2003; Certo et al., 2009; Fischer and Pollock, 2004; Marten et al., 2007). It is within the prospectus that firms communicate how they plan to utilize the IPO funds, explain prior financial performance, and outline the potential risk factors facing the firm (Certo, 2003; Certo et al., 2009). Our analyses reveal that 1) investment risk influences logos, pathos, and ethos usage, 2) logos, pathos, and ethos usage influences investment performance, and 3) logos, pathos, and ethos are suppressing mediators to the investment risk and investment performance relationship.

These findings support four important and unique contributions to the literature. First, we add to theory by demonstrating that two key mechanisms of rhetorical theory can lead some authors of investment narratives to inadvertently diminish their own investment performance. Explicitly, we theorize that these authors use rhetoric that reflects their perspective (Green et al., 2009; Sillince, 2002), which in this case would be their firm's investment risk. However, authors who use rhetoric that reflects their perspective without proper consideration of cognitive resource limitations – and other communicative symbols, such as data, that can fill the role of certain rhetorical frames – are not optimizing their argument utility. Generally, a firm's financial data can at least partially fulfil the logical and analytical role of logos rhetoric, providing cognitive resource slack. Prospectus authors may be more successful if they use this slack to build stronger pathos and ethos arguments, rather than overemphasizing a logos argumentation. Doing so would allow authors to construct a more complete argument where the financial data partially fills the logical role while pathos and ethos rhetoric fill the emotional and character roles.

As a second contribution, we uncover risk as an antecedent of rhetoric. Specifically, we demonstrate how the risk inherent in an action (such as an investment action) influences the type of rhetoric authors use to persuade the audience to enact the action. Given that rhetorical theory draws a direct connection between rhetoric and action (Green et al., 2009), we contribute to rhetorical theory by demonstrating that risk is an important element that connects rhetoric and action.

Third, we contribute to the management literature by demonstrating how rhetoric may also act as a mediator. Past research has found different types of rhetoric to be directly related to investment performance (e.g., Allison et al., 2013; Anglin et al., 2018a; Martens et al., 2007; Payne et al., 2013). However, studies that examine rhetoric of any kind as a mediator are lacking, particularly logos, pathos, and ethos. Our study uniquely addresses this gap by providing a more complete model regarding how and why rhetoric can influence perceptions and actions with regard to business narratives. Our mediation model also contributes to the long-established relationship between investment risk and investment performance (e.g., Fisher and Hall, 1969; Hurdle, 1974; Lucas, 1978; Malkiel and Xu, 1997; Merton, 1973, 1980).

Finally, as a fourth contribution, our study adds to the literature methodologically. We provide a means to quantitatively investigate the impact of logos, pathos, and ethos on external constituents' decisions, and other outcomes, by developing novel measures of logos, pathos, and ethos using customized word dictionaries. These new rhetorical measures provide future researchers a proven way to investigate the effects of framing across various contexts, organizations, and narrative types.

THEORY AND HYPOTHESES

Rhetorical Theory and Aristotle's Rhetoric

Research investigating various forms of rhetoric has seen increasing attention within the management literature, such as examining positive psychological language (Anglin et al., 2018a), political language (e.g., Allison et al., 2013), charismatic language (Baur et al., 2016), and narcissistic language (Anglin et al., 2018b). Scholars have also examined the storytelling and characteristics of entrepreneurial narratives to ascertain how funding is affected (Martens et al., 2007; Roddick, 2000), as well as how individual and organizational-level identities interact through rhetoric (Fiol, 2002). Still other studies have examined vocabularies, synecdoche, metaphors (e.g., Cornelissen and Clarke, 2010; Loewenstein et al., 2012), rhetorical frames (e.g., Erkama and Vaara, 2010; Floris et al., 2013; Ozen and Berkman, 2007), and many other linguistic approaches.

Within this vast body of work, rhetorical theory, which is often defined simply as the art of persuasion, has been recognized as a prevalent and important theory for over two millennia (Aristotle, 2019; Bizzell and Herzberg, 2001; Green, 2004). Rhetorical theory emphasizes 'the intentional and deliberate use of persuasive language to influence meaning and shape action' (Green, and Li, 2011, p. 1671). Audiences are represented as obstacles meant to be overcome by using specific rhetorical framings of arguments, although both the authors and audiences interpret, self-persuade, and respond to rhetoric (Benoit and Smythe, 2003).

There are two key mechanisms of rhetorical theory that we focus on in this study. The first mechanism involves the system through which authors use rhetoric that derives from and reflects their perspective. Essentially, the author's perspective of a context is integrated into the language that is used. An author will often choose rhetoric that reflects their perspective as well as what the author believes the audience's perspective will be (Harmon et al., 2015; Hoefer and Green, 2016; Sillince, 2002). Authors believe that by using rhetoric that reflects their perspective of a context, they will be able to shape the perceptions of audiences to accept their interpretation of that context through rhetorical reinforcement (Green, et al., 2009). Authors are motivated to persuade their audiences to perceive the world as they do so that their audiences take the action (i.e., investment action) that is beneficial to the author.

The second mechanism is related to limited cognitive resources. This mechanism refers to the process through which communication has limited capacity for both authors and receivers. In other words, authors have a finite number of words, limited attention spans, and restrictions on mental capacity that distill efforts to communicate information down to only the most salient. Similarly, audiences do not have the desire, attention spans, or mental capacity to sift through vast amounts of information to

discern only the most relevant parts. Therefore, authors must optimize these limited cognitive resources by using the most effective and efficient wording. Together, these two mechanisms explain the process of how authors use rhetoric when trying to persuade an audience to take certain beneficial actions.

Knight (1921, p. 199) observed, 'The essence of the situation is action according to opinion'. This suggests that risk is inherent in nearly any action, which includes investments. As such, managing investors' perceptions of risk is central to influencing their investment actions (Certo et al., 2009). Since rhetorical theory suggests that authors are motivated to persuade audiences to perceive the world as the author perceives it to influence the audience into action (Hoefer and Green, 2016; Sillince, 2005), prospectus authors who want to garner more investments will be motivated to assuage concerns of the risks inherent in an investment action by choosing rhetoric they believe remedies (i.e., reflects) the perceived weakness present in their investment risk. However, the ability to absorb and utilize said information is limited. Therefore, prospectus authors that are more successfully persuasive will attempt to build the perception, in a parsimonious way, that investing in the IPO is the best or most reasonable action to take. Hence, maximizing argument utility will be an important determining factor of argument effectiveness.

Aristotle (2019) and contemporary scholars (e.g., Brown et al., 2012; Erkama and Vaara, 2010) have noted that logos, pathos, and ethos framings serve to produce stronger arguments when combined. The most well-rounded arguments are often the strongest because they contain the strengths of each rhetorical framing while narrow arguments overemphasize the strengths of one rhetorical frame, missing out on the strengths of the others (Floris et al., 2013; Green, 2004). However, to maximize argument utility, factual information (e.g., financial data) can partially fulfill the logical (logos) argumentation role. This would impart cognitive resource slack, allowing for more opportunity to espouse relatively more pathos and ethos and thus create stronger emotional and character-driven arguments while remaining well-rounded.

While not using the labels of logos, pathos and ethos, the literature on resource acquisition by entrepreneurs is grounded in themes such as credible signals (e.g., Connelly et al., 2011), framing mechanisms (e.g., Kahneman and Tversky, 1984), establishing legitimacy, and conformance to institutional norms (e.g., Lounsbury and Glynn, 2001). A major benefit of examining Aristotle's rhetoric (logos, pathos, ethos) is that it brings logical-, emotional-, and character-based perspectives into a single, parsimonious model that focuses on which rhetorical framing is most effective for resource assembly, uniting aspects of these literatures into a singular study.

Our research model is presented in Figure 1. The basic relationship between investment risk and investment performance has been long established, and therefore, is not one of our main hypotheses. However, since our theoretical model builds on this relationship, we first confirm previous research that states investment risk and investment performance are positively related (e.g., Fisher and Hall, 1969; Hurdle, 1974; Lucas, 1978; Malkiel and Xu, 1997; Merton, 1973, 1980). We build on this model, postulating that logos, pathos, and ethos rhetoric mediate this relationship. Specifically, the investment risk influences the rhetoric used in the IPO prospectus, the rhetoric influences investment performance, and then that rhetoric mediates the relationship between investment risk and investment performance. We now develop theory explaining these relationships.

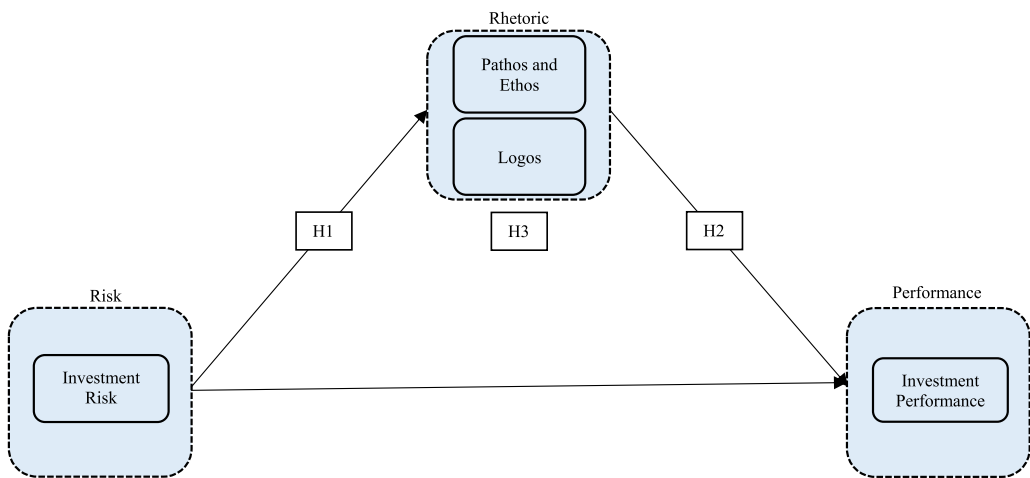


Figure 1. Hypotheses for mediation model [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/joms.12312)]

Investment Risk and Rhetoric

Building up to our first set of hypotheses, we emphasize the first key mechanism of rhetorical theory regarding the process through which rhetoric is used to reflect the author's perspective of a given context. Specific to our context, we argue that prospectus authors will use rhetoric in such a way that any perceived weaknesses with regard to the IPO investment decision might be addressed and mollified. That is, regardless of whether their investment risk is higher or lower, prospectus authors will perceive a weakness in their investment risk level and seek to justify it through rhetoric; this is because prospectus authors understand that investment risk and investment returns are inextricably linked together (Bartov et al., 2002; Malkiel and Xu, 1997) and they want their investment risk to be perceived favourably. Although prospectus authors may desire to use as much logos, pathos, and ethos persuasion as they can imagine, both the authors and audience have limited cognitive and attention resources (Bizzell and Herzberg, 2001; Hoefler and Green, 2016), and the number of words must be limited. Therefore, prospectus authors will emphasize the rhetorical framing(s) that they perceive to be most salient given the degree of risk that they need to justify.

We argue that firms with inconsistent performance information, which generally indicates more investment risk, will desire to use relatively more logos rhetoric compared to pathos and ethos rhetoric. Since inconsistent past performance is linked to greater investment risk (Sharpe, 1975; Fisher and Hall, 1969; Hurdle, 1974; Watson and Robinson, 2003), prospectus authors will generally view the inconsistent performance as a potential weakness that investors may perceive and seek to explain and justify it. Logos rhetoric appeals to pragmatic, calculative, and efficient reasoning by providing the ability to focus on a methodological argument of citing facts and figures to reduce information asymmetry (Aristotle, 2019; Erkama and Vaara, 2010; Suddaby and Greenwood, 2005; Ozen and Berkman, 2007). In this situation,

prospectus authors would likely desire to reduce the information asymmetry of the inconsistent performance. In other words, logos would be appealing to authors in this situation since a more methodological argument could directly reference the inconsistent performance data to explain why it is inconsistent and what can be done to improve the consistency. Thus, prospectus authors will tend to use more data-driven arguments to justify and explain the inconsistent performance in an attempt to mitigate the perception of greater risk.

Firms with a history of consistent performance, an indicator of lower investment risk, will likely see less of a reason to methodologically explain their performance since it would be more predictable, and thus, easier to assimilate. Instead, since IPO firms with spikes in performance (i.e., inconsistent performance) can be attractive to IPO investors because they are sometimes considered ‘glamour’ IPOs with greater growth potential (Barber et al., 2003; Bartov et al., 2002; Hasnawati, 2010; Lakonishok et al., 1994), prospectus authors will view the consistent performance as a potential weakness in their IPO that they need to justify. As a result, firms with a consistent performance history will use relatively more pathos than logos to pull at the emotions of investors to persuade them to invest on sentiment rather than the objectivity of the data. This is because the less risky (consistently performing) firms that do not possess the spikes in performance will desire to embellish their growth potential to make their investment offering more attractive to investors. Prospectus authors will view pathos as an effective rhetorical framing in this instance since investors also invest based on sentiment about firm characteristics that are often unsubstantiated by data (Dorn, 2009). Indeed, investors are not always rational (Ackert and Church, 2001) and often make investment decisions based on emotion, rather than quantitative reasoning or rational justification (Moore, et al., 2019). By using relatively more emotional wording that can invoke various feelings such as excitement, anticipation, greed, and fear, prospectus authors can persuade potential investors to believe that the firm has certain attributes or opportunities that may lead to a spike in profits, despite the firm’s consistent performance history that indicates otherwise. For instance, we provide an example in [Table I](#) (Strategic Challenge 2) where Dunkin’ Brands, a company owning Dunkin’ Donuts and Baskin-Robbins, suggests that contrary to consistently declining comparable store sales and stores closing, their brand ‘strengths’ (ethos) could lead to renewed ‘excitement’ (pathos) in the brand, thereby increasing sales. Thus, by using a combination of pathos and ethos, they are attempting to persuade investors to ignore the consistent data of declining sales and invest in their IPO.

Firms that are using relatively more pathos rhetoric will likely use relatively more ethos rhetoric to morally support and credibly substantiate the emotional pull of pathos. The normative approach of ethos carries an authority-based argumentation that involves the credibility of the firm, so that when ethos is combined with pathos, it makes the emotional pull of pathos feel more believable and trustworthy (Erkama and Vaara, 2010). Aristotle (2019) noted the supportive role that ethos rhetoric plays. While ethos is considered a support rhetoric for both pathos and logos, pathos is more needful of ethos support since trust and credibility are desirable when pathos is manipulating the emotions of the audience. Indeed, pathos and ethos are often linked to one another because logos persuades through objectivity, whereas pathos and ethos persuade through subjectivity (Reisigl, 2008). Therefore, the moral substantiation that ethos provides is less important

Table I. Examples and analysis of logos, pathos, and ethos framing from IPO prospectuses

<i>IPO Firms</i>	<i>Statements from IPO Prospectuses and Our Analysis</i>	
Dunkin' Brands: Two different approaches to addressing their strategic challenges	Strategic	Focus on store-level <u>economics</u> . In recent years, we have undertaken significant initiatives to further enhance store-level <u>economics</u> for our franchisees that we believe have further increased franchisee <u>profitability</u> . For example, we <u>reduced</u> the upfront <u>capital expenditure costs</u> to open an end-cap restaurant with a drive-thru by approximately 23% between fiscal 2008 and fiscal 2010. Additionally, between fiscal 2008 and the first quarter of fiscal 2011, we believe we have facilitated approximately \$220 million in franchisee <u>cost reductions</u> primarily through <u>strategic</u> sourcing, as well as through other initiatives, such as <u>rationalizing</u> the <u>number</u> of product offerings to <u>reduce</u> waste and <u>reducing costs</u> on branded packaging by <u>reducing</u> the colour mix in graphics. We believe that the majority of these <u>cost savings</u> represent sustainable <u>improvements</u> to our franchisees <u>supply costs</u> , with the remainder dependent upon the outcome of future <u>supply contract</u> re-negotiations, which typically occur every two to four years.
	Challenge 1 (from Dunkin' Brands IPO prospectus)	
	Our Analysis	Here, Dunkin' Brands is addressing the challenge of lowering per store costs. This is an example of overemphasizing <u>logos</u> while ignoring pathos and <i>ethos</i> . Arguing that they <u>reduced</u> the upfront <u>capital expenditure costs</u> by 23% and have facilitated \$220 million in <u>cost reductions</u> should be enough <u>logos</u> for this specific argument. Following up with more <u>logos</u> framing, such as <u>reducing</u> waste and <u>reducing costs</u> on packaging is repetitive and adds little argumentative value. Instead, follow up with how these <u>cost reductions</u> not only save <u>financial</u> resources, but also help Dunkin' carry out their mission of being <i>socially aware</i> to <u>reduce</u> waste for the <i>human race</i> and that customer response has been enthusiastic . Our suggested approach would create persuasive arguments with all three framings, not just one framing.
	Strategic	In the US, Baskin-Robbins core <i>strengths</i> are its national brand <i>recognition</i> , 65 years of heritage and #1 position in the QSR industry for servings of hard serve ice cream. While the Baskin-Robbins US segment has experienced decreasing comparable store <u>sales</u> in each of the last three years due primarily to increased competition and decreased consumer spending in each year, and the <u>number</u> of Baskin-Robbins US stores has decreased since 2008, we believe that we can <u>capitalize</u> on the brands <i>strengths</i> and generate renewed excitement for the brand, including through our recently introduced More Flavors, More Fun™ marketing campaign.
	Challenge 2 (from Dunkin' Brands IPO prospectus)	

(Continues)

Table I. (Continued)

IPO Firms		Statements from IPO Prospectuses and Our Analysis
	Our Analysis	In this segment, they are addressing the challenge of increasing comparable store sales. This segment counters the previous example above by demonstrating how Dunkin' Brands using more pathos and <i>ethos</i> creates a more well-rounded and persuasive argument. Instead of overusing <i>logos</i> framing, they let the data – 65 years of heritage and #1 position in the QSR industry – speak for itself, filling part of the <i>logos</i> framing. This provides the opportunity to use all three framings to improve the argument, adding that the <i>strengths</i> , <i>recognition</i> , and excitement of their brand will help address the challenge.
Vera Bradley: Two different approaches to discussing their employees	Employee Discussion 1 (from Vera Bradley IPO prospectus)	We were founded in 1982 by two <i>friends</i> , Barbara Bradley Baekgaard and Patricia R. Miller, who built our company around their passion for <i>design</i> and commitment to customer service. We believe our founders created a unique company culture that attracts passionate and motivated employees who are excited about our products and our brand. Our employees share our founders' commitment to Vera Bradley customers. We believe that a fun, <i>friendly</i> and welcoming work environment fosters creativity and <i>collaboration</i> and that, by empowering our employees to become personally involved in product <i>design</i> , <i>testing</i> and marketing, they become passionate and devoted brand advocates.
	Our Analysis	When discussing their employees, Vera Bradley does use some <i>logos</i> framing regarding <i>design</i> and <i>testing</i> , but they use more pathos and <i>ethos</i> to frame their employees as passionate , excited , <i>collaborative</i> , and <i>friendly</i> . This demonstrates a more persuasive argument containing all three rhetorical framings where there is more pathos and <i>ethos</i> than <i>logos</i> .
	Employee Discussion 2 (from Vera Bradley IPO prospectus)	Historically, we worked with independent <i>sales</i> consultants who were not our employees, but most of whom worked exclusively for us. In October 2007, we began transitioning our <i>sales</i> force in-house. We believe that having an in-house <i>sales</i> force results in more consistent brand presentation and messaging, enhanced <i>support</i> for our Indirect retailers and a more <i>predictable</i> , scalable and <i>cost efficient model</i> . As of 31 July 2010, our <i>sales team</i> consisted of 87 in-house, full-time <i>sales</i> consultants. The <i>compensation structure</i> for our <i>sales</i> consultants consists of a combination of <i>fixed pay</i> and <i>sales</i> based <i>incentives</i> .

(Continues)

Table I. (Continued)

IPO Firms	Statements from IPO Prospectuses and Our Analysis
Our Analysis	In contrast with the previous example, here Vera Bradley uses significantly more <u>logos</u> than pathos and <i>ethos</i> to discuss their new in-house sales force. While we agree with their approach to argue that one of the reasons they are creating a new in-house sales force is to cut <u>costs</u> , we found it curious that Vera Bradley did not also take this opportunity to justify their in-house move as a way to ensure their sales force shares their employee culture of being passionate , excited , <i>collaborative</i> , and <i>friendly</i> , as they did in the previous example. Instead, they chose to focus on <u>logos</u> and largely ignored pathos and <i>ethos</i> .

Note: Logos, Pathos, Ethos Key: Logos, **Pathos**, *Ethos*.

for logos since logic, data, and facts can – to a good degree – stand on their own as objective truths. This leads to the first set of hypotheses, which are effectively the same, but presented differently.

Hypothesis 1a: Investment risk is positively associated with the use of relatively more logos rhetoric.

Hypothesis 1b: Investment risk is negatively associated with the use of relatively more pathos and ethos rhetoric.

Rhetoric and Investment Performance

While in the first set of hypotheses we emphasized how rhetoric reflects an author's perspective, the second set of hypotheses emphasize the mechanism of cognitive resource limitations with regard to outcomes. Since limited cognitive resources restrict an infinite usage of all three rhetorical framings, we believe that relatively more pathos and ethos usage, compared to logos, will be more persuasive to investors. We argue this for three reasons. First, investors are generally knowledgeable actors who can analyze the firm's performance data without the need of further explanation from prospectus authors (Certo, 2003; Sharpe, 1975; Watson and Robinson, 2003). Second, firms are required by SEC regulation to reveal prior performance data that is central to the investment decision (Beatty and Zajac, 1994; Certo et al., 2009). Therefore, since financial data is inherently objective, analytical, and pragmatic, it should act as a partial substitute for the logical argumentation of logos rhetoric. In a sense, prospectus authors could generally let the data speak for itself without the need to overemphasize the data with excessive logos rhetoric. Third, when presented alongside hard data, logos rhetoric can provide only one of two kinds of argumentation: 1) the logos rhetoric aligns with the financial data, and thus, adds no additional

[Corrections made on 7 April 2022, after first online publication: Table I has been updated in this version.]

information of value to knowledgeable investors, or 2) the logos rhetoric does not align with the financial data (e.g., attempts to logically justify unfavorable financial data) and knowledgeable investors perceive dissonance between the data and the rhetoric. In the second case, misalignment can lead to potentially dissuading investors who may see this as either incompetence, disingenuous, or both.

On the other hand, pathos and ethos rhetoric are complementary to financial data. Letting the financial data partially supply the logical argumentation provides cognitive resource slack for prospectus authors to focus on building stronger pathos and ethos argumentation. This provides the opportunity to build emotional arguments (e.g., passion to innovate, zeal to persevere, eagerness for the future, love for their customer and product) and character-based arguments (e.g., trustworthiness, credibility, integrity), alongside the logical argumentation already provided via the financial data. This would build an all-around complete and stronger argument that better emphasizes the strengths of all three rhetorical framings (Aristotle, 2019; Floris et al., 2013; Green, 2004). Therefore, we submit that prospectus authors who frame their arguments for investment using relatively more pathos and ethos, compared to logos, will be more persuasive for investors relative to the inverse.

Hypothesis 2a: Relatively more logos is negatively associated with investment performance.

Hypothesis 2b: Relatively more pathos and ethos are positively associated with investment performance.

Rhetoric as a Mediator of Investment Risk and Performance

Given the two previous hypotheses and their supporting arguments, a partial mediation model can be contended, where investment risk not only directly affects investment performance but also affects the rhetoric used in the IPO prospectus which then affects investment performance. The full model is visually demonstrated in Figure 1.

In the first set of hypotheses, we use a specific mechanism of rhetorical theory – that authors use rhetoric that reflects their perspective – to suggest that since prospectus authors and investors view the consistency of performance information as an important and common measure for investment risk (Certo, 2003; Fisher and Hall, 1969; Hurdle, 1974; Knight, 1921; Modigliani and Modigliani, 1997; Sharpe, 1975; Watson and Robinson, 2003) that the rhetoric will likely be reflective of such an important and common measure. Whereas in the second set of hypotheses, we use another rhetorical theory mechanism – the limitation of cognitive resources – to explain that financial data should be able to create cognitive resource slack by partially replacing logos argumentation, causing the most complete and persuasive investment arguments to be the ones that focus more on pathos and ethos since those arguments have emotional and character argumentation (from pathos and ethos) and logical argumentation (from the objective data).

Our conclusion is that the combination of these two mechanisms of rhetorical theory explain how some prospectus authors unintentionally hurt their IPO performance by using rhetoric that reflects their perspective instead of using rhetoric that considers

limited cognitive resources. Specifically, we suspect that some prospectus authors use more logos rhetoric when it reflects their investment risk without considering how other communicative symbols, such as the financial data in their prospectus, can be leveraged as logical argumentation to provide cognitive resource slack. This suggests that prospectus authors should consider using relatively more pathos and ethos (and relatively less logos), regardless of investment risk. Essentially, some prospectus authors may not be maximizing argument utility for optimal effectiveness. For this reason, we hypothesize that logos, pathos, and ethos act as suppressor mediators, but in different ways.

Suppressor mediation, also called inconsistent mediation, is when a mediator negatively mediates the relationship between the X and Y variables (MacKinnon et al., 2007; McFatter, 1979). When firms have high investment risk, the use of relatively more logos than pathos and ethos will act as a suppressor by dampening the relationship between investment risk and investment performance. This occurs because 1) more investment risk leads to better investment performance, 2) more investment risk leads to more logos usage (H1a), and 3) more logos usage leads to poorer investment performance (H2a). Thus, firms with higher investment risk tend to incidentally hurt their own performance by using relatively more logos than pathos and ethos. The same occurs for firms with low investment risk, but in reverse. The use of relatively more pathos and ethos than logos will act as a suppressing mediator by improving the investment performance of firms that would otherwise perform worse. This is in line with our overarching theoretical model that 1) less investment risk directly leads to worse investment performance, 2) less investment risk leads to more pathos and ethos usage (H1b), and 3) more pathos and ethos usage directly leads to better investment performance (H2b). Thus, rhetoric mediates the relationship, but not always clearly or in the expected way. This leads to our mediation hypotheses:

Hypothesis 3a: The use of relatively more logos rhetoric will act as a suppressing mediator by diminishing the investment risk-investment performance relationship.

Hypothesis 3b: The use of relatively more pathos and ethos rhetoric will act as a suppressing mediator by improving the investment risk-investment performance relationship.

METHODS

Context and Sample

We constructed a sample of firms that underwent an IPO in U.S. equity markets between 2009 and 2015 utilizing Thomson Financial Security Data Corporation (SDC) New Issues database. Following prior IPO research (e.g., Fischer and Pollock, 2004), we excluded all IPO firms that resulted from spin-offs of publicly listed firms, rights offerings, mergers, and acquisitions. After this process, our final sample consisted of 644 firms.

IPOs are uniquely suited for testing how investors interpret rhetoric for four main reasons. First, within the prospectus, firms communicate how they plan to utilize the IPO funds, their prior financial performance, and all potential risk factors facing the firm (Certo, 2003; Certo et al., 2009). Second, it is within the prospectus that a firm uses rhetorical arguments to persuade investors to invest. Third, all firms that declare an IPO must compose an IPO prospectus for potential investors and file it with the SEC; IPO prospectuses are highly scrutinized and regulated by both internal and external parties. Indeed, prospectuses go through many iterations to ensure that the information and rhetoric is correct, appropriate, and consistent with how the authors wish to convey the firm. Fourth, the IPO process seeks to justify the investment action with limited information as the firm transitions from a private to a public firm (Fischer and Pollock, 2004). The perceived investment risk is partially based on prior public disclosures of financial performance information (Certo, 2003), but can be influenced when firms communicate through rhetoric to potential investors (Martens et al., 2007).

Dependent Variable

Investment performance. It is well-known that underpricing has a significant impact on IPOs when they are first released (Carter and Manaster, 1990; Loughran and Ritter, 2004). Therefore, to account for the influence of underpricing, we follow Gulati and Higgins (2003) to construct an investment performance variable using four IPO performance indicators at different intervals: first-day proceeds, firm pre-money market valuation, 90-day market valuation, and 180-day market valuation. All four of these data points, including the 90-day and 180-day, occur before the firm's first public annual report. Therefore, investors would still very likely examine the IPO prospectus since it is still the most important, up-to-date, and relevant document that contains recent financial data and overall strategic discussion on the firm's future plans. We collected the four indicators from the SDC database. Consistent with prior research, the four indicators are highly correlated and have a Cronbach's alpha of 0.9269. Our investment performance variable is the mean of the standardized indicators (Gulati and Higgins, 2003; McLeod et al., 2018).

Independent Variables

Logos, pathos, and ethos. We constructed and validated the variables for the different framings of rhetoric, logos, pathos, and ethos, utilizing computer-aided text analysis (CATA) (Short et al., 2010). The CATA methodology has been thoroughly validated by past scholars (e.g., McLeod et al., 2016; Short et al., 2010; Short and Palmer 2008). This is an appropriate method of measurement of logos, pathos, and ethos because their dimensions are clearly defined, collectively exhaustive, and mutually exclusive (e.g., Aristotle, 2019; Erkama and Vaara, 2010; Green, 2004; Ozen and Berkman, 2007). To utilize CATA in constructing the measures from IPO prospectuses, we first had to create word lists that constitute logos, pathos, and ethos (e.g., Short et al.,

2010).

We began constructing the word lists by identifying the themes for each rhetorical framing. We included *logic*, *emotion*, and *moral character* as the initial themes for logos, pathos, and ethos, respectively, because these basic themes have been universally agreed upon since Aristotle (e.g., Aristotle, 2019; Erkama and Vaara, 2010; Green, 2004; Ozen and Berkman, 2007; Suddaby and Greenwood, 2005). To supplement logos, we included the themes of logos uncovered by Ozen and Berkman (2007), which included *efficiency*, *profitability*, *effectiveness*, *method*, *technique*, and *scientific*. To supplement pathos and its theme of *emotion*, we used the six basic emotions of *happiness*, *sadness*, *fear*, *anger*, *surprise*, and *disgust* (Ekman, 1992). To supplement ethos, we included the three categories of ethos according to Aristotle (2019): *phronesis* (*wisdom*, *intelligence*, *discern*), *arete* (*virtue*, *excellence*, *goodness*), and *eunoia* (*goodwill*, *ethical*, *social*).

Following Short et al. (2010), we deductively generated synonyms based on the themes mentioned above by using Rodale's (1978) *The Synonym Finder*. Next, we conducted an inductive process wherein the CATA program compiled words used at least three times in a prospectus. The inductive process is an important step to ensure the list is exhaustive and includes words that are idiosyncratic to a firm or industry, but not included in the original deductive word list (Short et al., 2010). Words considered relevant to logos, pathos, and ethos from the inductive process were then added to their respective lists. Three of the authors examined the resulting 4,679 deductive and inductive words to evaluate the validity of each word in capturing the logos, pathos, or ethos framing of rhetoric. We used Holsti's (1969) method to calculate the interrater reliability among the three raters, which were .93 for logos, 0.86 for pathos, and .91 for ethos. Content analysis scholars have suggested that coefficients at .70 and above are acceptable levels of interrater reliability (e.g., Short et al., 2010). The resulting word list contained 855 words.

As a final step, we asked three experts in business communications (not authors) to evaluate our word lists for logos, pathos, and ethos. First, these experts were asked to suggest words they felt should be, but were not currently, included. The original list of 855 words created by the authors along with the additional 152 words suggested by the three experts were combined, containing 1,007 words. Using this amended list, all three experts were asked to evaluate the list along with two members of the authorship team. If any one of these five evaluators deemed that the word did not fit logos, pathos, or ethos, the word was removed from the list. Thus, the final list for logos, pathos, and ethos included only words meeting the approval of all five evaluators. Table II presents the complete word lists of 891 words for logos, pathos, and ethos. These total words include the base words. However, when conducting the analysis, the appropriate stem words were also counted where suitable. For example, under pathos, the stem words for disgust (e.g., disgusted, disgusting, disgusts, etc.) would all be counted.

Using CATA, we counted the number of times each word from the final word lists for logos, pathos, and ethos was used in the IPO prospectuses. We calculated values for logos (L), pathos (P), and ethos (E): $L = \Sigma L / \Sigma Pr$, $P = \Sigma P / \Sigma Pr$, and $E = \Sigma E / \Sigma Pr$, where ΣL (logos), ΣP (pathos), and ΣE (ethos) is a count of the number of times words from each respective word list is counted in each prospectus and ΣPr represents the total number of words in the entire prospectus. As such, the three variables measure the usage of each rhetorical framing individually while controlling for the varying lengths of IPO

Table II. Word lists for logos, pathos, and ethos dimensions

<i>Logos dimensions</i>	<i>Content analysis words with expert validation</i>
Logic	logic, reason, judicious, logistic, politic, astute, infer, cogent, synthesis, sane, sound-judgment, good-sense, sober, presence-of-mind, analytic, common-sense, deductive, inductive, consequence, rational, practical, pragmatic, sensible, advisable, well-advised, well-argued, well-grounded, well-founded, plausible
Efficiency	efficiency, yield, minimum, maximum, bargain, rate, stabilize, steady, supply, reduce, residual, consolidate, generate, qualification, prepare, productive, produce, adept, economic, metric, deficiency, cost, capacity
Effective	effective, allowance, contingent, award, reward, eligible, realize, retain, benefit, notable, persistent, responsible, effectual, adequate, sufficient, function, operate, actual, real, effect
Profitability	profitability, account, expense, accumulate, asset, loss, compensation, refund, transaction, hedge, tax, amortize, annuity, amount, capita, bonds, balance sheet, bankrupt, purchase, bid, loan, insurance, endowment, lease, fee, average, cash, estimate, receivable, finance, collateral, credit, commodity, stock, convertible, rent, exchange, liability, invest, incentive, performance, derivative, debt, equity, overdraft, deposit, dividend, fund, dollar, price, currency, margin, premium, liquidate, settlement, sale, sell, expenditures, earn, proceeds, revenue, win, paid, EBIT, EBITDA, gain, figures, income, numbers, net, bottom-line, remunerative, recompense, fruitful, surplus, lucrative, excess, pay, advantage, well-paying, efficacy, money, opportunity, time, worthwhile, increment, valuable, augmentation, invaluable, conducive, improve, better, budget, exploit, achieve, capital
Method	method, plan, activities, allocate, contract, assign, authorize, model, require, policy, impose, structure, restructure, expect, unconditional, conditional, modify, orchestrate, mode, uniform, process, constant, procedure, business-like, means, step-by-step, tabulation, exact, formula, meticulous, strategy, practice, regulate, order, scheme, system, straighten-out, design, lay-out, discipline, centralize, routine, normalize, program, standard, arrange, code, alphabetize, guide, customize, pattern, rule, sequence, distribution, manoeuvre, engineering
Technique	technique, certificate, adjust, specified, mandatory, fix, correct, develop, deal, trade, systematic, reliable, detailed, approach, tactic, mode-of-operation, standard-operating-procedure, ability, capability, skill, execution, proficiency
Scientific	scientific, advance, claim, report, information, variable, prove, measure, demographic, probable, classify, reclassify, test, observe, variance, interest, learn, predict, compute, controlled, fact, versed, thorough, laws, informed, calculate, reality, precise, mathematic, know, specialization, empirical, technology, philosophy, research, verifiable, experiment, quantitative, trial-and-error, investigation, expert, application, objective, rigour, theorist, sophistication, analyse, evaluate, data, technical, educate, scholarly, well-schooled, academic, accurate

(Continues)

Table II. (Continued)

<i>Pathos dimensions</i>	<i>Content analysis words with expert validation</i>
Emotion	emotion, electrify, energetic, enthusiastic, excite, fiery, gung-ho, passion, impassion, provocative, lively, rouse, spirited, stirring, vehement, vigour, invigorate, reinvigorate, vivid, intense, eager, psyched, exuberance, feel, volatile, avid, sentiment, zest, obsess, sensation, inspire, suffer, affect, rave, vulnerable, emotive, frantic, sensitive, overwrought, vitalize, ecstatic, feverish, carried-away, fanatic, love, theatrics, fierce, laugh, impatience, severe, urgency, hysterical, impulsive, strike-a-chord, ecstasy, hasty, heartstrings, thrill, turbulent, poignant, tumultuous, pathetic, disturb, heartfelt, compulsion, excruciate, emphatic, adore, soul-stirring, evoke, ambitious, expressive, eloquent, aspire, demonstrative, fervent, touchy, dramatic, fervid, zeal, overzealous, emote, earnest, determination, tense, fervour, relish, crazy, craze
Happiness	happiness, glee, pleasure, delight, jolly, enjoy, enchant, paradise, heartily, heart-and-soul, elated, serenity, gratification, light-heartedly, glad, pleased, cheerful, satisfy, well-pleased, joy, bliss, exhilaration
Sadness	sadness, solemn, downtrodden, heartbreak, grief, unhappy, despair, despondent, oppress, misery, painful, woe, downcast, pleasureless, agony, downhearted, joyless, heartache, dispirit, cheerless, bummed, sorry, broken-heart, heartbroken, melancholy, pity, mourn, dismal, dreary, sombre, deject, depress, discourage, lament, dishearten, deplorable, sorrow, grieve, uncheerful, regret, gloom, bleak
Fear	fear, dread, nightmare, hideous, fright, phobia, ghastly, terror, afraid, eerie, horror, scare, grisly, panic, suspect, gruesome, alarm, forebode, unspeakable, trepidation, misgiving, shy, terrify, cower, concern, mistrust, apprehensive, distrust, worry, qualm, uneasy, nervous, angst, tremble, appal, anxious, overanxious, anguish, terrible, timid, anxiety, grim, dire, faint-hearted, coward, cautious, distress, intimidate, hesitate, harrow, reluctant, awful, unsure, horrible, horrendous
Surprise	surprise, unforeseen, astonish, unanticipated, amaze, sudden, stun, jolting, ambush, jarring, blitz, bombshell, eye-opener, revelation, reveal, astound, wonder, awe, marvel, miracle, shock, sneak-attack, out-of-the-ordinary, incredible, unusual, uncommon, unfamiliar
Anger	anger, enrage, ire, infuriate, wrath, fight, irate, contentious, hostile, provoke, beligerent, wrath, arouse, furious, spite, livid, rage, distraught, savage, fury, agitate, upset, violent, threaten, rant, seethe, resent, rabid, irritate, frenzy, gall, irk, mad, rile, aggravate, indignant, ill-will, miff, stirred-up, bad-blood, exasperate, petulant, exacerbate, discontent, affront, uptight, insult, humiliate, mortify
Disgust	disgust, despicable, disappoint, revolt, sicken, objectionable, off-putting, offend, dissatisfaction, obnoxious, disapproval, nasty, repulse, displeasure, unpleasant, displease, sick-and-tired, sick-of, insufferable, scandal, fed-up, outrageous, aversion, annoy, reprehensible, distaste, unsavoury, vile, foul, vulgar, odious, stink, abhorrent, abomination, loath, detestable, hatred, hate, dislike, unlikable, repugnant, animosity, repel

(Continues)

Table II. (Continued)

<i>Ethos dimensions</i>	<i>Content analysis words with expert validation</i>
Moral	moral, righteous, noble, straightforward, principle, innocent, precept, proverb, manners, fidelity, seemliness, conscience, corrupt
Character	character, reputation, repute, status, good-standing, glory, prestige, esteem, courage, strength, fortitude, sincere, resolute, brave, heroic, self-reliant, strive, tenacious, valiant
Wisdom	wisdom, insight, foresight, prudence, wise, perceptive, shrewd, enlighten, diplomatic, careful, tactful, guru, statesman, elder, luminary
Intelligence	intelligence, cognition, ingenious, ingenuity, intellect, smart, aptitude, wit, brain-power, mastermind, cerebral, genius, literate, well-read, acumen, brilliance, gifted, savvy
Discern	discern, perceive, clever, decipher, figure-out, good-eye, ascertain, distinguish, intuition, pick-out, recognize, clairvoyance, differ, farsighted, discriminate, judge, scrutinize, delineate, detection, keen, comprehension, aware, discreet, watch, mindful, alert, tell, apart, understand
Virtue	virtue, care, forgive, un-corrupt, incorrupt, honour, decency, upstanding, justice, modest, grace, worthy, rely, charity, impeccable, scrupulous, loyal, truth, creditable, commendable, praiseworthy, right-minded
Excellence	excellence, the-best, matchless, pre-eminence, peerless, mastery, unparalleled, perfect, quality, sterling, supremacy, first-class, merit, impressive, admirable, first-rate, tip-top, extraordinary, remarkable, splendid, great, super, exceptional, superior, standout, outstanding, supreme, transcendent, surpass, excel
Goodness	goodness, good, nobility, wholesome, big-hearted, soft-hearted, good-hearted, warm-hearted, generous, quintessence, help, harmony, grateful, courteous, mercy, thoughtful, tolerant
Goodwill	goodwill, beneficence, gentle, kindness, humane, lenient, fatherly, motherly, sympathy, empathy, paternal, maternal, gracious, compassion, broadminded, gift, accommodate, donate, oblige, benevolent, well-meaning, aid, altruistic, unselfish, considerate, benign, bounteous, open-handed, philanthropy, humanitarian, munificent
Ethical	ethical, upright, honest, pure, proper, fair, lofty, integrity, golden-rule, authentic, believable, credible, decent, devoted, equitable, even-handed, faithful, forthright, genuine, respectable, law-abiding, lawful, trust
Social	social, good-natured, companion, polite, sociable, cooperation, community, communal, society, civic, civil, congenial, neighbourly, socially-responsible, hospitable, fraternity, brotherhood, sisterhood, cordial, hearty, humanity, agreeable, human-race, humankind, mankind, welfare, volunteer, general-public, outreach, camaraderie, mediator, fellowship, family, citizen, collaboration, accessibility, openness, easy-going, support, receptive, mutual, sharing, unite, team, friend

prospectuses. Finally, since we theorize that pathos and ethos will trend in the same direction and will be used relatively more or less compared to logos, and vice versa, we created the following calculation for the final variable: $PE \text{ Rhetoric} = (\text{pathos} + \text{ethos}) / \text{logos}$, where we measure how much pathos and ethos framing is used relative to logos. Later in the robustness section, we briefly discuss our analysis of the inverse of our main PE Rhetoric variable, $L \text{ Rhetoric} = \text{logos} / (\text{pathos} + \text{ethos})$.

Investment Risk

Theorists and practitioners have long accepted the standard deviation of return as the most appropriate measure of investment risk because it measures the consistency with which returns are generated. Indeed, past scholars have used the standard deviation of return as a proxy for risk (e.g., Fisher and Hall, 1969; Han, 2013; Hurdle, 1974; Modigliani and Modigliani, 1997; Sharpe, 1975; Watson and Robinson, 2003) and popular investment textbooks teach that ‘risk is normally measured by the standard deviation of return’ (Elton et al., 2009, p. 633; Rachev et al., 2011). Therefore, it is theoretically appropriate to use net profit deviation as a proxy for investment risk, not only because past scholars have used it, but also because this is the most commonly used measurement investors analyse when assessing investment risk. Simply, as the standard deviation of profit increases, investment risk increases, and as the deviation decreases, so does investment risk. Since our sample consists of individual firms before IPO, we follow past research by using the standard deviation of profit to proxy investment risk, where profit acts as the return for firms (Fisher and Hall, 1969; Hurdle, 1974; Watson and Robinson, 2003). The profit deviation variable is the z-score of the standard deviation of profitability over the years prior to IPO as provided by each firm in their IPO prospectus.

Control Variables

To identify controls appropriate for our model, we closely followed relevant research that examined IPO performance and language used by IPO firms (e.g., Payne et al., 2013). First, we control for firm age and firm size. These two variables are appropriate for our study since they may influence different degrees of IPO performance (Carter and Manaster, 1990; Payne et al., 2013) as well as the language used by firms (McLeod et al., 2018). *Firm Age* may influence IPO performance and organizational language because it proxies for the experience and sophistication of the organization (Beatty and Zajac, 1994). We coded IPO firms’ age via SDC platinum by computing the difference between the date of firm IPO listing and the date of firm inception (McLeod et al., 2018). *Firm Size* may influence IPO performance and organizational language since access to varying degrees of resources may influence various organizational outcomes (e.g., Beatty and Zajac, 1994; Gulati and Higgins, 2003; Loughran and Ritter, 2004). We measured firm size as the natural log of the last two years of total revenue before IPO (Payne et al., 2013; Sanders and Boivie, 2004).

Past research has also controlled for corporate governance factors that may impact various organizational outcomes, such as IPO performance (Sanders and Boivie, 2004) and organizational language (Evert et al., 2018; McLeod et al., 2018). Following extant literature (e.g., Payne et al., 2013), we control for corporate governance effects by operationalizing *Inside Ownership* (measured by the ownership pre-IPO found in the prospectus), *Founder-CEO* (coded as a 1 if the original founder is acting as CEO), and *Board Independence* (measured as the percentage of the directors on the board that are external or independent of the firm).

Having prestigious external stakeholders has shown to influence both IPO performance (Carter and Manaster, 1990; Loughran and Ritter, 2004) and organizational language (McLeod et al., 2018). Prestigious external stakeholders influence organizational outcomes since they ‘are frequently trusted by external resource holders to be able to discern quality under conditions of uncertainty and certify the initiatives of lesser-known firms’ (Payne et

al., 2013, p. 240). To control for these important stakeholders, we use *Underwriter Prestige*, which has been widely analyzed in IPO research and is considered a significant predictor of key outcomes (e.g., Carter and Manaster, 1990; Fischer and Pollock 2004; McLeod et al., 2018). We follow widely-accepted methods of Loughran and Ritter (2004) by measuring underwriter prestige as the location of the name of each underwriter in the ‘tombstone announcements’ section across multiple IPO prospectuses over time. The scale ranges from 0 to 9 according to the patterns found within the tombstone announcement hierarchy. We also included a control for IPO firms that were backed by venture capitalists since *Venture Capitalist Backed* firms have been shown to impact IPO performance (Payne et al., 2013) and organizational narratives (McLeod et al., 2018).

Past scholars (e.g., Loughran and Ritter, 2004) argue that differences among industries significantly impact the IPO process, which could include both IPO performance and the language used in their IPO prospectuses. Therefore, similar to past research which examines language used in an IPO context (McLeod et al., 2018; Payne et al., 2013), we created the *Industry* variable using eight industry dummies by SIC code. Lastly, *Year of IPO*, a factor related to timing, has been empirically linked to year-to-year market condition variations and organizational outcomes (Carter and Manaster, 1990) and is deemed a critical control when examining IPOs and organizational narratives (e.g., McLeod et al., 2018; Payne et al., 2013). As a result, we control for the year that the firm filed their IPO.

ANALYSES AND RESULTS

Table III presents the descriptive statistics and correlations. For all hypotheses, we tested the data using structural equation modeling (SEM). Table IV presents the significant relationships among the variables for PE Rhetoric ($p \leq 0.05$) in their direct, indirect, and total effects models (MacKinnon et al., 2007; McFatter, 1979). Figure 2 displays the results of the main variables of interest for PE Rhetoric and L Rhetoric.

While not one of our hypotheses, we did confirm past research by showing a direct positive relationship between investment risk and investment performance ($\beta = 0.344$; $p \leq 0.001$). Hypotheses 1a and 1b stated that investment risk would influence the use of relatively more or less logos, pathos, and ethos rhetoric, depending on the degree of investment risk; these hypotheses are supported and in the expected direction for H1a ($\beta = 0.198$; $p \leq 0.001$) and H1b ($\beta = -0.156$; $p \leq 0.001$).

Hypotheses 2a and 2b state that the use of relatively more or less logos, pathos, and ethos would influence investment performance. The analysis is confirmed and in the expected direction for H2a ($\beta = -0.103$; $p \leq 0.05$) and H2b ($\beta = 0.147$; $p \leq 0.001$). Lastly, Hypotheses 3a and 3b stated that relatively more or less logos, pathos, and ethos would act as a suppressing mediator between investment risk and investment performance; H3a ($\beta = -0.020$; $p \leq 0.05$) and H3b ($\beta = -0.023$; $p \leq 0.01$) are also supported in the expected direction.

Our mediation model results indicate that logos, pathos, and ethos are suppressing the risk-to-performance relationship but in different ways. A suppressing mediator creates a smaller total effect since the indirect effect mitigates the direct effect (see Table IV). For instance, relatively more pathos and ethos than logos (PE Rhetoric)

Table III. Descriptive statistics and bivariate correlations of variables (N = 644)

Variable	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9
1 IPO Performance	-0.00202	0.9497219									
2 PE Rhetoric	0.1806643	0.0305565	0.0284								
3 Investment Risk	0	1	0.3297**	-0.2078**							
4 Firm Age	15.34317	19.18807	0.0402	-0.1817**	0.2162**						
5 Firm Size	10.53796	4.32216	-0.0123	-0.0615	0.0038	-0.0254					
6 Insider Ownership	17.54233	23.46534	-0.0525	-0.0146	-0.0768	-0.0322	-0.0181				
7 Founder-CEO	0.363354	0.4813394	-0.0176	0.0907*	-0.0649	-0.2227**	-0.034	0.2868**			
8 Board Indep.	0.7956058	0.1291888	-0.0099	-0.0351	0.0183	0.0211	0.0502	-0.4015**	-0.1684**		
9 UW Prestige	2.061583	0.3303305	0.1032**	-0.1281**	0.0830*	0.0841*	0.0367	-0.1549**	-0.0586	0.4225**	
10 VC Backed	0.8555901	0.3517781	0.0328	0.0192	0.0423	-0.0498	-0.0355	-0.4440**	-0.0754	0.2772**	0.2211**
11 Industry 2	0.2732919	0.4459959	-0.1217**	0.3305**	-0.0818*	-0.1120**	-0.0253	-0.1041**	0.0076	0.0873*	-0.0834*
12 Industry 3	0.1428571	0.3501991	-0.0098	-0.0219	-0.0373	0.06	0.0637	-0.0254	-0.0685	-0.0023	-0.033
13 Industry 4	0.0326087	0.1777482	0.0925*	-0.031	0.1916**	0.0026	0.0101	-0.0314	-0.0296	-0.0334	0.0345
14 Industry 5	0.0885093	0.284255	0.0113	-0.1587**	-0.0012	0.1897**	0.0326	-0.0603	-0.0195	0.035	0.0372
15 Industry 6	0.1195652	0.3247046	-0.0325	-0.2032**	0.0189	-0.0034	-0.003	0.0896*	0.0699	-0.0364	0.0116
16 Industry 7	0.2220497	0.4159474	0.0801*	0.1100**	0.0203	-0.0333	-0.0541	0.0401	0.0547	-0.0237	0.1250**
17 Industry 8	0.0776398	0.2678119	0.0449	-0.1118**	-0.0335	-0.0188	-0.0068	0.0656	-0.0503	0.0134	-0.0479
18 IPO Year 2010	0.1257764	0.3318549	-0.0535	-0.0939*	-0.027	0.0425	-0.0453	0.0591	0.0055	0.0247	0.0709
19 IPO Year 2011	0.1009317	0.3014724	0.0292	-0.001	0.0985*	0.0042	0.0139	-0.0035	-0.0173	0.0325	0.0736
20 IPO Year 2012	0.1149068	0.3191574	0.0645	0.004	0.001	-0.039	0.0099	0.0178	0.0315	-0.0525	-0.0265
21 IPO Year 2013	0.2049689	0.4039927	0.0397	0.0441	0.0476	0.0457	-0.0566	0.0396	0.0163	-0.0982*	-0.0291
22 IPO Year 2014	0.2391304	0.4268841	-0.0281	0.0311	-0.0672	-0.019	0.0381	-0.0392	0.023	0.0255	-0.0821*
23 IPO Year 2015	0.1630435	0.3696925	-0.0391	0.0628	-0.058	-0.0068	0.0274	-0.0632	-0.0625	0.0692	0.0015

* $p \leq 0.05$; ** $p \leq 0.01$.

acts as a suppressing mediator by improving the investment performance of firms that had lesser investment risk. This is observed by the negative mediation coefficient ($\beta = -0.023$) as well as the direct effect coefficient ($\beta = 0.344$) for investment risk to investment performance relationship being larger than the total effect coefficient ($\beta = 0.321$). Similarly, but inversely, more logos than pathos and ethos (L Rhetoric) acts as a suppressing mediator by diminishing the performance of firms that had greater investment risk.

Robustness Tests

We conducted several robustness tests to ensure reliability of the data and assuage alternative explanations. First, we ran the same SEM model again, except using the inverse (L Rhetoric = logos/(pathos + ethos)) of our main rhetoric variable (PE Rhetoric = (pathos + ethos)/logos). Given that L Rhetoric = logos/(pathos + ethos) is simply an inverse, our model produces similar results and we chose not to include these results in

[Corrections made on 7 April 2022, after first online publication: Table III has been updated in this version.]

10	11	12	13	14	15	16	17	18	19	20	21	22
0.1033**												
0.0667	-0.2504**											
0.0506	-0.1126**	-0.075										
0.0192	-0.1911**	-0.1272**	-0.0572									
-0.1618**	-0.2260**	-0.1504**	-0.0677	-0.1148**								
0.0175	-0.3276**	-0.2181**	-0.0981*	-0.1665**	-0.1969**							
-0.1119**	-0.1779**	-0.1184**	-0.0533	-0.0904*	-0.1069**	-0.1550**						
0.0226	-0.0960*	0.0593	0.0622	-0.0193	0.0478	-0.0111	0.0299					
-0.053	-0.0667	0.0253	0.0256	0.0226	-0.0599	0.1062**	-0.0202	-0.1271**				
-0.0598	-0.0789*	0.006	-0.0387	0.0249	-0.0127	0.0769	-0.0136	-0.1367**	-0.1207**			
0.0445	0.0425	-0.0424	0.0151	-0.0228	0.0026	-0.0121	-0.0179	-0.1926**	-0.1701**	-0.1829**		
0.0025	0.0973*	-0.0104	-0.0619	-0.0465	-0.0046	-0.0367	-0.013	-0.2126**	-0.1878**	-0.2020**	-0.2847**	
0.0139	0.0972*	-0.012	-0.0574	0.0253	0.0317	-0.0841*	-0.0024	-0.1674**	-0.1479**	-0.1590**	-0.2241**	-0.2474**

Table IV. Rather, we include the main effects as part of Figure 2 to demonstrate how this alternative variable and model supports all hypotheses with statistically similar, but inverse, results.

For our second robustness check, understanding that some may question whether an IPO prospectus can influence two of the long-term measures that make up our dependent variable (90-day and 180-day valuations), we analysed first-day proceeds from the firm IPO as the dependent variable and, using SEM, achieved similar results. For our third robustness test, we ran relative ratios for each rhetorical framing individually: RL = logos/(pathos + ethos), RP = pathos/(logos + ethos), and RE = ethos/(logos + pathos), where we measure how much each rhetorical framing is used relative to the others. We used SEM to test all the previously discussed models finding similar results. For our fourth robustness test, we used the logos (L), pathos (P), and ethos (E) variables before making them relative ratios: $L = \Sigma L / \Sigma Pr$, $P = \Sigma P / \Sigma Pr$, and $E = \Sigma E / \Sigma Pr$, where ΣL (logos), ΣP (pathos), and ΣE (ethos). Using SEM, we again achieved similar results as our original model. For our fifth robustness check, we analyzed all variations of these variables in our models using linear regression. Again, we achieved similar results.

Table IV. Structural equation modelling: Complete hypothesized model, direct model, and indirect model

	<i>Total Effects Model</i>	<i>Direct Model</i>	<i>Direct Model</i>	<i>Indirect Model</i>
	<i>Path DV:</i>	<i>Path DV:</i>	<i>Path DV:</i>	<i>Path DV:</i>
	<i>Investment Performance</i>	<i>Investment Performance</i>	<i>PE Rhetoric</i>	<i>Investment Performance</i>
Controls				
<i>Firm Age</i>	−0.045	−0.032	−0.091*	−0.013*
<i>Firm Size</i>	−0.017	−0.011	−0.042	−0.006
<i>Inside Ownership</i>	−0.048	−0.043	−0.032	−0.005
<i>Founder CEO</i>	0.005	−0.004	0.057	0.008
<i>Board Independence</i>	−0.062	−0.059	−0.020	−0.003
<i>Underwriter Prestige</i>	0.100*	0.112**	−0.088*	−0.013
<i>Venture Capitalist Backed</i>	−0.001	0.004	−0.034	−0.005
<i>Industry 2</i>	−0.061	−0.150	0.610***	0.089**
<i>Industry 3</i>	0.019	−0.026	0.304***	0.045**
<i>Industry 4</i>	0.037	0.011	0.177***	0.026**
<i>Industry 5</i>	0.023	0.004	0.134*	0.020
<i>Industry 6</i>	−0.025	−0.041	0.110	0.016
<i>Industry 7</i>	0.054	−0.014	0.466***	0.068**
<i>Industry 8</i>	0.069	0.050	0.136*	0.020*
<i>IPO Year 2010</i>	0.008	−0.001	0.063	0.009
<i>IPO Year 2011</i>	0.034	0.018	0.110*	0.016
<i>IPO Year 2012</i>	0.103	0.086	0.120*	0.018
<i>IPO Year 2013</i>	0.093	0.067	0.176**	0.026*
<i>IPO Year 2014</i>	0.083	0.063	0.141*	0.021
<i>IPO Year 2015</i>	0.059	0.034	0.165**	0.024*
Main and Mediating Effects				
<i>Investment Risk</i>	0.321***	0.344***	−0.156***	−0.023**
<i>PE Rhetoric</i>	0.147***	0.147***		

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

For our sixth robustness test, when filing an IPO prospectus, firms are required to disclose at least two years of financial data but are not required to disclose more than two years. As such, the investment risk variable, which is the standard deviation of net profit, may include data ranging from two to seven years. To ensure our results worked regardless of the number of years disclosed, we first removed all firms that only reported two years of financial data so that our net profit standard deviation

[Corrections made on 7 April 2022, after first online publication: Table IV has been updated in this version.]

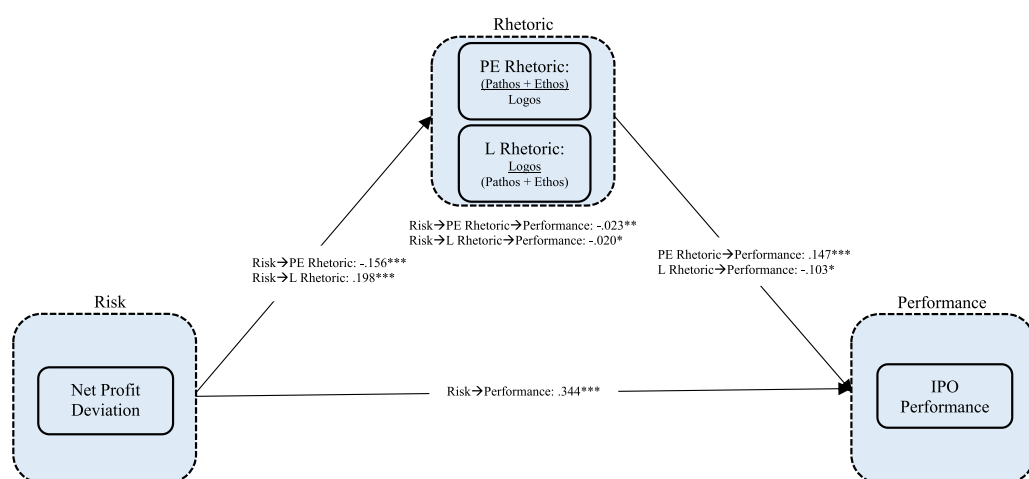


Figure 2. Results for mediation model [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/joms.12312)]

variable was based on at least three years of data. This led to a sample of 479 firms. Using the same analysis, we found similar results for all hypotheses. We repeated this process by removing all firms that did not report at least four years of financial data. This led to a sample of 344 firms, and again, all results were similar. Finally, we removed all firms that did not report at least five years of financial data. Now with a sample of 296 firms, we found similar results.

For our seventh robustness check, we followed McKenny et al. (2018) to address the potential for specific factor error; this is important to our study given that past research on logos, pathos, and ethos operationalized those variables through qualitative coding. To address specific factor error, one author and one non-author – who is an expert in rhetoric research – conducted latent content analysis using a random sample of 10 per cent of the IPO prospectus sample (McKenny et al., 2018). The business section of the prospectus was coded since it entails all aspects of the business and each subsection was coded on a 1 to 3 scale (3 = rhetorical frame most used; 2 = rhetorical frame second most used; 1 = rhetorical frame least used). The equations were created in a similar manner as the primary analyses to facilitate a direct comparison. Our latent PE Rhetoric and L Rhetoric variables were highly correlated beyond the .001 significance level with the PE Rhetoric and L Rhetoric variables discussed in the main study (0.7170 and .7756, respectively). Similar significant results were also found using the latent variables in our SEM model.

DISCUSSION

The results denote the importance of logos, pathos, and ethos in business narratives, particularly regarding what influences different amalgamations of rhetoric as well as how rhetoric informs investors and promotes the investment action. We find specific support for our theoretical framework that contributes to rhetorical theory and linguistic research in multiple ways. First, we contribute to rhetorical theory by building

on the two mechanisms we highlighted in the theoretical development of our hypotheses. Regarding how rhetoric reflects an author's perspective of the context, we find that prospectus authors use varying levels of rhetorical frames in response to perceived risk. Basically, our findings demonstrate that the prospectus language reflects the perspectives and key considerations of the authors in terms of risk. However, we then consider cognitive resource limitations to address both the importance of rhetorical framing, which has not been extensively examined at the firm level, and the importance of relative trade-offs between different frames. Our model addresses the juxtaposition of both mechanisms of rhetorical theory regarding how using rhetoric that is reflective of the author's perspective may not be the most efficient use of limited cognitive resources. Essentially, before adjusting their rhetoric to reflect their specific context (e.g., investment risk), authors who are trying to maximize argument utility should give more consideration to the elements contained in their argument (e.g., data) and their audience's ability to interpret those elements (e.g., IPO investors are generally able to interpret data).

Most centrally, our findings have implications for what information is best provided in investment narratives and what wording should be used when framing that information. Importantly, we provide evidence that data can partly replace logic-based verbiage when it is a significant part of an argument, as it is within the investment community. Authors should carefully consider their context, their audience, and the various types of information they provide that may act as a substitute for another part of the argument, providing cognitive resource slack. As such, this issue may have implications for how signaling theory has been discussed and examined in the management literature. Signaling theory suggests that a signal can inform investors about the quality of a firm (Connelly et al., 2011; Payne et al., 2013). However, a signal could be manipulated, intentionally or not, to mean something different by the way the signal is rhetorically framed beyond what the signal itself is meant to convey. This could be the result of signallers using rhetoric they believe best reflects the signal they are trying to convey, but that rhetorical framing may not be well-received due to cognitive resource limitations. Therefore, signaling theorists could investigate how different types of signals influence the use of different rhetorical framings and whether the use of different framings for different signals is effective or restricted by limited cognitive resources. This could build on recent research that suggests that IPO process time – arguably allowing for more information dissemination through the prospectus and road show – can overcome more ambiguous signals and improve IPO outcomes (Payne et al., 2022).

As a second contribution, we uncover risk as an antecedent to rhetoric. Given the importance of investments and resource acquisition in the entrepreneurship and management literatures, our finding that risk is an antecedent of rhetoric has important implications that reach beyond those more generally applied to narrative research. For example, narcissistic rhetoric espoused by entrepreneurs has been linked to crowdfunding performance using social role theory to explain that psychological differences depend on conforming to stereotypes of social groups (Anglin et al., 2018b). Researchers have also found risk-taking differences between men and women (Charness and Gneezy, 2012). Since social role theory argues that these differences in risk-taking are due to gender-role stereotypes, researchers could investigate how conformity to stereotypes

around risk-taking is shaped by how different groups of people use logos, pathos, and ethos to frame risk. It may be that traditional societal stereotypes influence to what extent logos is used to frame risk-taking behaviours, as opposed to the use of pathos and ethos. In other words, since rhetoric is reflective of the author's perspective, perhaps one gender group views one rhetorical frame as more reflective of risk while another group views a different framework as reflective. Further, perhaps a particular frame is more or less persuasive among these groups when they are the audience. If there are differences, it would be interesting to examine the role that social role theory plays when comparing whether male and female entrepreneurs use different rhetoric and how that rhetoric may affect investors, customers, and employees.

Our third contribution pertains to the role of rhetoric as a mediator. While prior research directly links different forms of rhetoric to investment performance (e.g., Allison et al., 2013; Anglin et al., 2018a; Martens et al., 2007; Payne et al., 2013), our study uniquely demonstrates that rhetoric not only directly, but also indirectly, influences the decision to invest by serving as an intermedator between the contextual perspective and the outcome. More specifically, the well-known connection between investment risk and investment performance (e.g., Fisher and Hall, 1969; Hurdle, 1974; Lucas, 1978; Malkiel and Xu, 1997; Merton, 1973, 1980) benefits from our mediation model as it provides an additional, previously un-investigated path. However, while our study specifically deals with investment risk and performance, we suspect that rhetoric mediates other types of firm contingencies and outcomes as well. Structural contingency theorists argue that the fit between organizational structure and strategy determines performance (Donaldson, 2001). With this perspective, Sillince (2005) developed a theoretical model of rhetorical congruence wherein the fit between the organizational contingencies and strategy is only as effective as the fit that the rhetoric has with those contingencies. While we contribute to this body of knowledge, particularly Sillince's (2005) rhetorical congruence theory by empirically denoting how the fit between rhetoric and risk influences firm performance, we did not analyse specific business strategies used by firms. Future scholars should examine the fit between strategy and rhetoric and how this fit affects performance.

In a similar fashion, the role of various contingencies, in relation to rhetoric, is an open field for further exploration. Industry, in particular, seems to be an important consideration in terms of choosing appropriate framing. For instance, the tobacco industry has historically framed their rhetoric around 'freedom of choice' arguments so that blame for the health consequences fell on the individual and not the companies within the industry (Friedman et al., 2015). Rhetorical framing is also a major factor in 'dirty' industries (e.g., oil, coal, nuclear, etc.). For example, scholars have discovered that investments in non-renewables are justified using pragmatic outcome-oriented rhetoric while investments in renewables use more visionary-oriented rhetoric (Patala et al., 2019).

While there are likely many industry-related factors that influence chosen rhetoric, one interesting perspective could investigate how rhetoric differs between high-tech and low-tech industries. Since knowledge is ambiguous and rhetoric is critical to create and guide organizations (Green and Li, 2011; Sillince, 2002), the creation of new knowledge in high-tech industries likely requires a unique rhetorical combination for that knowledge to gain industry-wide acceptance (Green and Li, 2011), particularly regarding new practices (Waldron et al., 2016). Future researchers could take our

theoretical framework of risk and rhetoric (given that high-tech industries tend to have higher degrees of risk) and logos, pathos, and ethos dictionaries to test for differences and to see if our results are generalizable among various industry segments. Integrating other variables while investigating rhetoric usage in industries could also be interesting. For example, past research has found that corporate venture capitalists (CVCs) can build trust with new ventures by establishing credible commitments, even when their industries overlap (Sears et al., 2020). It would be interesting to investigate if or how CVCs use language to build trust with new ventures in overlapping industries. This could be particularly relevant for new ventures attempting to establish legitimacy via a CVC relationship, especially after a controversial event that may impact the CVC-new venture relationship (Elsbach, 1994). Different events within a firm's or industry's lifecycle could require different combinations or sequences of the logos, pathos, and ethos framings. Since little is known about how rhetoric changes over time, studies could empirically investigate how justifications for these events erode over time and how the old justifications are replaced (Green, 2004).

Our final contribution is that we have developed unique dictionaries for logos, pathos, and ethos to assist future research. These dictionaries have allowed us to investigate, in a robust way, how logos, pathos, and ethos rhetoric 'frame risk in a way that is more acceptable to investors' (Shane, 2003, p. 185). In addition to the many ideas presented in the above paragraphs, the methodological tools used in this study could be expanded to any entrepreneurial or firm-level narrative. For instance, some of the best entrepreneurs and business leaders are great storytellers (Roddick, 2000) and various studies have examined their ability to tell organizational stories to promote investment in the firm (e.g., Martens et al., 2007). Scholars could use our logos, pathos, and ethos dictionaries to expand this research field and examine how entrepreneurs rhetorically frame the stories they tell.

The study does have some limitations. First, applicability of this study to other contexts may be limited due to the nature of the IPO context. The IPO context is considered one of the most important events in a firm's history (Certo, 2003; Certo et al., 2009; Fischer and Pollock, 2004) where choosing appropriate rhetoric is of utmost importance (Marten et al., 2007), providing a good context to examine our research questions. Still, the predictors and outcomes of rhetoric may vary across contexts. This may call into question the generalizability of our findings. Nevertheless, several studies over the years have used the IPO context as a generalizable context (e.g., Fischer and Pollock, 2004; Martens et al., 2007).

Second, we cannot irrefutably link the semantics of logos, pathos, and ethos with the computer-aided content analysis (CATA) technique used to assess the logos, pathos, and ethos embedded within each IPO prospectus. It is possible that such measurement tools do not accurately capture the theoretical constructs they are seeking to represent (Fiol, 1995). Nonetheless, the CATA technique used in this study has been acknowledged as a useful tool for scholars because of its ability to process large amounts of textual data at high speeds and reliability (Short et al., 2010; Short and Palmer 2008) as well as construct validity (McLeod et al., 2016). For example, past research has validated the value of content analysis by examining IPO prospectuses (e.g., McLeod et al., 2018; Payne et al., 2013) and other organizational narratives (e.g., McLeod et al., 2016; Zachary et al., 2021). Moreover, we qualitatively conducted latent content analysis of the IPO

prospectus sample to provide additional validity to our logos, pathos, and ethos dictionaries. Therefore, although some hesitation to accept the CATA technique as a valid tool to measure logos, pathos, and ethos, may be understandable, we make a strong case for its measurement reliability, construct validity, and its overall usefulness for better understanding how risk, rhetoric, and performance connect.

Lastly, the level of abstraction of this study creates a unique contribution to the literature but also creates a limitation. Some past studies use different theoretical perspectives or constructs that contain some elements of logos, pathos, and ethos that are more specific or narrow in focus. For example, logos is somewhat consistent with economic value orientation (Moss et al., 2018). However, as we have discussed in our manuscript, logos goes well beyond just economic language by also encapsulating logic, method, technique, and scientific arguments.

Pathos somewhat overlaps with positive psychological capital (Anglin et al., 2018a) in that they examine the psychology of an entity via language. However, positive psychological capital, as the name implies, examines language from a very specific psychology of positivity (e.g., hope, optimism, resilience, confidence) while pathos examines language from the much broader range of emotions, both positive and negative (the six basic emotions of happiness, sadness, fear, surprise, anger, disgust). Additionally, while aspects such as hope, optimism, resilience, and confidence are likely related to the six emotions, they are not emotions.

Another example could include ethos rhetoric and organizational virtue orientation (e.g., Evert et al., 2018; McLeod et al., 2018; Zachary et al., 2021). While there are some similarities, such as virtue, ethics, and general social good, ethos encompasses much more than just an entity's general morality. Ethos encompasses the general character of an entity, which not only includes general morality, but also includes other important characteristics such as wisdom, intelligence, discernment, and overall excellence.

Essentially, Aristotle's rhetoric (logos, pathos, ethos) is a broader and more encompassing linguistic construct than the narrower linguistic constructs employed in other research models. This is important because having a linguistically narrow focus potentially causes the overemphasis of a specific rhetorical appeal when it is the combination of rhetorical appeals that create the strongest arguments (Aristotle, 2019; Floris et al., 2013; Green, 2004). Simultaneously, since Aristotle's rhetoric focuses specifically on language, it may be considered more narrow than other constructs that focus on similar elements beyond just language. This positions Aristotle's rhetoric as a unique construct that contains both strengths and limitations, as most constructs do. We particularly believe that examining logos, pathos, and ethos in one parsimonious model has provided us the opportunity to clarify how general logic, emotions, and character language all combine to affect action, rather than examining them in separate studies. We believe this is a unique and important feature of examining Aristotle's rhetoric that helps scholars avoid potential methodological issues, such as omitted variable bias when logical, emotional, or character language are analysed separately.

CONCLUSION

This study highlights linguistic considerations that authors of investment narratives should consider when framing their arguments to external constituents. Specifically, we considered the previously ignored role that investment risk plays in the choice of logos, pathos, and ethos rhetoric in the investment process. We show that using logos argumentation to support financial data is counterproductive, and that prospectus authors should focus more on providing stronger pathos and ethos arguments. We also provided a complex model that added to rhetorical theory and analytical tools – such as the logos, pathos, and ethos dictionaries using CATA analysis – for future research. Our basic conclusion is that rhetoric is chosen based on the situation in order to influence the perception of the situation, but this process is constrained by limited cognitive resources. Thus, authors need to be more aware of how to use other elements of their argument to optimize their argument utility. Overall, this study contributes to the growing body of work that examines how different communication strategies influence investment (e.g., Martens et al., 2007) and other important organizational outcomes (e.g., Green et al., 2009; Harmon et al., 2015; Suddaby and Greenwood, 2005). It is our hope that this theoretical and methodological step forward in the examination of rhetoric will provide scholars with exciting new avenues for future research.

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